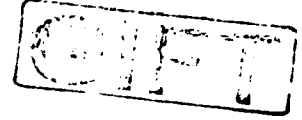


Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh: A Holistic Marketing Approach

A thesis Submitted to the University of Dhaka, Dhaka, Bangladesh, through the Department of Marketing, for the Award of the Degree of Doctor of Philosophy in Marketing

By

Surajit Sarbabidya



Under the Supervision of

Professor Dr. Haripada Bhattacharjee

&

Professor Dr. Abu Naser Ahmed Ishtiaque

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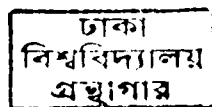


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**Department of Marketing
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Dhaka, Bangladesh**

September 2014



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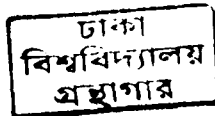
DECLARATION

I declare that the thesis entitled **Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh: A Holistic Marketing Approach** is the result of my own work carried out in the Department of Marketing, under the guidance and supervision of Professor Dr. Haripada Bhattacharjee and Professor Dr. Abu Naser Ahmed Ishtiaque. This has not been previously submitted either in part or whole to this or any other university for the award of any degree or diploma. Due acknowledgments have been made whenever anything has been borrowed from the other sources.



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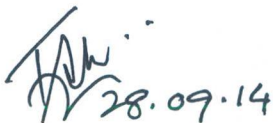
This is to certify that the thesis entitled **Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh: A Holistic Marketing Approach** is a record of independent research carried out by Mr. Surajit Sarbabidya, at Department of Marketing, for the award of Ph.D. Degree in Marketing, from the University of Dhaka, under our guidance and supervision. This thesis has not been previously submitted for the award of any degree, diploma, or other similar title.



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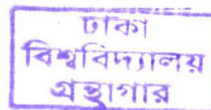
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DEDICATION

I dedicate this thesis work to the Almighty for His infinite mercy all through my studies and also to my parents and younger sisters, for their inspirations towards the successful completion of this work.

A handwritten signature in black ink, consisting of a large, stylized 'S' followed by a checkmark-like flourish.

Surajit Sarbabidya

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At the outset I express my heartfelt gratitude and indebtedness to my revered guide Professor Dr. Haripada Bhattacharjee and Professor Dr. Abu Naser Ahmed Ishtiaque of the Department of Marketing, under whose able supervision this work has been carried out. Their valuable guidance, generous help, meticulous reading and editing, constant inspiration and overall moral support made it possible for me to complete this work.

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LIST OF ABBREVIATIONS/ACRONYMS

1G	: 1st (First) Generation Network
2G	: 2nd (Second) Generation Network
3G	: 3rd (Third) Generation Network
3Es	: Economic, Efficiency and Equality
4Cs	: Consumer, Cost, Convenience, and Communication
4Ps	: Product, Price, Place, and Promotion
6Ws	: Who, What, Where, When, Why and How
ACMA	: Australian Communications and Media Authority
AMPS	: Advanced Mobile Phone System
ARPU	: Average Revenue Per User
ASEAN	: Association of Southeast Asian Nations
AT&T	: American Telephone and Telegraph
B2C	: Business to Consumers
BDT	: Bangladesh Taka
BMBA	: Bangladesh Mobile Phone Businessmen Association
BRTA	: Bangladesh Rural Telecom Authority
BSCCL	: Bangladesh Submarine Cable Company Limited
BT	: British Telecom
BTCL	: Bangladesh Telecommunications Company Limited
BTTB	: Bangladesh Telegraph and Telephone Board
BTRC	: Bangladesh Telecommunications Regulatory Commission
BTL	: Bangladesh Telecom Limited

BTV	: Bangladesh Television
CAMEL	: Customized Applications for Mobile networks Enhanced Logic
CDMA	: Code Division Multiple Access
CRM	: Customer Relationship Management
CSR	: Corporate Social Responsibility
D8	: Developing Eight
DSTI	: Directorate for Science, Technology, and Industry
EACO	: East African Communications Organization
EEO	: Equal Employment Opportunities
ESOMAR	: European Society for Opinion and Market Research
FCC	: Federal Communications Commission
FDI	: Foreign Direct Investment
FNF	: Friends and Family
FPI	: Foreign Private Investment
GATS	: General Agreement on Trade in Services
GDP	: Gross Domestic Product
GNI	: Gross National Income
GMT	: Greenwich Mean Time
GP	: Grameen Phone
GPRS	: General Packet Radio Services
GSM	: Global System for Mobile Communication
HBTL	: Hutchison Bangladesh Telecom Limited

IARC	: International Agency for Research on Cancer
ICT	: Information and Communication Technology
IEEE	: Institute of Electrical and Electronics Engineers
IIAPS	: International Institute and Supply for Advanced Purchasing
IISD	: International Institute for Sustainable Development
ILDTS	: International Long Distance Telecommunications Services
IMC	: Integrated Marketing Communication
IMTS	: Improved Mobile Telephone Service
IP	: Internet Protocol
IPTSP	: Internet Protocol Telephony Service Provider
IT	: Information Technology
ITU	: International Telecommunications Union
ISO	: International Organization for Standardization
ISP	: Internet Service Provider
ITES	: Information Technology Enabled Service
LAN	: Local Area Network
LTE	: Long Term Evolution
MAB	: Man and the Biosphere
M&A	: Mergers and Acquisitions
MCI	: Microwave Communications International
MMS	: Multimedia Messaging Service
MMU	: Memory Management Unit
MNO	: Mobile Network/service Operator

MoPT	: Ministry of Posts and Telecommunications
MRS	: The Market Research Society, UK
MVAS	: Mobile Value Added Services
NGN	: Next Generation Network
OECD	: Organization of Economic Cooperation and Development
PBTL	: Pacific Bangladesh Telecom Limited
PC	: Personal Computer
PCCS	: Prepaid Calling Card Services
PESTEL	: Political, Economic, Socio-cultural, Technological, Environmental & Legal factors
PSTN	: Public Switched Telephone Network
QoS	: Quality of Service
R&D	: Research & Development
SAFTA	: South Asian Free Trade Area
SIM	: Subscriber Identification Module
SLDI	: Sustainable Land Development Initiative
SMS	: Short Messaging Service
SPSS	: Statistical Package for the Social Sciences
SOS	: SOS Children's Village
T&T	: Telegraph and Telephone
UHF	: Ultra High Frequency
UMTS	: Universal Mobile Telecommunications System
UN	: United Nations
UNESCO	: United Nations Educational, Scientific and Cultural Organization

VAS	: Value Added Service
VHF	: Very High Frequency
VMS	: Voice Mail Service
VPN	: Virtual Private Networks
VOIP	: Voiceover Internet Protocol
VSAT	: Very Small Aperture Terminal
WAP	: Wireless Application Protocol
WCO	: World Customs Organization
WiFi	: Wireless Fidelity
WiMax	: Worldwide Interoperability for Microwave Access
WSIS	: World Summit on the Information Society
WTO	: World Trade Organization

SUMMARY

High speed technological development, convergence of the state-of-the-art technologies, more or less forced liberalization, etc., have turned the mobile phone telecommunication into a dynamic industry with very large base of customers. In Bangladesh, there are currently six such companies of local and multinational origin which aim to serve the rapidly changing telecommunication requirements of customers with affordable but value added service packages. Thus, this industry has been hyper competitive for the concerned market players with 116.871 million active subscribers till July 2014. As a result, there are greater challenges in achieving desired profitability, business volume, business growth and market share for the concerned market players. From this perspective, the implementation of the holistic marketing is seemed to be significant to mitigate the said challenges in one hand and on the other hand effectively manage them for the sustainability of the mobile telecom operators over the generations after generations. Hence, it is imperative for each of the mobile telecommunication service providing companies in Bangladesh to engage themselves in holistic marketing to develop and retain loyal customers as part of relationship marketing, to make happy employees as part of internal marketing, to integrate well managed round the clock anywhere service as part of the integrated marketing and excellent performance through high quality service as part of performance marketing.

The principal objective of this research is to examine how holistic marketing through its four components namely internal marketing, relationship marketing, integrated marketing and performance marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh.

The methodology of this research is as follows:

1. In this study, the deductive approach of research has been followed where existing theories have been used to come up with a hypothesis. Based on the extensive literature of sustainable development and holistic marketing, an analytical model with four sub-components namely: internal marketing, relationship marketing, integrated marketing and performance marketing has

been developed as a guideline to examine the relationship between holistic marketing and sustainable development of mobile phone telecommunication industry of Bangladesh.

2. The present research study is the embodiment of the collection of both primary and secondary data and their analyses. The primary data of this study have been collected from the sample size of 577 respondents using ‘judgment sampling’ method through survey on customers and employees (i.e., population) of the six mobile phone telecom service providers in Bangladesh. Of the 577 respondents, 454 are mobile telecom service users and 123 are mobile telecom employees. This gives a favorable response rate of 75.67% on customers and 61.50% on employees. A structured self-administered questionnaire comprising of closed (i.e., dichotomous – yes/no), open-ended, non-forced, balanced and odd numbered non-comparative itemized questions using Likert 5 rating scale of measurement has been used for the survey. To ensure the accuracy and maximize relevant data collection, both the English and Bengali version questionnaires have been used to conduct survey on the perceptions of the i) customers and ii) employees regarding the role of holistic marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh. The assimilated data of this study have been processed using the SPSS version 21. On the other hand, the secondary data have been collected through extensive literature review. In this regard, the recent M. Phil and PhD thesis papers of local, national and foreign universities, articles and research papers published in the referred journals and peer reviewed international conference proceedings, survey reports, internship reports, annual reports and sustainability reports of the operators, web sites, newspapers, etc., relevant to the literature of the subject matter have also been studied.

3. It is worthy to mention that in order to conduct the survey for primary data collection, internationally reputed standard Codes of Conduct provided by the MRS (The Market Research Society, UK) and ESOMAR (European Society for Opinion and Market Research) have been followed so that accuracy, confidentiality and security of the private information of the respondents as well as good reputation of the research profession can be maintained. Furthermore, the Harvard system of referencing has been followed to acknowledge the secondary sources of data used in this study.

The findings of this research study are as follows:

1. The profiles of customers and employees have been exhibited through the frequency distribution method of the descriptive statistics and graphical representation through histogram. In this presentation, the residential location, gender, age group, marital status, mobile connection currently in use, occupation, educational qualifications, mode of pre and post paid payment, variety and length of using mobile services, etc., of the mobile telecom service customers have been highlighted. Similarly, the district wise workplace location, gender, age group, employer brand, designation, full time or contractual employment status, educational qualifications, length of service, etc., of the mobile telecom service employees have also been focused.

2. The reliability and validity of this research study have been found worthy in the test results of Cronbach's alpha and Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy and Bartlett's test of sphericity respectively.

The 'Reliability' of the study on Relationship Marketing and Sustainable Development, Internal Marketing and Sustainable Development, Integrated Marketing and Sustainable Development and Performance Marketing and Sustainable Development was proved with the Cronbach's Alpha value of .926, .910, .930 and .869 respectively.

The 'Validity' of the study has been tested by adopting the 'Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy' and 'Bartlett's Test of Sphericity'. In this regard, the 'Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy' test results on Relationship Marketing and Sustainable Development, Internal Marketing and Sustainable Development, Integrated Marketing and Sustainable Development and Performance Marketing and Sustainable Development exhibit the .905 (marvelous), .862 (meritorious), .920 (marvelous) and .822 (meritorious) values respectively. While the 'Bartlett's Test of Sphericity' on Relationship Marketing and Sustainable Development, Internal Marketing and Sustainable Development, Integrated Marketing and Sustainable Development and Performance Marketing and Sustainable Development exhibit approximate chi-square statistics 3946.745, 1172.804, 3603.609 and 4250.009 respectively. All these values are significant.

3. The influencing factors of the four sub components of the holistic marketing have been identified through Factor Analysis (FA) using Principal Component Analysis (PCA) with orthogonal varimax rotation. The chronological results of the Factor Analysis (FA) are as follows:

In the case of ‘Relationship Marketing and Sustainable Development’, three (3) components or factors have been identified including some essential features of each. The components are: i) Component 1: Trustworthy & Committed Service including Sincere Service, Accurate Billing, Customer Security, Quality Service, Cooperative Employees, Attention to Customers; ii) Component 2: Interactive & Affordable Communication including Informative Services, Responsiveness to Customers, Service Centers, 24 Hours Service, Attractive Rates & Charges; and iii) Component 3: Caring & Customized Value Proposition including Attractive Rewards, Greeting Customers, Advising Customers, Customized Services

In the case of ‘Internal Marketing and Sustainable Development’, three (3) components or factors have been identified including some essential features of each. The components are: i) Component 1: Employee Training & Motivation including Employee welfare, Employees as Resources, Investment on Training, Proactive Interpersonal Communication, Performance Based Pay, Recognition & Appreciation, Promotion & Career Growth; ii) Component 2: Secured, Enjoyable & Balanced Work/Life for All including Good Workplace, Balanced Work/Life, Recreation Facilities, Equal Employment Opportunity, Well Defined Job Description; and iii) Component 3: Participative Management & Logistic Support including Participative Management, Logistic Support and Positive Interpersonal Relationship.

In the case of ‘Integrated Marketing and Sustainable Development’, two (2) components or factors have been identified including some essential features of each. The components are: i) Component 1: Functionally Integrated Core Marketing Mix including Functional Integration, Integrated Service/Product, Integrated Pricing, IMC, Forward Integration; and ii) Component 2: Integrated Value Chain including Integrated Teamwork, Integrated Process, Integrated Physical Evidence, Horizontal Integration, Backward Integration.

In the case of ‘Performance Marketing and Sustainable Development’, six (6) components or factors have been identified including some essential features of each. The components are: i) Component 1: Technological Environment including Latest Technologies, Customers’ Information Security, Transaction Updates, and Faster Communication; ii) Component 2: Legal Environment including Fair Acquisition of License, Information Transparency, Registered SIM Users, and Support in Legal Proceedings; iii) Component 3: Ethical Approach including Publicity on Environment Friendly Infrastructure, Publicity on Harmful Effects, Privacy of Customer Information, and Customer Permitted Campaign; iv) Component 4: Political & Economic Environment including Digital Gap Minimization, Investment on Technology, and Tax and Duties; v) Component 5: Social Environment including Age & Gender wise Services, Socio-Cultural Service Packages and Societal Welfare; and vi) Component 6: Prevention of Environmental Pollution including Recycling Program and Environment Friendly Services.

4. Based on the identified components of each element of holistic marketing as independent variable and their relative contribution to the sustainable development of mobile phone telecom industry as dependent variable, the statistical evidence the proposed model has been proved with “goodness of fit” criteria through bivariate analysis of “Correlation” and multivariate analysis of “Multiple Regression”.

4.1 The tests of Correlation reveal the following results:

4.1.1 Correlation of the three Relationship Marketing components and Sustainable Development has been found positive with .549, .460 and .454 values.

4.1.2 Correlation of the three Internal Marketing components and Sustainable Development has been found positive with .438, .435 and .610 values.

4.1.3 Correlation of the two Integrated Marketing components and Sustainable Development has been found positive with .646 and .577 values.

4.1.4 Correlation of the six Performance Marketing components and Sustainable Development has been found positive with .486, .406, .442, .150, .124 and .268 values.

4.2 Multiple Regression Analysis exhibits the following

4.2.1 Relationship Marketing components are highly significant ($p < 0.001$) in Sustainable Development with F ratio 384.332.

4.2.2 Internal Marketing components are highly significant ($p < 0.001$) in Sustainable Development with F ratio 121.572.

4.2.3 Integrated Marketing components are highly significant ($p < 0.001$) in Sustainable Development with F ratio 861.471.

4.2.4 Performance Marketing components are highly significant ($p < 0.001$) in Sustainable Development with F ratio 227.480

From the light of the findings and analysis of this research study, a good number of recommendations have also been placed to ensure sustainable development of the mobile phone telecommunication industry in general and operators in particular. Such recommendations have been placed separately for each and every component of holistic marketing so that more emphasis may be given for holistic sustainable development.

1. To ensure sustainable development by improving relationship marketing, the following recommendations may be considered: i) Sincere and prompt resolution of customer complaints, ii) Accurate and reliable billing system, iii) Safety, security and privacy of customer communications or transactions, iv) Quality service, v) Polite, courteous, friendly, nice, caring and helpful services to the customer, vi) Individual attention to understand customer or customer specific needs, vii) Timely, accurate and sufficient information about new services/products, viii) Prompt Responsiveness to customers, ix) Adequate number of customer service centers/points, x) Round The Clock (24/7) Service, xi) Attractive Call Rates and Charges, xii) Attractive rewards, xiii) Greeting customers, xiv) Advising customers, xv) Customized Services.

2. To ensure sustainable development by improving internal marketing, the following recommendations may be considered: i) Employee welfare for good working environment and job security with work/life balance, ii) Employees are resources, iii) Training and Development,

iv) Good Communication at all levels of management, v) Strengthening HRM Policy with Performance based Pay, vi) Rewards and Recognition, vii) Provision for career progression, viii) Good workplace, ix) Balanced Work/Life, x) Recreation facilities, xi) Equal Employment Opportunity (EEO), xii) Well defined Job Description, xiii) Dynamic, non-bureaucratic and participative decision making, xiv) Logistic Support, xv) Positive Interpersonal Relationship

3. To ensure sustainable development by improving integrated marketing, the following recommendations may be considered: i) Functional Integration, ii) Integrated Services/Products, iii) Integrated Pricing, iv) Integrated Marketing Communication (IMC), v) Place/Forward Integration, vi) Integrated team commitment of key People, vii) Integrated Process, viii) Integrated Physical Evidence, ix) Horizontal Integration, x) Backward Integration

4. To ensure sustainable development by improving performance marketing, the following recommendations may be considered: i) Minimizing Digital Gap, ii) Investment on Technology, iii) Payment of tax and duty, iv) Age and gender-wise packages, v) Socio-Cultural Service Packages, vi) Societal Welfare through Support to the underprivileged, vii) Latest Technologies, viii) Customers' Information Security, ix) Transaction Updates, x) Faster Communication, xi) Recycling Program, xii) Environment Friendly Services, xiii) Fair Acquisition of License, xiv) Information transparency, xv) Registered SIM users, xvi) Support in legal proceedings, xvii) Publicity on Environment Friendly Infrastructure, xviii) Publicity on harmful effects, xix) Maintaining privacy of customer information, xx) Customer Permitted Campaign

Finally, based on both the theoretical contribution and statistical evidence of this study, it can be concluded that the results found are relevant to both service providers and customers. Together with literature review, the statistical analysis has/have also proved four individual models for each component of holistic marketing and one complete model for holistic marketing itself which individually as well as altogether exhibit(s) the sustainable development of mobile phone telecom industry of Bangladesh.

1

INTRODUCTION

CHAPTER 1

INTRODUCTION

This chapter provides an introduction to the overall contents of the thesis. It is divided into twelve (12) sections. Following the prelude as introduction in the section 1.1, the section 1.2 presents the issues related to the research background and the section 1.3 draws a theoretical framework of holistic marketing. Section 1.4 identifies the research purpose. The methodology used to achieve the objectives is briefly discussed in section 1.5. Then, scope, rationale, beneficiaries, delimitations and disposition of the study have been discussed and mentioned respectively in the sections of 1.6, 1.7, 1.8, 1.9 and 1.10. Finally, the overall structure of thesis content is outlined in the section 1.11 and a conclusion of this chapter is drawn as epilogue in the section 1.12.

1.1. Prelude

This is one of the most basic needs of all living beings to communicate with the others. Since humans first learned to talk, spoken language or speech has been their principal means of communication. To ease this communication, a number of long range with or without global coverage, telecommunication (telecom) methods and tools such as land phones, mobiles, pagers, etc., have been invented and are being commercially marketed. Mobile phone is an inevitable addition in this respect. For example, like many other countries of the world, the role of mobile telecom service industry in the economic development of Bangladesh is also seemed to be very significant. In fact, this newly developed but very essential mobile telecom service industry is currently contributing in connecting its stakeholders of all social standings in the fast track of the economy. Bangladesh is also not an exception to this. Today, there are many telecom operators which are providing mobile communication service to their customers all over the country. Hence, it has become a hyper-competitive market. To win such competition a mobile telecom company has no alternative but to achieve sustainable competitive advantage in its concerned arena. The strategic analysis and implementation of the holistic marketing tools, strategies, tactics and action plans may be effective competitive advantages for the sustainability of the concerned companies in this industry to cope with such trends. This research study investigates how the effective role of holistic marketing can help the mobile phone telecom industry of Bangladesh in achieving sustainable development.

1.2. Background of the Study

Telecommunication is characterized by strong growth, high-speed technological development and more or less forced liberalization (Carleheden, 1999). Due to such characteristics the telecom industry has turned into a dynamic environment and is rapidly growing (Graack, 1996). In this regard, the case of mobile phone telecom industry is phenomenal as it showed an explosive growth in competition (Green & Teece, 1998). In some Asian countries this growth is tremendous in the number of mobile subscribers than those of their fixed-line subscribers (Fink et al., 2001). Hence, in recent years the telecom industry has evolved from manufacturing and providing basic fixed line telephony to an industry that offers mobile telecom services, and integrates IT and media into its services (Bourreau & Do an, 2001). Particularly the use of mobile phone telecom services has dramatically grown in the last decade. According to the International Telecommunication Union (ITU), (2008) the number of mobile subscribers per 100 inhabitants are respectively 59.74 and 27.90 in the world and in Bangladesh while the ratio of mobile cellular subscriptions to fixed telephone lines are respectively 3.2:1 and 33.2:1 in the world and in Bangladesh. While most developing countries lag behind developed countries in terms of ICT usage because the level of

penetration of mobile telephony in some of the developing countries is at par with that of developed countries (Rashid, 2009; Heeks, 2008).

Furthermore, mobile phones have been successful in reaching out to a large section of illiterate population, hitherto untouched by legacy communication technology (Townsend, 2000). As such, mobile telephony presents itself as a potential solution for reducing the digital divide by enabling two-way communication for a vast number of marginalized communities in the world (Sinha, 2005). Mobile telephony not only presents a probable solution to digital divide but it also has strong economic impact. Studies show that mobile telephony has direct, indirect and intangible economic impacts (Bhavnani et. al. 2008). In fact, the net economic impact of indirect benefits is far more than the direct economic benefits (McKinsey, 2006). Although a large number cases of exhibiting the economic benefit of mobiles have been reported (Rashid, 2009; Lehr, 2008) very little thematic research has been carried out to identify the spheres where mobile telephony can have significant impact on economic development (Rashid, 2009). Studies by Heeks (2008) and Frempong (2007) indicate that the economic potential of mobile telephony cannot be fully realized unless appropriate services and institutions are developed. Towards this end, the mobile phone telecom industry had to make adequate adaptations to the changes and respond quickly to improve or to sustain their competitive advantage (Jamison, 1998; Hamel & Prahalad, 1996; Chakravarthy, 1997). They have already used several vehicles to adapt to the new requirements and to improve their long-term performance (Chakrabarti, Hauschildt & Sueverkruep, 1994; Hitt, Hoskisson, Johnson & Moesel, 1996; Williamson, 1996) for sustainability. The case of the practice of the applied holistic marketing philosophy by the mobile phone telecom industry is noteworthy in this regard.

1.3. Theoretical Framework

1.3.1 Sustainable Development

The concept of Sustainable development was first articulated when the UN World Commission on Environment and Development (Brundtland Commission) published its “Our Common Future” report in 1987. In this report, the term ‘Sustainable Development’ was defined as development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.

This definition contains within it two key concepts:

- i. The concept of “needs”; in particular the essential needs of the world’s poor, to which overriding priority should be given; and
- ii. The idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

According to the World Business Council, ‘Sustainable Development’ is the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life.

For the business enterprise, sustainable development means adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future (IISD, 1992).

The International Institute for Sustainable Development (IISD, 1996) comments further that sustainable development cannot be achieved by a single company in isolation from the rest of the society. It describes sustainable development as a “pervasive philosophy” to which participants in the global economy including consumers and governments must adhere to if humankind hope to meet today’s needs without taking away the ability of future generations to meet their own. Achieving sustainable development is not simply about manipulating the environment, while people pursue business as usual. It is a social and economic project as much as an environmental project, and one with the very positive objective of optimizing human well-being (*ibid*).

Málovics et al. (2008) divide sustainable development in two: weak and strong. According to them, weak sustainability means “even if the quantity of natural capital is decreasing by creating man-made capital, total capital can be maintained, which would be enough to fulfill the criteria of sustainability” while strong sustainability is less permissive, saying that “natural capital cannot (or only to a limited extent) be substituted by man-made capital and may suffer irreversible harm, so that it is necessary to maintain not only the aggregate but also the amount of available natural capital” (Málovics et al., 2008:908).

Málovics et al. (2008) go further and suggest that the requirements for strong sustainability for the organization are to: i) use non-renewable resources, ii) use of sustainable energy, iii) keep a balance between “use” and “production of renewable resources”, iv) cultivate a real sustainable ecocycle economy, whereby wind and solar energy are the only energy sources for sustainability.

Landrum and Edwards (2009) define a sustainable business as ‘one that operates in the interest of all current and future stakeholders in a manner that ensures the long-term health and survival of the business and the associated economic, social, and environmental systems’.

1.3.2 Holistic Marketing

Holistic marketing recognizes that “everything matters” in marketing – and that a broad, integrated perspective is often necessary (Kotler & Keller, 2009-10). This concept holds that buyers prefer firms with a more cohesive approach and that go beyond traditional applications of the marketing concept (Kotler & Keller, 2006). A firm’s competitiveness stems from being able to give the correct relative weight to each of the four components of the approach: relationship marketing (Gummesson, 1999) aiming to build mutually long-term relationships with key parties; integrated marketing (Day, 1994), aspiring to build harmony between the marketing variables; internal marketing (Webstar, 1992), ensuring that everyone in the organization embraces appropriate marketing principles, especially senior management; and performance marketing that includes regular marketing activities and programs, as well as addressing broader concerns and their legal, ethical, social, and environmental effects (Kotler & Keller, 2009-10).

1.3.2.1 Relationship Marketing

Marketing has always been based on relationship. Even then, Relationship Marketing (RM) is thought to be a new phenomenon in the province of marketing. Bund Jackson is recorded as having used the term “relationship marketing” in 1970’s in the field of industrial marketing (Gummesson et al., 1997). Since then the researchers, both in the USA (Wilson 1976, Jackson 1985); and Europe (Ford 1980, Gummesson, 1987, Hakansson, 1982, Johanson & Mattsson, 1987) came to understand the importance of relationship building in the field of marketing and came up with different theories at the same time. The term RM emerged as an

influential issue in the marketing literature during 70s and early 80s. Then it became popular during the 1990s. As practiced in the 1980s and 1990s relationship marketing had a strong emphasis on business to customer (B2C) relationships within a customer relationship marketing paradigm (Berry, 1983, Gronroos, 1997, Gummesson, 1999, Kotler and Armstrong, 1999). However, today relationship marketing is considered as a business focusing on networks, relations and interaction when implementing marketing strategies (Gummesson, 2002). In this regard, many commentators (Freeman, 1984; Arrow, 1988; Murphy, 1988; Verbeke, 1992; Polonsky, 1995; Murphy et al., 1997 and 1999; Payne et al., 2001; Christopher et al., 2003) have expressed the view that a business is a coalition of stakeholders including employees, suppliers, shareholders, the community, as well as customers, and thus the scope of relationship marketing should be expanded to embrace business to stakeholder relationships. A common customer relationship marketing performance measure is long-term customer satisfaction. This could be considered as an intermediate outcome measure along the way to achieving sustainable business financial performance in terms of return on investment, a crucial end point marketing performance measure (Matear et al., 2003). Moving from a customer orientation to a stakeholder orientation has been demonstrated to improve business return on investment (Berman et al., 1999; Caulkin, 2002). A stakeholder orientation implies that the ultimate objective of a business is to create value for all of its stakeholders beyond just value to customers. For holistic achievement, inter-firm partnerships can play an important role in an industry where learning and flexibility form the basis of competition (Dussauge & Garrette, 1999; Gomes-Casseres, 1996; Duysters & Hagedoorn, 1999). Partnerships in the mobile telecommunications industry are particularly suited to monitor new opportunities and markets at relatively low cost.

1.3.2.2 Internal Marketing

Internal Marketing is aimed at the attraction, retention, and motivation of “service-minded”, “customer-conscious” employees to aid the perceived service quality and effective external marketing of the enterprise as a way to competitive advantage [Hales (1994 in Varey & Lewis, 1999)]. Hence, ‘Internal Marketing’ must precede ‘External Marketing’ because it makes no sense to promise excellent service before the company’s staff is ready to provide it (Kotler, 2003, p.23). It is because to have satisfied customers the organization must also have satisfied employees (George, 1977). Satisfied employees are a precondition for satisfied customers. Rosenbluth and Peters (1992 in Ewing & Caruana, 1999) go even further and say that the needs of the customer should come second to those of employees, as customer needs will only be successfully met after those of employees have been satisfactorily met. Therefore, the main objective of the internal marketing function is to obtain motivated and customer conscious personnel at every level (Ewing & Caruana, 1999, p. 18). It means the concept of internal marketing is not limited to the ‘front-line’ customer service staff alone (De Bussy et al., 2003). Even the employees who do not interact directly with customers may impact upon perceived service quality because they directly influence the service providers (George, 1990 in De Bussy et al., 2003). If all employees perform their jobs well they are a value-added component of the service and product offering. The duty of internal marketing is to develop employee awareness of their roles and help them to commit to active participation in the marketing or exchange process, i.e. to make the corporation more marketing-oriented (Varey, 2001, p. 214). Tansuhaj et al., (1991) suggest that any internal marketing program should adopt a holistic approach between human resources management and marketing and Ballantyne (1997) points out that internal marketing develops and influences customer consciousness among employees (Varey and Lewis, 2000: 110- 124). Grönroos (Peck, Payne, Christopher, Clark, 1999: 315) claims that it is not enough to have customer-conscious

employees for effective service delivery. It is also important to have synergy between the various functions in the organization. Internal marketing is a tool that helps organizations initiate integration between various functions to enable employees to work across functional borders, to align them with external customers' needs and expectations in accordance with the organization's mission, strategies and goals (Peck et al., 1999: 315). Successful internal marketing programs can lead to the benefits such as: (1) low employee-turnover rates, (2) an increase in service quality, (3) high levels of employee satisfaction, and (4) an improved ability to implement change in the organization (Susan L. Taylor and Robert M. Consenza, 1997; Robert C. Lewis, 1989; W. Benoy Joseph, 1996; Sybil F. Stershic, 1995).

1.3.2.3 Integrated Marketing

Integrated marketing's deepest roots are in traditional marketing, which is a management function that developed in business early in the 20th century (Silva, 1998). Marketing went through three stages in its early years: product orientation, production orientation, and sales orientation (Kotler & Andreasen, 1982). All these early marketing stages focused on companies producing and selling whatever they chose to make. Making a profit was paramount, and companies assumed customers would buy whatever they produced. Liu (1998) wrote that marketing strategies should be integrated into institutional strategic planning. Integrated marketing deals with the strategic issues of product, price, place and the tactical issue of promotion; these issues also are described as customer, cost, convenience, and communication (Schultz, Tannenbaum, & Lauterbom, 1994). Sevier defined integrated marketing as "a listening-first, database-dependent approach to marketing that includes both a willingness to segment and coordinate such strategic assets as product/customer, price/cost and place/convenience and to develop effective promotion/communication strategies for key target audiences" (Sevier, 2000). There are six key elements of integrated marketing: an outward focus; desire to address strategic problems strategically rather than tactically; strategic, organizational and message integration; active listening to the customer; database dependence; and coordination of messages (Sevier, 1999). The concept of "integrated marketing" is often confused with "integrated marketing communication" (IMC), and the two phrases are often and purposefully used to mean the same thing (Brock, 1999; DeChant, 1995; Schultz, 1998; Sevier, 1999, 2000; Sevier & Johnson, 1999; Smith, 1995) but they are not the same concept (Sevier, 2000). Indeed, IMC is a subset of integrated marketing and is primarily focused on communication or promotion (Sevier & Johnson, 1999). IMC is an approach that combines the power of marketing, advertising, and public relations and involves the entire organization in communicating a consistent message (Lauer, 1998, p. 12). A glaring illustration of integrated marketing in the mobile phone telecommunication industry is that after integrating the four areas, telephone, mass media, consumer electronics and computing, a new industry has developed, called the multimedia information industry (Fransman, 1997; Chan-Olmsted & Jamison, 2001).

1.3.2.4 Performance Marketing

In order to ensure effective holistic marketing performance, a market-driven organization, apart from its regular marketing activities and programs, also needs to address broader concerns and their legal, ethical, social, and environmental effects. Therefore, marketers must carefully consider their role in broader terms, and the ethical, environmental, legal, and social context of their activities (Rajendra Sisodia, et al. 2007). Being steadily increased over the years, legislation in many countries has become an influencing factor on the marketing programs leading the businesses to practice fair trade, competitive behavior, product standards (i.e., product safety and liability), etc. (Samar Farah, 2005). While Sargent (1999) recommends that a firm should promote an ethical behavior in managers to nurture them with an

ethical environment. In a number of research studies it has been found that there is a positive correlation between social involvement and profitability of a business organization (Aupperle, Can-oil and Hatfield, 1985). Social responsibility marketing (Greider, 2003) carefully considers the role that the firm plays in terms of social welfare. Surveys reveal a great number of customers who either reward or intend to reward companies which are proactive regarding social or environmental issues in their business and marketing practices (Carlson et al., 1993). The research findings of Brown and Dacin (1997) regarding the effects of the company's perceived social responsibility on product responses show that what consumers know about a company can influence their reactions to its products. Negative corporate social responsibility associations can have a detrimental effect on overall product evaluation, whereas positive ones can improve the product evaluations. McDaniel and Rylander (1993), for instance, recommend social responsibility as a strategic device by incorporating environmental concerns into strategic marketing planning. Kopperi (1999) points out that the people who work in business should consider how their economical decisions affect the other people, the environment and the society. The principal reasons behind the involvement of cell phone telecommunication companies in corporate social responsibility (CSR) activities are stiff competition between the companies for a strong customer base, various new issues that arise from customer services and satisfaction and the fact that the companies operation is largely based on customers' needs and technological demands (Kissel & Beauvais, 1994). Furthermore, such involvement shows what the company has done to fulfill its corporate duty to ensure that the firm is not only good in providing the service but also plays its roles by contributing something to the community (Tilt, 1994). Therefore, it has become inevitable for such a company to view philanthropy-related expenses as no different from budget allocations for advertising, human resources, raw materials and other traditional expenditures (McAlister and Ferrell, 2002, p. 690) and most of them are emphasizing societal issues in their values, marketing strategies, structures and functions (Karna et al. 2003). Hence, it is now a necessity for such a member of service industry to go beyond corporate image to effectively sustain a competitive position, which is also applicable to positioning involving social issues (Ellson, 2004).

1.4. Purpose of the Study

The principal purpose of this study is to examine the role of holistic marketing approach in the sustainable development of the mobile phone telecom industry of Bangladesh.

1.5. Methodology of the Study

This study is based on the collection of both primary and secondary data and their analyses. In order to make the study effective, the primary data have been collected from the sample size of 577 respondents using 'judgment sampling' method through survey on customers and employees (i.e., population) of mobile phone telecom service in Bangladesh. A structured questionnaire comprising of closed (i.e., dichotomous – yes/no), open-ended, and non-forced, balanced, and odd numbered non-comparative itemized questions using Likert 5 rating scale of measurement has been used for the survey.

On the other hand, secondary data have been collected through extensive literature review. In this regard, recent M. Phil and PhD thesis papers, articles and research papers published in the referred journals and peer reviewed international conference proceedings, survey reports, internship reports, annual reports and sustainability reports of the operators, web sites, newspapers, etc., relevant to the literature of the subject matter have also been studied.

The study has been endeavored through quantitative analysis and as a part of this, the popular statistical tools of reliability and validity measurements, factor analysis, univariate, bivariate

and multivariate analysis have been utilized to conduct necessary assessments using SPSS version 21.

1.6. Scope of the Study

The research was intended to evaluate the effectiveness of the existing holistic-marketing strategies as part of sustainable development of the mobile phone telecom industry of Bangladesh. Using a study of the literature as a framework, employees and customer reactions have been compared. This study covers all the six mobile operators and their pre-paid and post-paid mobile telephony, data (i.e., internet), mobile commerce, mobile banking and other value added services. The survey mainly covers the respondents of Dhaka and Chittagong divisions.

1.7. Rationale of the Study

A firm can survive and succeed in the long run if it successfully develops strategies to combat the five competitive forces of industrial competition (O'Brien, 1999:510). Since mobile phone telecom industry is very competitive, it is of great importance for each company to ascertain the right knowledge and implement effective and efficient marketing strategies. Furthermore, in a competitive market, it is usually not sufficient to only implement traditional marketing strategies. In addition, every company needs to gain competitive advantage in leaving the rivals behind. By gathering useful information, building and maintaining relationships with the stakeholders, making the internal employees happy, integrating the Ps or Cs of Marketing and the functional departments, and of course assuring performance marketing through financial accountability and socially responsible marketing, it is possible for a mobile telecom company to learn what the segment really values in a service, which results in an increased chance to gain an advantage against the competitors. Managing such holistic approach, therefore, is becoming more important and is being portrayed as a new paradigm within marketing management. Moreover, since the total number of mobile phone active subscribers in Bangladesh has reached 116.871 million at the end of July 2014 due to the competitive performance of six mobile phone telecom operators, the present study is the most justified one (BTRC Web Site, September 20, 2014).

Review of the literature demonstrates few attempts to empirically study the idea. A common, possibly idealistic, logic exists that holistic marketing creates the positive outcome of sustainable development. This study attempts to provide a foundation based on holistic marketing that may be replicated within the other industries. Importantly, this research provides relevant information and recommendations to assist in the sustainable development of the mobile phone telecom industry of Bangladesh by adopting holistic marketing programs.

This study furthers academic understanding by extending the knowledge of both holistic marketing and mobile telecom theory and practice. Thus, the research model contributes to the existing theories on holistic marketing by empirically investigating the association between/among its derived components — relationship marketing, internal marketing, integrated marketing and performance marketing — applied to the sustainable development of the mobile phone telecom industry of Bangladesh.

1.8. Beneficiaries of the Study

The researcher himself, educational and business organizations, marketers, consumers, government and the society as a whole will be benefited from this research study in a number of ways as follows:

1.8.1. First of all, the researcher will be benefited from this research by extending his current level of experience and knowledge.

1.8.2. The marketers of mobile telecom industry in particular and the other organizations in general may enjoy the benefits of successful marketing from the implications of this research study.

1.8.3. By enriching the marketing literature, this research study will guide the marketers, consumers and young learners in adopting effective philosophy to achieve prompt and long lasting success.

1.9. Delimitations

1.9.1 No list of the employees and customers of the mobile operators' were found. Hence, probability sampling method could not be utilized.

1.9.2 Extracting information from the employees of the mobile operators was found very difficult as there were some sort of unwritten official restrictions and prohibitions on them in replying to any survey conducted on the mobile phone telecom operators.

1.10. Disposition

The thesis follows a process in which every chapter lies as a foundation for the next chapter. After introducing and discussing the subject, the theoretical framework functions as the base when gathering the empirical findings. By analyzing the empirical findings and using the theoretical framework, a conclusion has been drawn to answer to the research purpose.

1.11. Structure of the Thesis

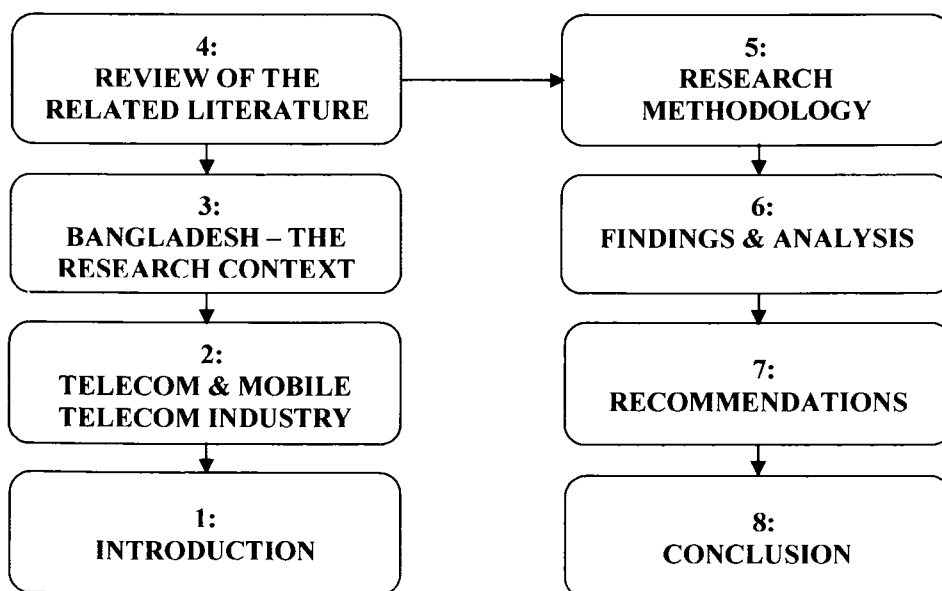


Figure 1.1: Structure of the Thesis

Table 1.1: Chapters of the Thesis

Chapters	Description
Chapter 1: Introduction	The Chapter 1 deals in the introductory aspects and background of the study, theoretical framework, purpose, methodology, rationale, scope, benefits and limitations of the study. This chapter also exhibits the organization of the thesis.
Chapter 2: Telecom and Mobile Telecom Industry	The Chapter 2 deals in definitions, history and factors influencing the development of telecom and mobile telecom industry.
Chapter 3: Bangladesh – The Research Context	The Chapter 3 exhibits the profile of Bangladesh covering her geographical location, people and society, government, significant aspects of the economy, telecommunication history and policies and the growth of mobile telecom operators in Bangladesh.
Chapter 4: Review of the Related Literature	The Chapter 4 analyzes the existing literature informing the terms in which the argument has been constructed. Since the study is a move towards the opening out of an almost unexplored area of the application of holistic marketing approach in the sustainable development of the mobile telecom industry, the main purpose here is to indicate how connections may be drawn between two largely distinct fields: current discussions in holistic marketing of mobile telecom industry and the primary and secondary literature of the concerned study.
Chapter 5: Research Methodology	The Chapter 5 portrays the research design and explains the research approach including the sampling method, research instruments, data collection as well as data analysis procedures.
Chapter 6: Findings & Analysis	The Chapter 6 is based on the findings from questionnaires and interviews, which identifies the missing data if any, demographic profile of the respondents, reliability of the instruments, descriptive statistics of the study variables, factor analysis, correlation analysis and multiple regression analysis of collected data regarding the role of holistic marketing in the sustainable development of the mobile telecom industry of Bangladesh.
Chapter 7: Recommendations	Based on the identified problems, challenges, prospects, and various environmental and quality aspects, the Chapter 7 places recommendations so that mobile phone telecom industry in Bangladesh can achieve sustainable development through the practice and implementation of the holistic marketing approach.
Chapter 8: Conclusion	Finally, the Chapter 8 draws an overall conclusion based on the findings of the theoretical review and statistical analysis. This chapter also exhibits the contribution of the present study in the development of the concerned arena.

1.12. Epilogue

In today's competitive market, all efforts of the mobile telecom companies may go in vain if the marketing approach of the concerned is not holistic in nature. Therefore, the practice of holistic marketing is very important for the sustainable development of the concerned industry. But this avenue of marketing practice by the mobile phone telecom industry is yet to be explored. The researcher is working in this direction from before and trying to contribute in the marketing literature through holistic marketing implications which may positively benefit the academia, industry, research institutes, government and the society as a whole.

TELECOM & MOBILE TELECOM INDUSTRY

CHAPTER 2

TELECOM & MOBILE TELECOM INDUSTRY

This chapter provides an overview of telecommunication and mobile telecommunication. It is divided into two sections. Between them, the section 2.1 presents the issues related to the meaning of telecommunication, telecommunication System and its components, functions and types, types of telecommunication network, history of telecommunication industry and factors influencing growth and development of telecommunication industry. While the section 2.2 presents the issues related to the mobile telecom services, the types of mobile telecommunication network, history of mobile phone telecom, mobile telecom technologies and factors influencing the growth and development of mobile telecommunication industry.

2.1. Telecommunication

2.1.1 Meaning of Telecommunication

2.1.1.1 Origin of the word Telecommunication

The word *telecommunication* was adapted from the French word *telecommunication*. It is a compound of the Greek prefix *tele*, meaning ‘far off’, and the Latin *communicare*, meaning ‘to share’ (New Oxford American Dictionary, 2005).

2.1.1.2 Dictionary Meaning of Telecommunication

The IEEE dictionary defines telecommunications as the transmission of signals over long distance, such as by telegraph, radio or television. Telecommunications refer to communicating over a distance through the use of wire, radio, optical or other electromagnetic channels to transmit or receive signals for voice, video and data communications (Telecommunications Glossary).

2.1.1.3 Web Definition of Telecommunication

Telecommunication is a term that refers to the process of transmitting information over a distance (www.emc-database.com). A telecommunication system consists of hardware and software that transmits information from one location to another in the form of text, data, graphics, voice, documents or full-motion video information (<http://www.uniapro.org>). It is considered as an essential process of rapid communication. Thus, telecommunication is the process of rapidly transmitting information in any form (e.g., voice, data, text and images) from one place to another using electronic, or, light-emitting media (<http://www.buddle.com.au/Reports>).

2.1.1.4 Telecommunication Definition by Telegraph Act

According to the provision of sub-section (1) of section 4 of the Indian Telegraph Act, 1885 (13 of 1885), “Telecommunication service” means service of any description provided by means of any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence or information of any nature, by wire, radio, optical, visual or other electromagnetic means or systems, including the related transfer or assignment of the right to use capacity for such transmission, emission or reception by a person who has been granted a license and includes:

2.1.1.4.1 voice mail, data services, audio text services, video text services, radio paging; (ibid)

2.1.1.4.2 fixed telephone services including provision of access to and use of the public switched telephone network for the transmission and switching of voice, data and video, inbound and outbound telephone service to and from national and international destinations; (ibid)

2.1.1.4.3 cellular mobile telephone services including provision of access to and use of switched or non-switched networks for the transmission of voice, data and video, inbound and outbound roaming service to and from national and international destinations. (ibid)

2.1.1.4.4 carrier services including provision of wired or wireless facilities to originate, terminate or transit calls, charging for interconnection, settlement or termination of domestic or international calls, charging for jointly used facilities including pole attachments, charging for the exclusive use of circuits, a leased circuit or a dedicated link including a speech circuit, data circuit or a telegraph circuit; (ibid)

2.1.1.4.5 provision of call management services for a fee including call waiting, call forwarding, caller identification, three-way calling, call display, call return, call screen, call blocking, automatic call-back, call answer, voice mail, voice menus and video conferencing; (ibid)

2.1.1.4.6 private network services including provision of wired or wireless telecommunication link between specified points for the exclusive use of the client; (ibid)

2.1.1.4.7 data transmission services including provision of access to wired or wireless facilities and services specifically designed for efficient transmission of data; (ibid) and

2.1.1.4.8 communication through facsimile, pager, telegraph and telex. (ibid)

2.1.2 Telecommunication System

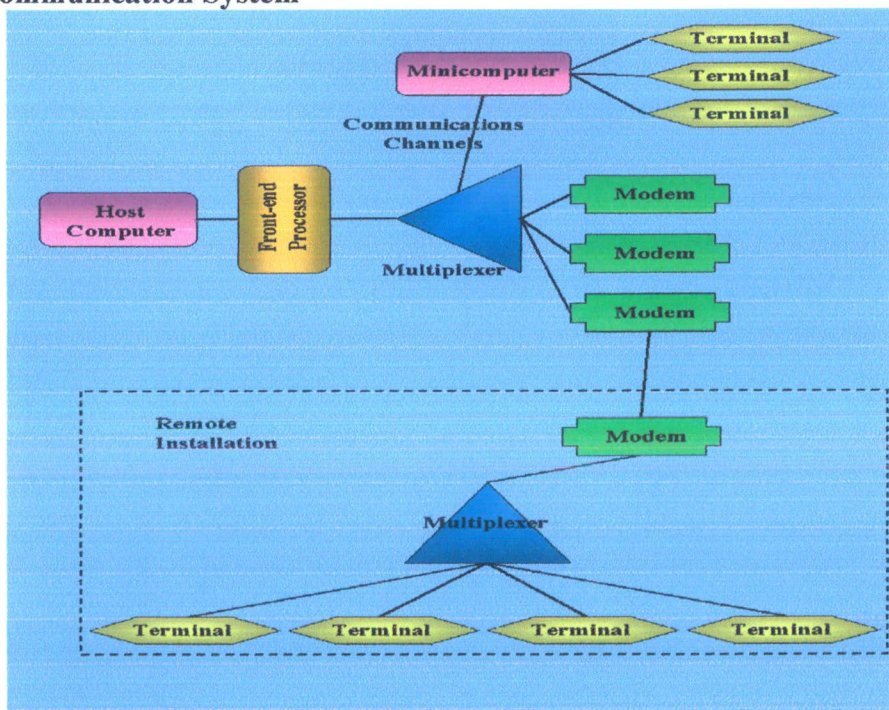


Figure 2.1: Telecommunication System (Source: Laudon and Laudon, 2005: 251)

According to Laudon and Laudon (2005), telecommunications refer to the communication of information by electronic means, usually over some distance. Telecommunications system is a collection of compatible hardware and software arranged to communicate information from one location to other. They illustrated 'telecommunication system' through a model exhibited in the above Figure 2.1.

2.1.3 Components of a Telecommunication System

According to Laudon and Laudon (2005) and O'Brien & Marakas (2008), the components of a telecommunication system are as follows:

2.1.3.1 Computers, to process information, are connected through media to perform their communication assignments.

2.1.3.2 Terminals or any input/output devices that send or receive data. These are the starting and stopping points in any telecommunication network environment. For example, a telephone is a terminal.

2.1.3.3 Communication channels, the links by which data or voice are transmitted between sending and receiving devices in a network. Such channels use various communication media like telephone lines, coaxial cable, fiber-optic cable, and wireless transmission

2.1.3.4 Communication processors, such as modems, multiplexers, controllers and front-end processors, etc., provide communications support for data transmission and reception between terminals and computers by providing a variety of control and support functions i.e. convert data from digital to analog and back.

2.1.3.5 Communication software to manage network. This controls input and output activities and manages other functions of the communications network.

2.1.4 Functions of a Telecommunications System

According to Laudon and Laudon (2005) and O'Brien & Marakas (2008), a telecommunication system:

2.1.4.1) transmits information

2.1.4.2) establishes the interface between sender and receiver

2.1.4.3) routes the messages along the most efficient paths. Since computers and terminals in a network can be connected in multiple ways, there are different paths from a sender to a receiver, the telecom system figures out a path in such a way that transmission and reception is done in an organizations manner and at the same time through the shortest path consuming the shortest time.

2.1.4.4) ensures that the right message reaches the right user.

2.1.4.5) performs editorial tasks such as checking for transmission errors.

2.1.4.6) converts the messages from one speed to another. Networks use communication channels and other hardware and software that vary in their transmission and reception speeds. The telecom system is responsible for managing the speed of transmission and reception irrespective of what type of channel and which type of other hardware and software is used.

2.1.4.7) converts the messages from one format to another. Networks often have information processing hardware and software which require information to be presented for processing in a given format, when information is not in that format, its not processed and furthered on the network. Thus, converting information from one format to another is a very important function of the telecommunication system.

2.1.4.8) controls the flow of information.

2.1.5 Types of Telecommunication Network

2.1.5.1 Small Networks – The telecommunication networks which, covers limited distances ranging a few kilometers at their best may be termed as small networks. Being small suc networks are less expensive. The following are the examples of small networks:

2.1.5.1.1 Local Area Network (LAN): According to Laudon and Laudon (2005: 259), a local area network (LAN) encompasses a limited distance, usually one building or several buildings in close proximity. Most LANs connect devices located within a 2,000-foot radius. LANs require their own communications channels and are often controlled and operated by end user groups or departments in a firm. The network communication processor called gateway connects the LAN to public networks, such as the telephone network, or to other corporate networks so that the LAN can exchange information with networks external to it by routing data packages through several connected LANs or to a wide area network. (*ibid*)

2.1.5.1.2 Metropolitan Area Network (MAN): When the networked devices in a number of LANs across a metropolitan city are connected to each other or one another wirelessly or through telephone lines, the network which is formed is called MAN. Organizations with several branches in a metropolitan city often use MAN. Thus, efficient use of resources and effective communication is/are increased among the internal branch offices of the concerned organization.

2.1.5.2 Medium Network – The telecommunication networks which, covers medium distances across some cities or countries may be termed as medium sized network. WAN is the example of medium sized network:

2.1.5.2.1 Wide Area Network (WAN): According to Laudon and Laudon (2005: 260), a wide area network (WAN) spans geographical distances, ranging into several miles. WANs may consist of a combination of switched and dedicated lines, microwave, and satellite communications. Switched lines are telephone lines that a person can access from his or her terminal to transmit data to another computer, the call being routed or switched through paths to the designated destination (*ibid*). Dedicated lines, or non-switched lines, are continuously available for transmission, and the lessee typically pays a flat rate for total access to the line. The lines can be leased or purchased from common carriers or private communications media vendors (*ibid*).

2.1.5.3 Large Networks – The telecommunication networks which, covers long distances going beyond the city to continents by using telephone infrastructure or a fibre optic cable infrastructure. The following are the examples of small networks:

2.1.5.3.1 Internet: Internet is the network of networks which is publicly accessible to everyone across the world through World Wide Web. According to Wikipedia, the internet is

a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide. It is a *network of networks* that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), the infrastructure to support email, and peer-to-peer networks for file sharing and telephony (<http://en.wikipedia.org/wiki/Internet>).

Internet is a technology that faces strong network effects, which have been described as “the value of a good changing because of the number of people using the good change” (Liebowitz and Margolis, as cited in Mueller, 2001: 1247). Increased traffic on the Internet brings about faster information dissemination and more ecommerce taking place. Thus, the value of the Internet would increase as more people begin using it to facilitate their current business (Mueller, 2001). Information placed on the Internet may be made publicly available or remain private (Sonka and Coaldrake, 1996).

Porter (2001) contends that survival in business without being connected to the Internet will become almost impossible in future. The Internet lends itself to quick, relatively cheap and easy dissemination of information (Henderson *et al.*, 2000). Porter (2001), therefore, also contends that the Internet can be an effective tool due to relatively low initial investment requirements relative to other technologies.

Recent research shows that using the internet for social purposes (such as the online social networks) reduces people’s feeling of loneliness and depression as well as helping people’s self-esteem and their perceived social support (Bessière, Kiesler, Kraut, and Boneva, 2008; Ellison, Steinfield and Lampe, 2007; Shaw and Gant, 2002).

2.1.5.3.2 Intranet: When internet networking standards and web technologies are used by organizations to create private networks for its internal communication, the network is called intranet. According to Laudon and Laudon (2005: 291-292), an intranet is an internal organizational network that can provide access to data across the enterprise. Such network uses the existing company network infrastructure along with Internet connectivity standards and software developed for the World Wide Web. According to them, intranets can create networked applications that can run on many different kinds of computers throughout the organization, including mobile handheld computers and wireless remote access devices. It is worthy to note that web, although, is open to anyone, an intranet is private and is protected from public visits by the security system called firewalls which is/are made of highly configured specialized hardwares and softwares to prevent unauthorized access of the outsiders from invading private networks (*ibid*).

Today there is a growing body of evidence, which suggests that many corporations are using Intranets to rescue their business process reengineering and that Intranet enabled BPR may provide a solution to surviving in the new economy (James 1996, 1998).

Since its introduction, Intranet Technology has proven to be an extremely popular technology that has been applied in four distinct waves 1) Information Publishing 2) Information Collaboration 3) Transaction Oriented Applications and 4) Formal Collaborative Applications (Curry and Stancich 2000). As the technology has matured, IS professionals have become more aware of the potential of Intranet Technology for use as a strategic tool

(Curry and Stancich 2000). Intranets are giving rise to unprecedented levels of collaboration which in turn is promoting greater efficiency (Cortese 1996).

From the perspective of Information System (IS), Intranet technology offers formidable advantages over traditional technologies which tend to only support well defined tasks (Damsgaard and Scheepers 1999). These include: rapid scalable development across a range of platforms (Betts 1997), access to corporate legacy systems and data warehousing capabilities (Scott 1998), and development on existing networks with lower implementation costs compared to traditional client server solutions (Hill 1997). Thus, Intranets are providing organizations with far more flexibility than traditional information systems.

2.1.5.3.3 Extranet: Extranet is a network by which organizations allow outsiders to have limited access to their internal intranets. According to Laudon and Laudon (2005: 292), private intranets that are extended to authorized users outside the company are called extranets. For example, authorized buyers could link to a portion of company's intranet from the public internet to obtain information about the cost and features of its products. Extranets are especially useful for collaborating with the outsiders like suppliers, customers, of business partners for supply chain management, product design and development, or training efforts (*ibid*).

Based on an on-line IT encyclopedia: "an extranet is a private network that uses the Internet protocol and public telecommunication systems to securely share business information with suppliers, vendors, partners, customers, or other businesses" (Whatis.com, 2003). Extranets connect business partners online behind virtual firewalls, where "those who share in trusted circles" can network in order to achieve "commercial-oriented objectives" (Tan et al., 2000). Extranets are flexible, scalable, extensible, and able to integrate across distributed, and heterogeneous system environments and platforms (Siegel and Hartman, 1998). Extranets can extend key information to business partners throughout the supply chain and facilitate collaborative relationships with business partners separated geographically (Vlosky and Fontenot, 1999). Tactical extranets increase customer loyalty, commitment, and confidence, all of which drive revenue and create competitive advantages (Ling and Yen, 2001).

An extranet uses the Web browser front end making it extremely user-friendly, shortening the learning curve (Ling and Yen, 2001). Using an extranet solution does not require high IT competence, because it is based on the Internet connection (Vlosky, et al., 2000). Extranets are based on open standards web technology. Furthermore, extranets are more economical than creating and maintaining a proprietary network (Ling and Yen, 2001).

According to the survey by Vlosky (1998), order management services such as order tracking, status enquiries, and shipping notices were the most frequently used extranet applications in the forest products sector (Vlosky and Panches, 1999). In a cross-industrial survey by Vlosky et al. (2000) electronic communication with trading partners (89 percent of the respondents) was the number one use of extranets followed by customer contacts (71 percent), vendor contacts (59 percent), sales to customers (48 percent), product and service promotion (45 percent), and purchases (41 percent). To be successful, extranets may require a change of business culture. Information that has traditionally been unavailable to customers becomes far more broadly available (Vlosky et al., 2000).

Extranets can be integrated in Porter's (1985) generic strategy types. Extranet adoption can contribute to both, cost leadership strategy by offering means to offer standardized and cost

effective customer service, and differentiation strategy by offering a tool for greater customization and offering additional value added services. In a case study, Anandarajan et al. (1998) found that the following strategic benefits were gained through extranet implementation: faster trading cycle; ability to win new business or retain existing leading to improvements in business efficiency; ability to respond to highly competitive new market entrants. In another case study documented by Chan and Davis (2000), Marshall Industries, a large U.S. electronics distributor, has been able to increase its productivity through extranet implementation. Marshall Industries' sales and profit have doubled after extranet implementation, while its sales staff has been cut from 1,600 employees to 1,450 employees.

The operational benefits from extranet implementation include reduced costs and improved cash flow (Anandarajan et al., 1998). Extranets can result in cost reductions by: efficient procurement and logistics management (Anandarajan et al., 1998); better production planning and reduced inventories (Anandarajan et al., 1998; Tan et al., 2000; Vlosky et al., 2000); improved delivery times (Anandarajan et al., 1998); reduced sales costs (Anandarajan et al., 1998) , reduced order processing and service costs (Anandarajan et al., 1998; Ling and Yen, 2001). Extranet services create value and supply chain visibility, enabling continuous availability to information (Vlosky and Fontenot, 1999). Overall, an extranet has the potential to provide information in a way that is immediate, cost-effective, easy to use, rich in format, and versatile (Ling and Yen, 2001).

An extranet has the potential to offer intangible marketing benefits. Extranets can deepen business partnerships and collaboration (Anandarajan et al., 1998).

Anandarajan et al. (1998) argue that having an extranet may also lead directly or indirectly to an enhanced corporate image. In support of this argument, a survey by Vlosky et al. (2000) conclude that the extranet partners are perceived to be more "cutting edge" and customer orientated companies, and more committed to longterm relationship.

Table 2.1: Extranet System Features and Practices

Extranet System Features and Practices	Sample References
The system is consistently and regularly maintained	Cupito (1997)
The system provides user-menu/instructions	Misic & Hill (1994)
The system enhances collaboration among trading partners	Lynch (1997)
The system produces accurate search results	Foo & Lim (1997)
The system provides a standardized display format (screen layout)	Bhanager et al. (1999)
The system adopts data security/privacy	Fuller & Pagan (1997)
The system improves personal productivity	Sridhar (1998)
The organization provides competent technical support	Huff & Munro (1985)
The system improves business communications	Cupito (1997)
The system enhances fast response time	Tabor et al. (1997)
The system provides a standardized retrieval procedure	Sridhar (1998)
The organization provides minimal system training	Cronan & Douglas (1990)
The system provides up-to-date information	Baines (1996)
The system provides a standardized search procedure	Foo & Lim (1997)
The system is easy to use	Tabor et al. (1997)
The system improves the quality of decision making	Sridhar (1998)
The system aids faster decision making	Sridhar (1998)
The system allows a faster exchange of information	Tabor et al. (1997)

Source: Literature Survey

2.1.6 History of Telecommunication Industry

Telecommunication is a dynamic and ever changing industry. It is characterized by strong growth, high-speed technological development and more or less forced liberalization (Carleheden, 1999). According to Oliver Stehmann (2005), the telecommunications industry is characterized by rapid innovation in the service and the transmission market.

2.1.6.1 Era of Monopolistic Market Structure

The telecommunications industry has experienced a series of dramatic changes since its inception in the 1880s in the USA. However, in the earlier days without a solid and innovative infrastructure, the country could not reach the optimal welfare level (Chandler, 2001). Due to these Governments in many countries felt the increased need to take up responsibility and control the telecommunication industry. In the second half of the industrial revolution, the telecommunications industry turned into a public or, government-owned industry without competition. The monopolization of the industry was a global trend. The monopolist was then solely responsible for the technological and economic environment, introducing new technologies and coping with changing markets (Chandler, 2001). At that time, American Telephone and Telegraph (AT&T) and its Bell System Operating Companies had a monopoly position in the USA. It was created after the establishment of the Communications Act of 1934 (Chakravarthy, 1991). In this period, the national telecommunication markets were characterized by stable growth. The only regulatory framework was the government. This situation continued through the mid 20th century.

2.1.6.2 Era of Regulated Market Structure

The 1950s signaled a change in the governments' perception of the proper telecommunications structure. Particularly, the Government of the USA wanted to allow competition in its telecommunications market. In 1968, the Federal Communications Commission's (FCC) 890 Ruling allowed one fixed-lines competitor into the market (Kennedy, 1989). In 1969, the USA introduced a competitor to its monopolist AT&T. The first competitor that was allowed to enter the market was Microwave Communications International (MCI) (Chakravarthy, 1991). It was only allowed to enter the fixed-lines business between two cities. AT&T stayed the key provider of fixed-line services. Hence, the FCC had imposed regulations to the industry players in order to advance equal competition, like price regulation and access charges (Green & Teece, 1998).

2.1.6.3 Era of Deregulated & Liberalized Market Structure

Technological changes in the telecom and computers have radically changed the business scenario. In turn, the new demands of business have spurred many telecom based technological innovations. In order to exploit these innovations for competing in global markets, business community has been putting pressures on governments to revise the policy, regulation and structure of the telecom sector. Several countries across the world have responded by restructuring the state controlled telecom provider, increasing private participation and deregulating service provisions (Uehara, 1990; King, 1990; Glynn, 1992 and Mutoh, 1994).

Moto (1990) researched the need of separate policy, regulation and operation which require changes in legislation - for example the restructuring the Japanese Nippon Telegraph and Telephone Public Corporation and Kokusai Denshin Dewwa was preceded by appropriate changes in legal framework.

The United States of America (USA) were the first country to deregulate the telecommunications market. Following, other countries also started to deregulate their telecommunications markets. During the period when a deregulated telecommunications market was created, the USA was invaded by many non-USA equipment vendors. In reaction, other countries were urged to open their markets in line with the USA model (Thimm, 1992). The USA Government threatened with trade reciprocity (Snow, 1995). The reformation of the United States telecommunications industry triggered open competition and the establishment of independent regulatory agencies worldwide (Wallsten, 2001a), although it took a couple of decades before the other countries followed competition in their telecommunications market.

The debate for worldwide agreements on liberalization of the basic and enhanced telecommunications services took place under auspices of the World Trade Organization (WTO). Particularly, the General Agreement on Trade in Services (GATS) was concerned with these negotiations. The importance of trade agreements in services was recognized in 1986, when the Ministerial Declaration on the Uruguay Round was made public. In 1994, the General Agreement on Trade in Services was formed, in which all members agreed to liberalize their telecommunications industry (McLarty, 1998). The General Agreement on Trade in Services (GATS) was developed next to many other agreements on the deregulation of the industry, such as the EU Liberalization Directives. In many countries, governments allowed one competitor at first in a restricted setting, and later on introduced open competition. They also reduced gradually their stake in their telecommunications companies after the liberalization (Wallsten, 2001b). Casson (1971) and Thimm (1992) found in their studies that as a part of telecom liberalization policy the private telecommunications companies built sophisticated network infrastructures in the high population-density areas. Furthermore, an independent regulatory agency was created to protect fair competition and equal opportunities for all companies in the telecommunications market. It was responsible for the adherence of telecommunications companies to competition rules.

In the past three decades, due to the latest liberalization and privatization wave in the world, the telecommunications industry has turned into a dynamic environment and is rapidly growing (Graack, 1996).

Researchers like Cowhey (1990, 1999) suggested that this can be pointed to the “revolution in telecommunication technology”. Others like Samarajiva (2000) noted how some financial institutions like the World Bank and some advanced countries such as the United Kingdom (UK) do influence certain global policies on telecommunication.

By critically analyzing a number of world literatures on emerging markets telecommunication reforms depict an increase in the extent of global regulatory convergence. The competition introduced into the industry reduced the interventions of the state or governments in the management of the telecommunication industry. In this regard a regulator was necessary to standardize their activities to encourage competition as disclosed by Wallsten, (2001).

Whilst some will consider endogenous (internal) institutional factors like poor economic situation, Foreign Private Investment (FPI) attraction and the existing political system were proposed by Haggarty et al (2002) as the major drivers of the reforms in the telecommunication industry.

Furthermore, Pisciotta cited by Peter Tobbin (2010), conceived that the key drivers for the telecom reform were due to technological changes and urgency needs to create a center of attention for the financial investment into the sector.

2.1.7 Factors Influencing Growth and Development of Telecommunication Industry

2.1.7.1 Emerging Technologies

In recent years, the telecommunications industry has evolved from manufacturing and providing basic fixed line telephony to an industry that offers telecommunications services by integrating IT and media into its services (Bourreau & Do an, 2001).

2.1.7.1.1 New Technologies: E Pedersen and Methlie (2002) studied the technology aspect and explained a comparative view. According to them, a comparison of the slow adoption of WAP services in Europe with the successful adoption of comparable I-mode services in Japan and technologically simple SMS based services in Scandinavian suggest that aggregate and technology based models are insufficient to explain the mobile service. Thus, technological models of the supply side need to be supplemented with the views and impact of perceptions from the demand side of the mobile users.

According to Stephen Y. Walters (2003) the telecommunications industry is being rocked by change fueled by the advent of the tremendous success of the internet and its technologies. For quite some time, there has been competition in the telephony business. Long-distance rates have seen continuous decreases for two decades as new carriers sought to capture greater and greater market share. Local carriers have seen competition for interconnecting the networks of large corporate customers and for providing them access to long-distance services. So, competition and change are not new issues in telecommunications. But the internet has forced an entirely new set of changes on the phone business. There are new carriers, new business scenarios, new technologies, and new ways of thinking about end users and the services they seek.

Dutt and Sundram (2004) studied that in order to boost communication for business, new modes of communication are now being introduced in various cities of the country. Cellular Mobile Phones, Radio Paging, E-mail, Voice-mail, Video, Text and Video-Conferencing now operational in many cities, are a boon to business and industry. Value- added hi-tech services, access to Internet and Introduction of Integrated Service Digital Network are being introduced in various places in the country.

P.S. Saran (2004) found that the telecom technology in India has transformed from manual and electro-mechanical systems to the digital systems. India has stepped into new millennium by having 100% electronic switching system. The technological changes have made way for new services and economics in the provision of telecom services.

2.1.7.1.2 Convergence of industries: Previously distinct industries have converged and new substitutes and complementary products and services have been introduced in the market. To maintain their competitive position, telecommunications companies gained access to new and complementary capabilities, resources and businesses. Due to new competitors from the New Economy, speed is becoming increasingly important for telecommunications companies to sustain or improve their position in the market (Carey, 2000).

According to Economic Commission for Europe (2000), this transition of the telecommunication area is mainly technology driven. The borderline between computers and electronics, on the one hand, and telecommunications, on the other, is disappearing. This convergence of technologies has led to the acceleration of the innovation process, which is constantly bringing forward new products and services. Besides expanding the market potential, this innovation process has also given rise to major changes in the industry and the institutional structure.

In their study, Bourreau and Do an, (2001) indicated that such industry evolved from manufacturing and providing basic fixed line telephony to an industry that offers mobile telecommunications services, and integrates IT and media into its services. (*ibid*)

New technological developments in the 1990s stimulated the convergence of previously distinct industries such as the telecomm 'nications, information technology, entertainment, media, and consumer electronics into a new industry, the so-called multimedia information industry (Chan-Olmsted & Jamison, 2001). Due to innovations, the telecommunications industry, together with the other industries, is rapidly transforming into this new industry which is the focal industry in the third generation of leading industries (Thimm, 1992).

The convergence of industries or digitalization of the telecommunications industry is the interplay of four different areas: customer devices, networks, network devices and content/software (Chan-Olmsted & Jamison, 2001). Customer devices are the apparatus to receive and communicate, like telephones and PCs. Networks are the links that transfer information. Network devices are the tools that control and accumulate the information. Content/software denotes the applications people employ (Thimm, 1992). An additional integration is observed between telecommunications and consumer electronics and mass media. Now-a-days, telecommunications services can generally be classified into two categories: basic services and enhanced services (McLarty, 1998). Basic telecommunication services consist of all voice and non-voice services transmitted without processing. Enhanced telecommunications services include specialized voice and non-voice services, requiring information processing, which adds value. The information transferred from one point to the other needs restructuring or a format change during this process. An example of enhanced services is the features on a mobile phone. Now-a-days, mobile phones include the ability to make photos, tape a short video, or listen to the radio and mass media can deliver their content via satellite and telephony (Chan-Olmsted & Jamison, 2001).

According to Prithipal Singh (2004), with the convergence of technologies, data services are expected to grow exponentially in the years to come. Broadband is likely to take a lead in the development of Indian Telecom Sector. Broadband is growing market and offers immense possibilities for investment.

2.1.7.1.3 Value network: Another recent development in the telecommunications industry is the emergence of the so-called value network. Aggressive competition by new entrants of different industries in the New Economy has forced incumbent telecommunications companies to reconfigure their strategy and business. In this context, a new development is the value network. In a value network, companies from different industries jointly offer products to customers (Li & Whalley, 2002). These value networks are made up of firms from the traditional economy but also from the New Economy. The value network is comprised of six areas: equipment and software, network, connectivity, navigation and middleware, applications and consumers (Li & Whalley, 2002). Related to the value network

is the concept of one-stop-shopping. Within one-stop-shopping, customers prefer only one incumbent to maintain all links leased through the network (Graack, 1996). Here, all services needed by the consumer should operate as if they belong to the same overarching network. Companies are, therefore, forced to engage in a search process for additional activities in an attempt to improve their 'fit' with these new business requirements. Especially, incumbent telecommunications companies are offering one-stop-shopping (Li & Whalley, 2002).

2.1.7.2 Competition

Melody (1990) points out various concerns for the telecom sector covering competition as important one. Competition is considered as more important factor than ownership in introducing efficiency. Further the order in which structural adjustments take place determine the effectiveness.

Jussawala (1992), Donaldson (1994); Jain, (1995) and Wellenius (1995), recognize that developing countries feel the important role that a responsive, business oriented, and technologically advanced telecom sector plays in the growth of the economy. Many developing countries accept the limitations of a monolith state monopoly in responding to the twin challenges of spurring internal growth and competing in global economy.

Due to deregulation, technological innovation and the convergence of industries the telecommunications landscape has changed into a turbulent environment. The telecommunications companies had to make adequate adaptations to these changes and responded quickly to improve or to sustain their competitive advantage (Jamison, 1998; Hamel & Prahalad, 1996; Chakravarthy, 1997). They have used several vehicles to adapt to the new requirements and to improve their long-term performance (Chakrabarti, Hauschildt & Sueverkruep, 1994; Hitt, Hoskisson, Johnson & Moesel, 1996; Williamson, 1996).

Telecommunication sector experienced phenomenal global change with the liberalization and privatization of the sector (Beard and Hartmann, 1999), which in turn, widened a fierce competition. The system has opened an ocean of opportunities for the potential consumers to enjoy versatile choices among the service providers.

Technological developments have created new opportunities and threats for incumbents (Chacko & Mitchell, 1998; Kranenburg, Clodt & Hagedoorn, 2001). For example, mobile telephony reduced the time, cost and risk involved in trading (Muller-Falcke 2001). Again, the cheaper and better quality information also reduced the role of intermediaries and thereby enabled the producers to earn more and buyers to buy at lower price (Bayes, 2001; Rahman, 2007). The strategic behavior of telecommunications companies in dealing with internationalization, economies of scale, competition, and recent needs of the consumers for an integrated product enabled them to develop or acquire specific technological capabilities and resources to deal with the rapidly changing environment (Chan-Olmsted & Jamison, 2001) and enter new markets (Jamison, 1998). Thus, the telecom went through dramatic changes with more and more competition emerged in the telecom sector (Leisen & Vance, 2001).

The nature of the competition today in the global telecommunications industry seems to centre on market activities that aim at gaining competitive advantages through strategic combinations of resources and presences in multiple products and geographical areas (Chan-Olmsted and Jamison, 2001). The success of telecommunication industry depends on prudent efforts and feasible investments. In a competitive market, service providers are expected to

compete on both price and quality of services and also it is necessary for the service providers to meet the consumers' requirements and expectations in price and service quality (Melody, 2001).

Adam Braff, Passmore and Simpson (2003) focused that telecom service providers even in the United States face a sea of troubles. The outlook for US wireless carriers is challenging. They can no longer grow by acquiring new customers; in fact, their new customers are likely to be migrated from other carriers. Indeed, churning will account for as much as 80% of new customers in 2005. At the same time, the carrier's Average Revenue Per User (ARPU) is falling because customers have alternatives.

Shyamal Ghosh (2003) mentions that the most significant development since 1999 has been the progressive reduction in tariffs which has been facilitated by competition through multi operator environment.

Kushan Mitra (2005) analyzed various factors contributing to competition to Indian Telecom Industry. Besides lowering of prices, increased efficiency, greater innovation, highly tech industry better quality services are some of the reasons which are boosting competition amongst various telecom service providers.

According to Mather (2005), "The challenge, of course, is that a competitor can show up in the established markets with new technology, better people, a better network of companies for support and a better management style and steal huge chunks of our business before we can respond. Staying at the forefront of all these issues will be the only way to stay successful."

Aisha Khan and Ruche Chaturvedi (2005) explained that as the competition in telecom area intensified, service providers took new initiatives to customers. Prominent among them were celebrity endorsements, loyalty rewards, discount coupons, business solutions and talk time schemes. The most important consumer segments in the cellular market were the youth segment and business class segment.

Indian infrastructure Report (2005) explained India's rapidly expanding telecom sector as continuing to witness stiff competition. This has resulted in lower tariffs and better quality of services. Various telecom services-basic, mobile, internet, national long distance and international long distance have seen tremendous growth in the year 2005 and this growth trend promises to continue electronics and home appliances businesses each of which are expected to be \$ 2.5 billion in revenues by that year. So, driving forces for manufacturing of handsets by giants in India include-sheer size of Indian market, its frantic growth rates and above all the fact that its conforms in global standards.

Michael Meltzer (2005) explain that in electronic age, the need to manage customer relationships for profit is a marketing dilemma that many telecommunication companies face.

According to the OECD (2007), increased competition uptake can be mainly realized by the following incentives; (1) bundling of services, such as offering telephone line plus broadband access to internet at significantly reduced price, introducing triple play services on the subscriber line and promoting digital T.V. as a revenue source for the fixed line operator. These would, however, depend on the distance of the subscriber line from the local exchange and the quality of the copper line. Reducing cost for the second line would also be effective.

This would lead to reduce prices for the consumer and reduce churn; (2) Increasing competition between broadband service providers; (3) Reducing the monthly rates of increased speed internet access; (4) increasing awareness of the benefits to the society; (5) increasing the local content on the internet so to attract more users in attempt to find killer application that would attract users; (6) adopting convergence between wireless or mobile and fixed services.

2.1.7.3 Alliance, Partnerships, Acquisitions and Mergers

In this rapidly changing industry, the availability of state-of-the art technological know-how, innovations and domestic and international market access are critical to a company's competitive success. As a result of a number of radical political and technological developments, telecommunications companies needed new or complementary capabilities and resources to fulfill the new demands and requirements. Therefore, extensive use was made of alliances, mergers and acquisitions (M&As) (Chan-Olmsted & Jamison, 2001; Waverman & Trillas, 2002).

Chan-Olmsted and Jamison (2001) researched the forms of alliances undertaken by telecommunication companies worldwide. They found that partnerships have frequently been used in the telecommunications industry, especially in the 1990s and they anticipated this trend to continue for the following reasons: globalization, economies of scale, competition, and, integrated product needs of the consumer.

2.1.7.3.1 Alliance: Technological advancement also is an important motive for the formation of alliances. The number of alliances has increased dramatically in the 1990s. The companies allied with companies from the other industries and acquired companies in expanding and potential markets because of possible increased production, stronger market presence, greater control over industry direction and decreasing competitive pressure (Jamison, 1998). Many companies allied with and acquired new companies, in particular, young innovative companies from the New Economy with a distinctive technology (Li & Whalley, 2002; Stubbs, 2004).

2.1.7.3.2 Partnerships: The development of the number of partnerships by the telecommunications companies in the world since 1985. Particularly, inter-firm partnerships can play an important role in an industry where learning and flexibility form the basis of competition (Dussauge & Garrette, 1999; Gomes-Casseres, 1996; Duysters & Hagedoorn, 1999). Partnerships in the telecommunications industry are particularly suited to monitor new opportunities and markets at relatively low cost. They are a more flexible and less expensive mode to set up. Consequently, partnering between the firms from different industries is expected to have increased during the last decade.

2.1.7.3.3 Mergers and Acquisitions (M&As): A telecommunications company can use not only mergers, it can also choose to acquire the operating assets of another company in exchange for either, cash, securities, or a combination of both (Capron & Mitchell, 1998). It can acquire a minority stake (acquisition of less than 50% equity) in another company or a majority stake (acquisition of more than 50% equity) in the company. The latter form provides the acquirer with an absolute controlling stake in the company. This means that the acquiring company will have a certain degree of authority over what happens in the telecommunications company. In an acquisition, the acquiring firm assumes the assets and liabilities of the acquired company (Gaughan, 1991).

2.1.7.4 International strategies

In the globalization and the liberalization of telecommunications industry, many incumbents were forced to develop international strategies (Oh, 1996). Through international strategies, companies were able not only to enter foreign markets, but also to seek foreign assets (both of a tangible and an intangible nature) and to build R&D, supply and production facilities abroad. (*ibid*)

2.1.7.5 Other Environmental Factors

N.M. Shanthi (2005) throws light on the factors that contributed to the growth of telecom sectors. Shanthi studies various initiatives taken by the government in lieu of liberalization, privatization and de-monopolization initiatives. The trend is expected to continue in the segment as prices are falling as a result of competition in the segments. The beneficiaries of the competition are the consumers who are given a wide variety of services.

T.V. Ramachandran (2005) analyzed performance of Indian Telecom Industry which is based on volumes rather than margins. The Indian consumer is extremely price sensitive. Various socio-demographic factors- high GDP growth, rising income levels, booming knowledge sector and growing urbanization have contributed towards tremendous growth of this sector. The instrument that will tie these things together and deliver the mobile revolution to the masses will be 3rd Generation (3G) services.

ASEAN India Synergy Sectors (2005) point out that high quality of telecommunication infrastructure is the pillar of growth for information technology (IT) and IT enabled services (ITES). Keeping this in view, the focus of telecom policy is the vision of world class telecommunication services at reasonable rates. Provision of telecom services in rural areas would be another thrust area to attain the goal of accelerated economic development and social change. Convergence of services is a major new emerging area.

According to Kelen A. (2005), Value Added Services are the key to the revival and growth of the Telecom sector. Lindmark et. al. (2006) stated that rapid technological development, innovation and diffusion have turned telecommunications into a major economic growth generator, globally, in Europe and particularly in Sweden (Lindmark et. al. 2006). Telecommunication sector is an important part of the Swedish economy and has been increasing since 1990s. Its contribution to economic growth measured as productivity improvements and value-added growth has increased to become almost of the contribution of the industry. Although this telecommunication sector is dominated by telecom product sector but at the same time there are many mobile telecom companies operating in the market as service providers (Lindmark et. al. 2006). Sweden formally liberalized its telecommunication sector, which stated in 1993. This was three years before the United States of America and five years before the European Union introduced its common policy in January 1998 allowed for an open and competitive telecommunication market (Lindmark et. al. 2006).

2.2. Mobile Telecom

Owing to the significant development in the field of information and communications technologies (ICTs) over the past decades, mobile telecommunications technologies have evolved rapidly (Teng et al., 2009). There are various mobile telecom services which include messaging services, mobile commerce, music and sound download, photo download, mobile TV, mobile games etc. (Kuo and Yen, 2009).

2.2.1 Mobile Telecom Services

2.2.1.1 Mobile Telephony: The term 'Mobile Telephony' makes sense to telephone service while even on the move. Mobile Telephony is specialized form of telecommunication service that uses several radio communications technologies which divide a geographic area into small areas or cells, typically from one to several square miles in area (<http://www.gii.co.jp/English>). Each cell again has its own low-powers transmitter or radio relay antenna device to relay calls from one cell to another. As the mobile phone users move from one area to another, computers and other communications processors are used to coordinate and control the transmission in this regard. In the earlier days mobile phone systems used analog communications technologies. But presently newer cellular systems use digital technologies, which provide greater traffic capacity within each cell, less susceptibility to interference, greater voice clarity, fewer data errors and additional service such as voice mail, paging, messaging and caller ID (<http://www.budde.com.au>).

Mobile telephony allows speedy and cheaper communication (Norton, 1992) and improves the quality of information (Bedi, 1999). It has further been posited that greater information flow will reduce the geographical barrier and lead to geographical spread (Bedi, 1999). Mobile phones have been successful in reaching out to a large section of illiterate population, hitherto untouched by legacy communication technology (Townsend, 2000).

Mobile telephony presents itself as a potential solution for reducing the digital divide by enabling two-way communication for a vast number of marginalized communities in the world (Sinha, 2005). Mobile telephony not only presents a probable solution to digital divide but it also has strong economic impact. Studies show that mobile telephony has direct, indirect and intangible economic impacts (Bhavnani et. al., 2008).

2.2.1.2 Mobile Messaging: Mobile messaging, including short-messaging service (SMS), multimedia messaging service (MMS), e-mail and internet, instant messaging etc., is an asynchronous mobile phone service that is too often deemed as a tool for entertainment and consumption at the micro individual level, also called communication services (Qiu, 2007).

2.2.1.3 Mobile Commerce: According to Tiwari and Buse (2007), mobile commerce is defined as 'any transaction, involving the transfer of ownership or rights to use goods and services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device'.

2.2.1.4 Music, Sounds and Video Services: Music and sounds services offer wide range of ring tones, sounds, and songs to choose from. Ring tones account for around 90 percent of all networks downloads to handsets. Ring tones services are highly successful mainly due to everyone's desire to be different in some small way and project a favorable image of themselves – fashionable, funny, etc. (Wilcox, 2005). Other services such as video clips, or watching TV on mobile phone are based on the establishment of a standard video telephony call to a server. The server answers the call with a video. These services are considered to be TV by the subscriber but they are actually download-on-demand video using dedicated bandwidth for that particular subscriber (Wilcox 2005).

2.2.2 Types of Mobile Telecommunication Network

Mobile Telecommunication Network is a data communication technology that sends or transmits signals through air or space without being tied to a physical line. So, such network

does not require any wired connections and hence are more convenient to use. The principal benefit of using this network is increased mobility. Examples of small networks are as follows:

2.2.2.1 Bluetooth: This technology was created by Ericsson in 1994 and is used to replace the cables in the office, in laboratories or at home as in (T. Butnaru, F. Gîrbacia, F. Tîrziu and D. Talab, 2004). According to Laudon and Laudon (2005: 260), bluetooth is a wireless networking standard which is useful primarily for creating small personal area networks linking up to eight devices within a 10-meter area using low-power radio-based communication. Wireless phones, pagers, computers, printers, and computing devices can communicate with each other and even operate each other without direct user intervention. Bluetooth can transmit up to 720 kbps in the 2.4 GHz band. It is usually effective for exchanging text and voice data (*ibid*). Bluetooth devices can support both voice and data communications with broadband 1 MB per second as in (R. Tesoriero, J. A. Gallud, M. D. Lozano, V. M. R. Penichet, 2009). With Bluetooth, mobile robots then can be easily handled with a push of button from our common electronics gadgets such as hand phones or PDA (Y. C. Fai, S. H. M. Amin, N. Fisal, J. A. Bakar, 2002). The following Figure shows the architecture for a Bluetooth enabled autonomous mobile robot as in.

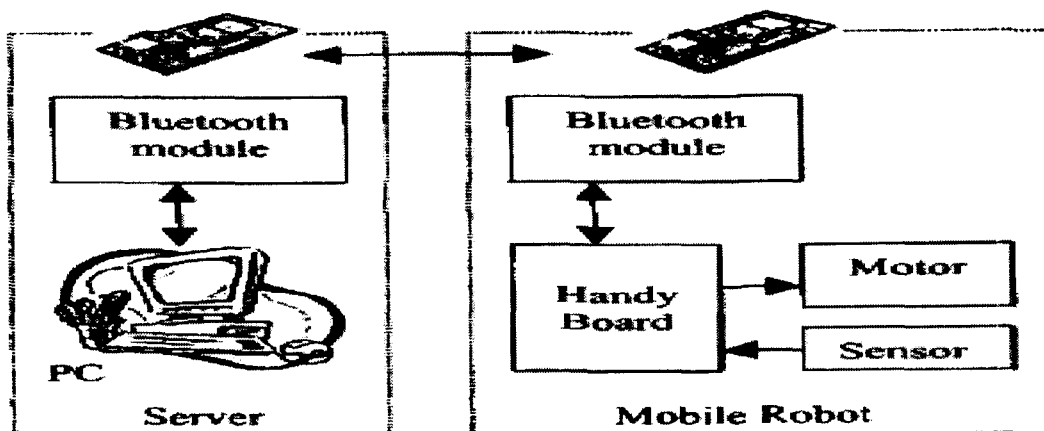


Figure 2.2: Hardware Architecture of Bluetooth
 (Source: T. Butnaru, F. Gîrbacia, F. Tîrziu and D. Talab, 2004)

2.2.2.2 Wi-Fi: Wireless Fidelity (WiFi) can transmit up to 11 megabits per second in the 2.4 GHz frequency range within a 100-meter area. It is a low-cost flexible technology (Escudero, 2003, p. 1) for connecting work groups and providing high speed mobile internet access (Laudon and Laudon, 2005: 260). Wi-Fi has been hailed as a broadband system built by the people and for the people that means everything one assumed about telecommunications is about to change (Negroponte, 2002).

Table 2.2: Various Versions of Wi-Fi

Version	Description
802.11b	It support data transfer rate of 11 Mbps
802.11a	Data Transfer rate is 54Mbps,freq:5GHZ
802.11g	Similar data transfer rate of 802.11a but freq:2.4GHZ
802.11n	It supports speeds up to 5 times better then the 802.11g. It can use the either 2.4GHZ or 5GHZ frequency.

Source: M. Sreerama Murty, D.Veeraiah, A. Srinivas Rao (2012)

Generally Wi-Fi is designed for the medium range data transfers i.e. 100 to 300 feet in indoor. Wi-Fi technology is built on IEEE 802.11 standards and Wi-Fi technology is used local area network (LAN). The entire Wi-Fi network is established within the small amount of area by connecting through internet in the various handheld wireless devices like laptops, mobile, etc. Wi-Fi is set up at homes, office, campus and other premises which can provide Internet access and internetworking to all devices connected (wirelessly or by cable) to them. The connection is established from one system to another directly without any intermediate node. The following table exhibits the various versions of Wi-Fi.

2.2.2.3 WiMAX: Worldwide Interoperability for Microwave Access (WiMAX) is a telecommunications protocol that provides fixed and mobile Internet access (M. Sreerama Murty, D.Veeraiah, A. Srinivas Rao, 2012). The name "WiMAX" was created by the WiMAX Forum. The WiMAX is supported by the WiMAX forum, which is a non-profit organization formed to promote the adoption of WiMAX compatible products and services (M. Barbeau, 2005). The WiMAX Forum (2005) describes WiMAX as a standards-based technology enabling the delivery of last mile wireless broadband access as an alternative to cable and DSL. The formal name of WiMAX is also known as 802.16. It is worthy to mention that 802.16d refers to the "Fixed WiMAX" which does not support the mobility of a Network while 802.16e refers to the "Mobile WiMAX" which supports the wireless network and is also called Mobile Network. This standard is often called Mobile WiMAX7. WiMAX technology is a standard based wireless technology which is used to provide internet access and multimedia services at very high speed to the end user. The current WiMAX revision is based upon IEEE Standard 802.16e-2005 which is improved upon IEEE 802.16-2004. The WiMAX produces up to 40 Mbit/s using the IEEE 802.16m and also release the maximum speed is up to 1 Giga bits. The WiMAX architecture is connected with an IP network, which was connected by the network service providers i.e. ISP (Internet Service Providers). It is designed as seamless integration capability of other networks with packets sending in ad-hoc mode. According to M. Sreerama Murty, D.Veeraiah, A. Srinivas Rao (2012), WiMAX is designed for the longer range of wireless network connections such as to provide internet access to a particular geographic area. It can be established the range from 39 miles to 6 miles to 30 miles. Mobile WiMAX standard offers scalability in both radio access technology and network architecture; thus, it provides flexibility in network deployment and service offerings (Bo Li, Yang Qin, Chor Ping Low, Choon Lim Gwee, 2007). WiMAX can be convenient for Hybrid Networks, Local Area Networks or long range transmission defined in 802.16j (V. Genc, S. Murphy, Yang Yu, J. Murphy, 2008).

2.2.2.3.1 Key Features of WiMAX Networks

WiMAX is a very promising technology with many key features over other wireless technologies (J. K. T. T. Andreas Deininger, Shinsaku Kiyomoto, 2007). Chakchai So-In, Raj Jain, and Abdel Karim Al-Tamimi (2010) have identified the following as key features of WiMAX Networks that differentiate it from other metropolitan area wireless access technologies:

- 2.2.2.3.1.1) Use of Orthogonal Frequency Division Multiple Access (OFDMA),
- 2.2.2.3.1.2) Scalable use of any spectrum width (varying from 1.25 MHz to 28 MHz),
- 2.2.2.3.1.3) Time and Frequency Division Duplexing (TDD and FDD),
- 2.2.2.3.1.4) Advanced antenna techniques such as beam forming,
- 2.2.2.3.1.5) Multiple Input Multiple Output (MIMO),
- 2.2.2.3.1.6) Per subscriber adaptive modulation,
- 2.2.2.3.1.7) Advanced coding techniques such as space-time coding and turbo coding,
- 2.2.2.3.1.8) Strong security and Multiple QoS classes suitable not only for voice but designed specifically for a combination of data, voice and video services

2.2.2.3.2 Applications of WiMAX

There are various applications of WiMAX technology some of which have been exhibited through the above figure and the following discussion.

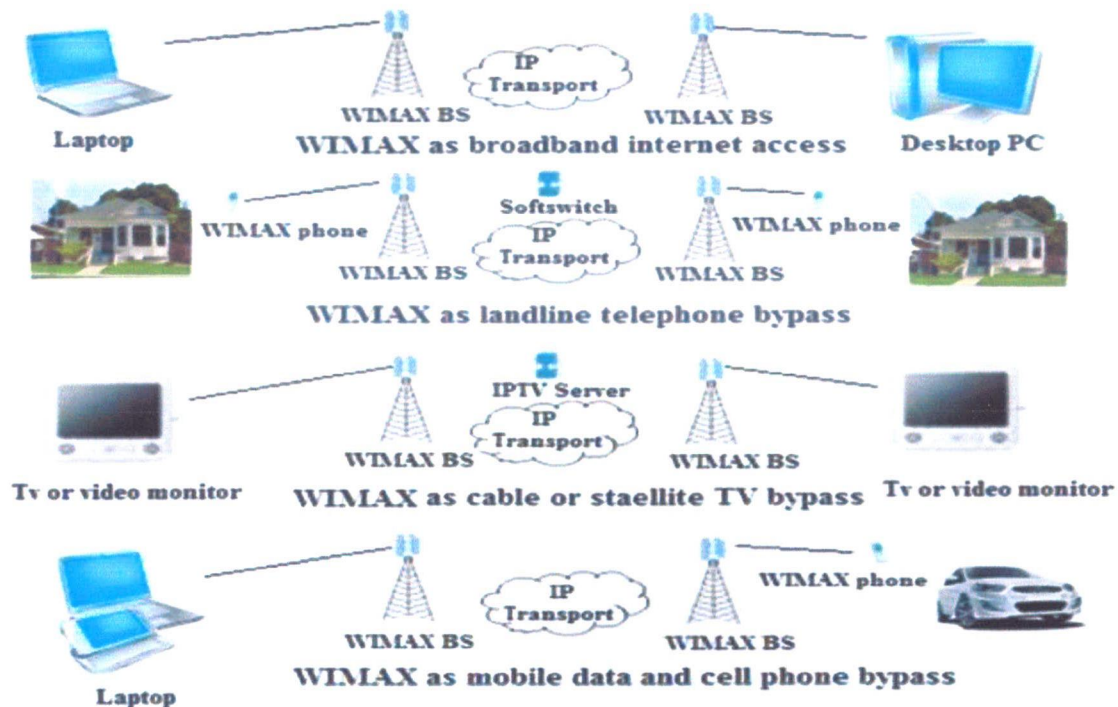


Figure 2.3: Applications of WiMAX (Source: Avni Khatkar, 2014)

2.2.2.3.2.1) Used for emerging applications: In mobile wireless configuration, it can substitute cellular networks and also can be used for emerging applications like Mobile TV, streaming audio/video when user is mobile

(http://www.wimax.com/education/wimax/wireless_architectures).

2.2.2.3.2.2) Metropolitan Area Distributed Service: C. Carter (2003) proposed a novel routing framework in the network layer, multicast routing to enable distributed service. In this scheme the customer does not need to specify the exact address of a server in the network. Instead, it only needs to indicate the service it wants to access. Moreover, in such a communication scenario, the user can communicate with a subset of all the servers in order to achieve better reliability and security (*ibid*).

2.2.2.3.2.3) Content-Based Distribution: The content-based routing scheme is a service-oriented communication model as proposed by Carzaniga *et al.* (2004). In this scheme the sender of a message does not need to explicitly specify its destination(s). The network layer will automatically deliver the message to receivers that are interested in the content of the message.

2.2.2.3.2.4) Quality Guaranteed Applications: For a variety of applications, it is essentially desired that the network layer should provide a sufficient quality of service (QoS) guarantee, mainly in terms of bandwidth, data rate, delay and delay jitter. It is difficult to provide such a guarantee in a wireless networks as they are generally error prone. In order to address this issue, multipath routing has been studied by many researchers. Multipath routing can provide

excellent quality of Service (QoS) than single-path as put forward by Zhang and Mouftah (2005).

2.2.2.3.2.5) Multihoming Applications: According to P. Eronen (2006), multihoming is a technology used as part of WiMAX that can provide services similar to those of multipath routing with a difference that in multi-homing, one station has two or more IP addresses and generally has the same number of interfaces. In this manner, the station can have multiple paths to access the same resources. In short, the application layer requirements routing must be addressed in the network layer design.

2.2.2.4 Comparisons of Wi-Fi and WiMAX

Table 2.3 exhibits a comparative scenario of WiFi and WiMAX

Table 2.3: Comparisons between Wi-Fi and WiMAX

Wi-Fi	WiMAX
Connection Oriented	Connection Less
Limited area	Depends on the Networks establishments
Use the versions 802.11b,802.11a,802.11g,802.11n	Use the versions 802.16
Less bandwidth	Medium Band width
Limited access points	No access points
Connection must be reliable	Connection is unreliable

Source: M. Sreerama Murty, D.Veeraiah, A. Srinivas Rao (2012)

2.2.2.5 Technical Comparisons of Wi-Fi and WiMAX

The following Table 2.4 exhibits technical comparisons of WiFi and WiMAX.

Table 2.4: Technical Comparisons of Wi-Fi and WiMAX

Standard	Family	Primary Use	Downlink (Mbit/s)	Uplink (Mbit/s)	Description
Wimax	802.16	Mobile Internet	128 (in 20MHz bandwidth)	56 (in 20MHz bandwidth)	WiMAX update IEEE 802.16m expected to offer peak rates of at least 1 Gbit/s fixed speeds and 100Mbit/s to mobile users
Wi-Fi	802.11	Mobile Internet	300 (using 4x4 configuration in 20MHz bandwidth) or 600 (using 4x4 configuration in 40MHz bandwidth)		Antenna, RF front end enhancements and minor protocol timer tweaks have helped deploy long range P2P networks compromising on radial coverage, throughput and/or spectra efficiency (310 km & 382 km)

Source: M. Sreerama Murty, D.Veeraiah, A. Srinivas Rao (2012)

2.2.3 History of Mobile Phone Telecom

The development of wireless communication systems started in the 1930s with the use of 'Walkie-talkies' during the Second World War to enable foot soldiers to stay in contact with the headquarters (Elliott and Philips, 2004). In 1946, AT&T Bell introduced the first commercial radiotelephone service in the US, which allowed communication between mobile users in cars and the public fixed network. In the 1960s, Bell Systems launched the Improved Mobile Telephone Service (IMTS), which laid the basis for commercial-sector mobile communications. Developments in microprocessor technologies in the late 1970s and early 1980s enabled the introduction of the reliable wireless communications system, the so-called first generation. Furthermore, mobile telephony was developed out of radiotelephony in the

early part of the twentieth century, but it was primarily used by naval, military, police and fire services (Gascoigne, 1974).

Mobile Cellular Network evolution has been categorized into ‘generations’ as shown in the following Figure.

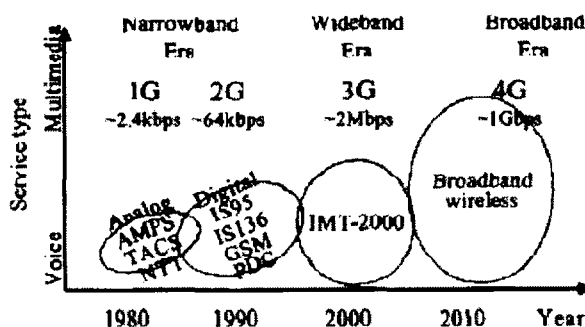


Figure 2.4: Evolution of Mobile Cellular Network (Source: Fumiyuki Adachi, 2001)

2.2.3.1 Narrowband Era

2.2.3.1.1) The First Generation (1G) System - (Analog): The first generation wireless technological innovation also known as 1G was relatively easy and used analog alerts. Mobile phone handsets based on 1G technology were mainly used by government agencies and the military before this technology came into general use in the business domain in the 1980s (Elliott and Philips, 2004). The techniques in European countries and the USA had in common that they offered protection of a very huge place by using only one transmitter mast. The protection place of a mast was pretty huge, up to 150km, and needed little facilities. To be able to link via huge ranges, the platform place as well as the cell phone had to deliver at the same time at high energy. This meant that the mobile phones were larger than today’s handsets and used to be built into car boots. Moreover, due to the limited number of available frequency channels, only a small number of subscribers could be connected to the mobile phone network (Walke et al., 2003).

1G system was based on the advanced mobile phone service (AMPS) technology. The mobile device sends the waves to a base station where the signal is reconstructed as accurately as possible and relayed to its destination. Noticeable differences in quality occur due to errors recreating the signal wave. In addition, analogue signals are relatively easy to intercept, as they are transmitted clearly (Deitel et al., 2002).

2.2.3.1.2) Second Generation 2G System -- (Digital): In the late 1980s and early 1990s, the popularity of wireless communications grew and increased the demand for network capacity. Together with the disadvantages of analogue 1G system, this led to the development of the second generation wireless system based on digital technology. Digital signals have different transmitting qualities than analog signals and use binary programming using series of 0s and 1s to create a signal's unique design. Digital signals use digital samplers and codecs to convert analogue voice data into digital data. Digital signals can be precisely duplicated by the receiving base station and send to its destination. This process results in a lower error rate than analogue transmission correction which results in clearer voice reception (Deitel et al., 2002). In addition, digital traffic is relatively simple to encrypt in order to prevent eavesdropping (Stallings, 2005).

2.2.3.1.3) Second and a half generation (2.5G) networks: 2.5G technologies represent a state of development between 2G and 3G and have overcome the limited data and primarily voice-centred services of the 2G networks. In the 1990s and early 2000s higher transmission rates and always-on connectivity were enabled by General Packet Radio Services (GPRS). Data transmission speeds were now 10 times faster with 115kbps per second and based on packet switching technology (International Telecommunication Union, 2003). Packet switching optimizes the use of bandwidth available in a network and minimizes the time it takes for data to travel across the network. The increased data transmission rates of 2.5G compared to earlier systems help to transfer data such as mobile internet content (Elliot and Philips, 2004)

2.2.3.2 Wideband Era

2.2.3.2.1) Third Generation (3G) System (WCDMA in UMTS, CDMA2000 & TD-SCDMA): Third generation mobile telephony (3G) is the successor to the 2G and 2.5G systems. 3G improved previous systems by providing enhanced security and encryption features, improvements in screen displays and the ability to handle multimedia data, such as graphics and video streaming. 3G allows faster data exchange with data transmission rates up to 1920kbps per second, which enables the support of greater voice and data customers. Support can be offered for a wide range of cellular equipment. 3G technological innovation were first introduced in Asia in 2001 and spread to European countries and the USA in 2002.

According to B.KiranKumar et al (2012), 3G or 3rd generation mobile telecommunications is a generation of standards for mobile phones and mobile telecommunication services fulfilling the International Mobile Telecommunications- 2000 (IMT-2000) specifications by the International Telecommunication Union. Application services include widearea wireless voice telephone, mobile Internet access, video calls and mobile TV, all in a mobile environment.

B. Kiran Kumar et al (2012) also emphasized that the 3G networks offer greater security than their 2G predecessors. By allowing the UE (User Equipment) to authenticate the network it is attaching to, the user can be sure the network is the intended one and not an impersonator. They found that the 3G can implement various network technologies such as UMTS, GSM, CDMA, WCDMA, CDMA2000, TDMA and EDGE (*ibid*).

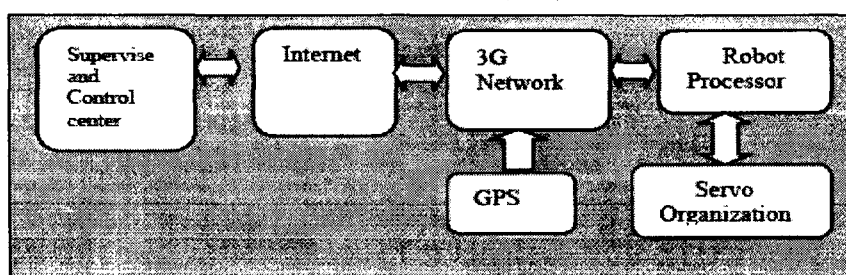


Figure 2.5: System Structure of 3G (Source: Bi Jincun1, Li Qi, Liu Yanfei, 2009)

Figure 2.5 exhibits remote control system based on 3G technology and GPS (Global Positioning System) for rescue robots. The system modules contain the terminal, the monitor system and network for data transfer. It includes the correspondence technique, GIS (Geography Information System) technique, data processing technique, 3G technique; satellite fixed position, the robot control technique and a Streaming media application technique.

2.2.3.3 Broadband Era

2.2.3.3.1) Fourth Generation (4G) System (All-IP): Fourth generation (4G) is also called Next Generation Network (NGN) that offers one platform for different wireless networks. In contrast to 3G, the new 4G framework to be established will try to accomplish new levels of user experience and multi-service capacity by also integrating all the mobile technologies that exist, for example, GSM - Global System for Mobile Communications, GPRS - General Packet Radio Service, IMT-2000 – International Mobile Communications, Wi-Fi - Wireless Fidelity, Bluetooth (Pereira, Vasco & Sousa, Tiago, 2004). This is exhibited in the Figure 2.6.

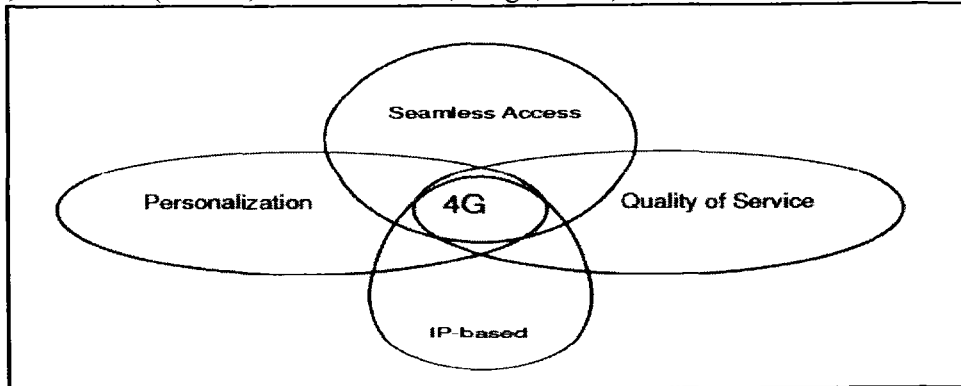


Figure 2.6: The next Generation Mobile Communication Systems Features

(Source: Kamarularifin Abd Jalil, Mohd Hanafi Abd. Latif, Mohamad Noorman Masrek, 2009)

A successor of 2G and 3G, 4G promises a downloading speed of 100Mbps and is yet to shower its wonders on (B. Kiran Kumar et al, 2012). Some additional features of 4G are Multi-Media Newspapers, Mobile T.V programs, etc. A 4G system is expected to provide a comprehensive and secure all-IP based mobile broadband solution to laptop computer wireless modems, Smartphone's, and other mobile devices. Facilities such as ultra-broadband Internet access, IP telephony, gaming services, and streamed multimedia may be provided to users. In 4G the integration of network and its applications is seamless. Therefore, there is no risk of delay. While implementing 4G the cost issue needs to be taken into consideration so that users can benefit from this technological development fully (*ibid*).

Table 2.5: 1G to 4G

Generation	Requirements	Comments
1G	<ul style="list-style-type: none"> No official requirements. Analog technology. 	<ul style="list-style-type: none"> Deployed in the 1980s.
2G	<ul style="list-style-type: none"> No official requirements. Digital Technology. 	<ul style="list-style-type: none"> First digital system. Deployed in the 1990s. New services such as SMS and low-rate data. Primary technologies include IS-95 CDMA and GSM.
3G	<ul style="list-style-type: none"> ITU's IMT-2000 required 144 kbps mobile, 384 kbps pedestrian, 2Mbps indoors 	<ul style="list-style-type: none"> Primary technologies include CDMA2000 1X/ EVDO and UMTS-HSPA. WiMAX now an official 3G technology.
4G	<ul style="list-style-type: none"> ITU's IMT Advanced requirements include ability to operate in up to 40 MHz radio channels and with very high spectral efficiency. 	<ul style="list-style-type: none"> No technology meets requirements today. IEEE 802.16m and LTE Advanced being designed to meet requirements.

Source: 3gamericas (2010)

2.2.4 Mobile Telecom Technologies

2.2.4.1 UMTS

UMTS (Universal Mobile Telecommunications System) is the third generation mobile phone technology mainly used in Europe and also in Japan. It uses the GSM infrastructure and UMTS/GSM dual-mode phones sold in Europe are able to make and receive calls on both networks. Elliott and Philips (2004) describe the aims of all 3G networks as: a) world-wide connectivity and roaming, b) high data transmission rates and broad bandwidth, suitable for multimedia content and c) efficient spectrum utilisation (Philips and Elliot, 2004).

2.2.4.2 GSM

According to Wikipedia (<http://en.wikipedia.org/wiki/GSM>), GSM is a standard developed by the European Telecommunications Standards Institute (ETSI) to describe protocols for second generation (2G) digital cellular networks used by mobile phones. It is the de facto global standard for mobile communications with over 90% market share, and is available in over 219 countries and territories. The GSM standard was developed as a replacement for first generation (1G) analog cellular networks, and originally described a digital, circuit-switched network optimized for full duplex voice telephony. This was expanded over time to include data communications, first by circuit-switched transport, then packet data transport via GPRS (General Packet Radio Services) and EDGE (Enhanced Data rates for GSM Evolution or EGPRS).

GSM, fundamentally differs from the 1G system because of its use of cellular network architecture. GSM, also known as second generation network or 2G, was first developed in the 1980s through a pan-European initiative, involving the European Commission, telecommunications operators and equipment manufacturers. GSM is an open non-proprietary and interoperable digital standard for cellular mobile systems operating in the 900 and 1800 MHz band. In 1986, a number of different prototype systems put forward by companies and consortia from different European countries were trialled and led to the agreement of the main characteristics of the new system (Steele et al., 2001).

GSM is still in use to date by all European countries and has also been adopted in the other continents, such as Africa and South America. There are over 540 million GSM subscribers in Europe, plus another 18 million Europeans using 3GSM networks, which are the 3G service delivered over the evolved GSM core network (GSM Europe, 2005). With GSM it was also made possible to send and receive limited amounts of data via the Short Messaging Service (SMS) and mobile internet browsing via the wireless Applications Protocol (WAP) (Elliott and Philips, 2004).

2.2.4.3 CDMA

CDMA, or Code Division Multiple Access, allows every device in a cell to transmit over the entire bandwidth at all times. Each mobile device has a unique and orthogonal code that is used to encode and recover the signal (Leon-Garcia and Widjaja 2000). The mobile phone digitizes the voice data as it is received, and encodes the data with the unique code for that phone. This is accomplished by taking each bit of the signal and multiplying it by all bits in the unique code for the phone. Thus, one data bit is transformed into a sequence of bits of the same length as the code for the mobile phone. This makes it possible to combine with other signals on the same frequency range and still recover the original signal from an arbitrary mobile phone as long as the code for that phone is known. Once encoded, the data is modulated for transmission over the bandwidth allocated for that transmission (*ibid*). CDMA typically operates in the frequency range of 800 MHz to 1.9 GHz.

2.2.4.4 WCDMA

WCDMA is the 3G standard CDMA used by GSM carriers.

2.2.4.5 CDMAOne

According to <http://www.pcmag.com/article2/0,2817,2407897,00.asp>, CDMAOne is the brand name that describes a complete digital wireless telecommunications solution based on the TIA/EIA IS-95 CDMA standard, including IS-95A for 2G and IS-95B revisions for 2.5G. It represents a second generation (2G) digital radio solution that uses the spectrally efficient Code Division Multiple Access (CDMA) scheme to send voice, data and signaling data (e.g., Caller ID) between mobile telephones and cell sites in a variety of spectrum and regulatory environments, including cellular, personal communication services (PCS), wireless local loop (WLL) and fixed wireless.

2.2.4.6 CDMA2000

CDMA2000 represents a family of IMT-2000 (3G) standards providing high-quality voice and broadband data services over wireless networks. CDMA2000 builds on the inherent advantages of CDMA technologies and introduces other enhancements, such as Orthogonal Frequency Division Multiplexing (OFDM), advanced control and signaling mechanisms, improved interference management techniques, end-to-end Quality of Service (QoS), and new antenna techniques such as Multiple Inputs Multiple Outputs (MIMO) and beamforming to increase data throughput rates and quality of service, while significantly improving network capacity and reducing delivery cost (<http://www.pcmag.com/article2/0,2817,2407897,00.asp>).

2.2.4.7 TDMA

Time Division Multiple Access (TDMA) is a technique for dividing the time domain up into sub channels for use by multiple devices (B.KiranKumar et al, 2012). Each device gets a single time slot in a procession of devices on the network. During that particular time slot, one device is allowed to utilize the entire bandwidth of the spectrum, and every other device is in the quiescent state (*ibid*).

2.2.4.8 LTE

The CDMA vs. GSM gap will close eventually as everyone moves to 4G with LTE (Long Term Evolution) technology. LTE is a standard for wireless data communications technology and an evolution of the GSM/UMTS standards. But it does not mean that everyone's phones will be compatible. The wireless interface of LTE is incompatible with 2G and 3G networks, and so it must be operated on a separate wireless spectrum (<http://www.pcmag.com/article2/0,2817,2407897,00.asp>). Long Term Evolution (LTE) also referred as 3.9 G or super 3G is an emerging technology for higher data rates (B.KiranKumar et al, 2012). LTE is developed as an improvement to Universal Mobile Telecommunication System by 3G Generation Partnership Project (3GPP). LTE uses Orthogonal Frequency Division Multiple Access (OFDMA). The LTE specification provides down-link peak rates of 300 Mbit/s, uplink peak rates of 75 Mbit/s and QoS provisions permitting round-trip times of less than 10 ms. The download rate in LTE is 150 Mbps and it utilizes the available spectrum in a very sophisticated way. In LTE the IP packet delay is less than 5 mili seconds which provides the experience of wired broadband internet access in wireless environment. The mobile TV broadcast is facilitated by LTE over LTE network. The goal of LTE is to increase the capacity and speed of wireless data networks using new DSP (Digital Signal Processing) techniques and modulations that were developed in the beginning of the new millennium (*ibid*).

2.2.4.9 Comparison of Wireless Mobile Technologies

From the light of the above discussion, the comparative statistics of three wireless mobile technologies have been exhibited by Frances Cleveland (2007) through the Table 2.6 and Figure 2.7.

Table 2.6: Comparison of three Wireless Mobile Technologies

Types of Wireless Mobile Technology	Range	Frequency Band(s)	Data Rate
Bluetooth	33 feet	2.4Ghz	1.5Mbps
Wi-Fi	100-150 feet	2.4Ghz	11Mbps
3G CDMA	Global	800 Mhz – 1900 Mhz	2Mbps

Source: Frances Cleveland (2007)

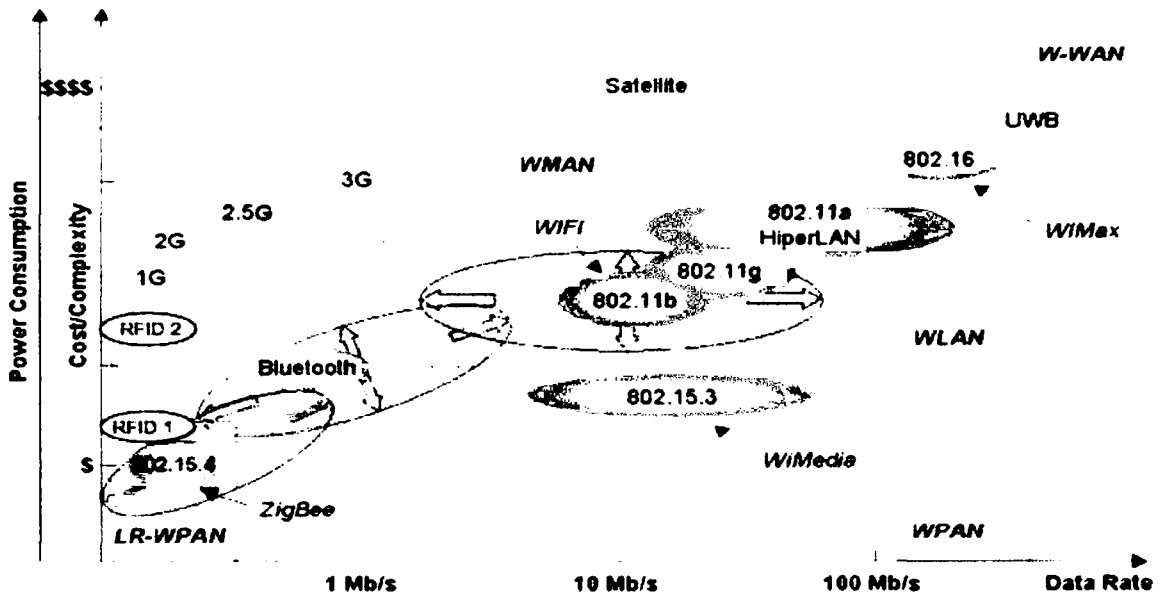


Figure 2.7: Comparison of Wireless Mobile Technologies (Source: Frances Cleveland, 2007)

Figure 2.7 exhibits the comparison of speed and mobility of Wimax, HSPA, UMTS, and GSM. This shows drastic increase from Wi-Fi to GSM. The speed of the wireless system is changed as per the no of access points in a network.

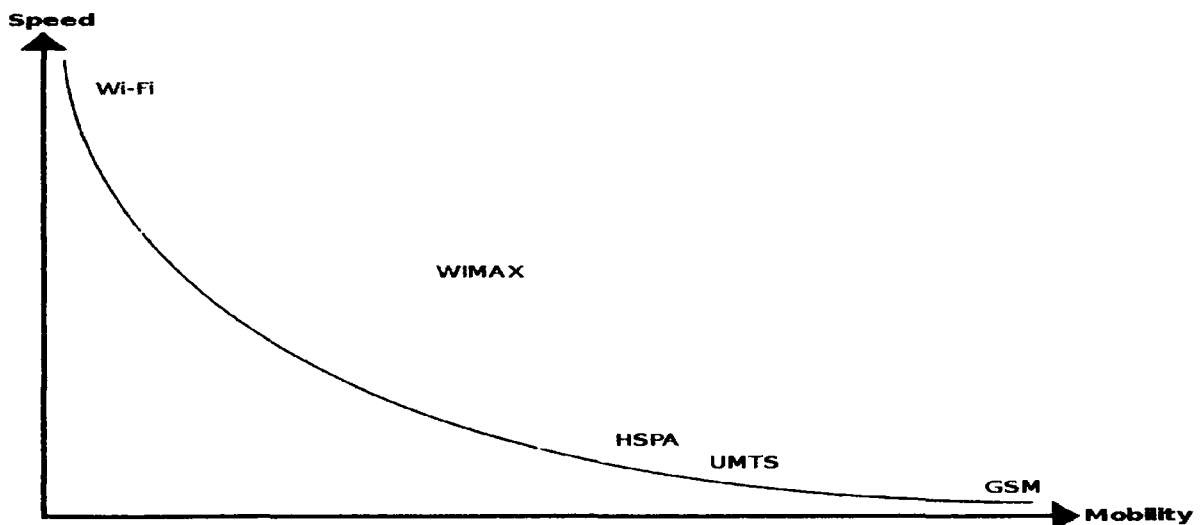


Figure 2.8: Speed vs. Mobility of Wireless Systems: Wimax, HSPA, UMTS, and GSM (Source: Frances Cleveland, 2007)

2.2.5 Factors Influencing the Growth and Development of Mobile Telecom Industry

2.2.5.1 Nature of Wireless Devices and Transfer of Technology

Muller (1990) in his research focuses that the success of the mobile communication can be attributed to the personal nature of wireless devices. Adding to this are its unique features of voice and data transmission and distinct features like localization, feasibility and convenience. The sustained growth of the mobile communication around the world has been more because of the transfer of technology according to the needs of local geography.

2.2.5.2 Innovation and Digitalization

In particular, mobile telecommunications innovation and digitalization have substantially changed the telecommunications landscape. The mobile telecommunications innovation has offered new forms of communications and services such as analog/digital cellular services, cordless telephony, trunking, and paging services (Krogt, 1996).

2.2.5.3 Potential Solution to Digital Divide

Mobile telecom became an attractive solution for the communication needs of the developing countries because of its ability to transcend barriers posed by geography and terrain, lower installation cost and operating costs (Dholakia, 2002). As a result of continuous research, mobile phones are rapidly morphing into full-fledged computers. Peripheral devices like mobile printers, thin folding screens, gesture keyboards are further reducing the difference between mobile phones and computers. Further advances in technology resulting in reduction in prices will lead to greater adoption by the poor. The lower costs of mobile telephone services, lesser requirement of electricity and rapid blurring of differences between mobiles and personal computers makes mobile telecom a potential solution to digital divide (Dholakia, 2002).

2.2.5.4 Technological Progress

According to the World Telecommunication Development Report (2002), the technologies of mobile telecommunications and internet are going to set the contours of further technological progress in the current decade. The most recent initiative aims at convergence of voice and data received from multiple sources both web based and real time video streams in mobile handsets and calling cards have virtual presence possible almost everywhere overcoming the barriers of distance, topography and remoteness.

2.2.5.5 Traffic Migration from Wire line to Wireless

According to the study by Jeanette Carless on and Salvador Arias (2004), wireless substitution is producing significant traffic migration from wire line to wireless and helping to fuel fierce price competition, resulting in margin squeezes for both wire line voice tariffs in organization for Economic Co-operation and Development Countries have fallen by an average of three percent per year between 1999 and 2003.

2.2.5.6 Increased Competition and Rapid Change of Technology

Mobile phone telecom markets are one of the most turbulent market environments today due to the increased competition and rapid change of technology (Karjaluo et al., 2005). The mobile market is also becoming increasingly important in developing countries, with benefits such as increased employment and wages (Chowdhury, Parvin, Weitenberner, & Becker, 2006).

2.2.5.7 Requires less investment as compared to fixed lines

Marine and Blanchard (2005) identifies the reasons for the unexpected boom in mobile networks. According to them, cell phones, based on Global System for Mobile Communication (GSM) standard require less investment as compared to fixed lines. Besides this, a wireless infrastructure has more mobility, sharing of usage, rapid profitability. Besides this, usage of prepaid cards in the extent of 90% simplifies management of customer base. Moreover, it is suitable to people's way of life-rural, urban, and sub-urban subscribers.

2.2.5.8 Rising Interest of Foreigners for Investment in the Telecom Industry

Arindham Mukherjee (March, 2006) takes out various case studies like Vodafone, Maxis, Telekom Malaysia, Tatatele etc., to study the rising interest of foreigners for investment in Indian telecom industry. Various reasons of stemming growth can be rising subscriber base, rising teledensity, rising handset requirements, saturated telecom markets of other countries, stiff competition, requirement of huge capital, high growth curve on telecom, changing regulatory environment, conducive FDI limits in telecom sector.

2.2.5.9 Growing Subscribers

During the last decade, telecommunication sector has grown up as one of the most competitive sector in the business world. Mobile phone telecom service industry is one of them (Hossain & Iftexhar, 2011). With rapidly growing subscribers and users worldwide, mobile phones have out-diffused virtually every prior technology, including bicycles, radios, television (TV) sets, wallets, wireline phones, and wristwatches, and have done so in twenty-five years (Kalba, 2008).

2.2.5.10 Rising Demand

Narinder K Chhiber (2008) states that the mobile telecommunication technology is evolving rapidly in the world as more people demand mobile services with longer bandwidth and new innovative services like connectivity anywhere, anytime for feature like T.V., Multimedia, interoperability and seamless connectivity with all types of protocols and standards, while the 3G services are yet to fully come up. Serious discussion on 4G has started. WLAN hot spot have made inroads along with 3G to offer an alternative form of mobile access.

2.2.5.11 Prospect of Economic and Social Development

Mobile communications sector in Bangladesh has helped boost the economic and social development in the country in three main ways: (1) by providing value-added services and creating employment from direct/indirect firms in the telecommunications sector, (2) increased productivity in businesses as a result of mobile phone usage and (3) increasing the involvement and engagement of its population with news and current affairs (BTRC, 2011a).

2.2.5.12 Government Declaration of ICT as Thrust Sector

The government has identified the Information and Communication Technology (ICT) as one of the thrust sectors for rapid economic development, unemployment and poverty alleviation (Ashaduzzaman & Ahmed, 2011). Internet penetration in Bangladesh is the lowest in the region. Among the 6 million internet users, around 90% uses Mobile internet which means more mobile penetration will create more internet access for the people of Bangladesh (BTRC, 2011a).

BANGLADESH – THE RESEARCH CONTEXT

CHAPTER 3

BANGLADESH – THE RESEARCH CONTEXT

This chapter provides an overview of Bangladesh by exhibiting its geography, people and society, Government, economy and telecommunication system in the section 3.1. The section 3.2 focuses on the telecommunication industry in Bangladesh by highlighting its historical development from the Indian Sub-Continent and the then East Pakistan to post liberation Bangladesh regime with its regulatory framework. While the section 3.3 exhibits the mobile phone telecom operators in Bangladesh including Grameenphone (GP), BanglaLink, Robi, Airtel, Teletalk and City Cell with the statistics of mobile phone subscribers in Bangladesh.

3.1 Profile of Bangladesh

The Peoples Republic of Bangladesh is a sovereign democratic country which became independent in December 16, 1971. The country came into existence with the sacrifice of at least 3000000 civilians in the 9 months of victorious liberation war with Pakistan.

The following section exhibits the country profile of Bangladesh based on the facts and figures of the CIA World Fact Book, 2014, Bangladesh Bank (BB) and Bangladesh Bureau of Statistics (BBS)

3.1.1 Geography

3.1.1.1 Location: Most parts of the country is situated on deltas of large rivers flowing from the Himalayas: the Ganges unites with the Jamuna (main channel of the Brahmaputra) and later joins the Meghna to eventually empty into the Bay of Bengal.

3.1.1.2 Geographic coordinates:

Between 20° 34¢ and 26° 38¢ north latitude and between 88° 01¢ and 92° 41¢ east longitude.

3.1.1.3 Continent: Asia**3.1.1.4 Total Area: 143,998 sq km**

Land Area: 130,168 sq km

Water Area: 13,830 sq km

3.1.1.5 Land boundaries: Bangladesh is situated in its southern side on the coast of the Bay of Bengal and is surrounded by India from the eastern, western and northern sides, with a small border with Myanmar in the southeast. The land boundaries of the country are as follows:

Border countries: Burma 193 km, India 4,053 km

Coastline Area: 580 km

Total Area: 4,246 km

3.1.1.6 Land profile:

3.1.1.6.1 Nature of land: The country is low-lying mostly flat alluvial plain and hilly in the southeast with total land of 144,000 sq. km. traversed by four large rivers and their tributaries.

3.1.1.6.2 Land uses: The land uses are arable land: 52.97%, permanent crops: 6.25% and other: 40.78% (2011)

3.1.1.6.3 Natural resources: natural gas, arable land, timber, coal

3.1.1.6.4 Natural hazards: droughts; cyclones; much of the country routinely inundated during the summer monsoon season

3.1.1.7 Climate: Tropical; mild winter (October to March); hot, humid summer (March to June); humid, warm rainy monsoon (June to October)

3.1.1.8 Temperature: Winter 11 °C to 19 °C; Summer 21 °C to 34 °C

3.1.1.9 Standard time: GMT + 6 hours

3.1.2 People and Society

3.1.2.1 Population: 166,280,712 (July 2014 est.)

3.1.2.2 Nationality: noun: Bangladeshi(s); **adjective:** Bangladeshi

3.1.2.3 Ethnic groups: Bengali 98%, other 2% (includes tribal groups, non-Bengali Muslims) (1998)

3.1.2.4 Languages: Bangla (official, also known as Bengali), English is widely spoken as a second language

3.1.2.5 Religions: Muslim 89.5%, Hindu 9.6%, other 0.9% (2004)

3.1.2.6 Age structure:

0-14 years: 32.3% (male 27,268,560/female 26,468,883)

15-24 years: 18.8% (male 14,637,526/female 16,630,766)

25-54 years: 38% (male 29,853,531/female 33,266,733)

55-64 years: 5.9% (male 4,964,130/female 4,870,447)

65 years and over: 5% (male 4,082,544/female 4,237,592) (2014 est.)

3.1.2.7 Population growth rate: 1.6% (2014 est.); **Birth rate:** 21.61 births/1,000 population (2014 est.); **Death rate:** 5.64 deaths/1,000 population (2014 est.)

3.1.2.8 Urban population: 28.4% of total population (2011)

3.1.2.9 Major urban areas - population: DHAKA (capital) 15.391 million; Chittagong 4.816 million; Khulna 1.636 million; Rajshahi 853,000 (2011)

3.1.2.10 Sex ratio:

At birth: 1.04 male(s)/female

0-14 years: 1.03 male(s)/female

15-24 years: 0.88 male(s)/female

25-54 years: 0.9 male(s)/female

55-64 years: 0.95 male(s)/female

65 years and over: 0.96 male(s)/female

Total population: 0.95 male(s)/female (2014 est.)

3.1.2.11 Life expectancy: Total population: 70.65 years; male: 68.75 years; female: 72.63 years (2014 est.)

3.1.2.12 Total fertility rate: 2.45 children born/woman (2014 est.)

3.1.2.13 Literacy: Total population: 57.7%; **male:** 62%; **female:** 53.4% (2011 est.)

3.1.3 Government

3.1.3.1 Country name:

Conventional long form: People's Republic of Bangladesh

Conventional short form: Bangladesh

Local long form: Gana Prajatantri Bangladesh

Local short form: Bangladesh

Former: East Bengal, East Pakistan

3.1.3.2 Government type: Parliamentary democracy

3.1.3.3 Capital: Dhaka

3.1.3.4 Administrative divisions: 7 divisions; Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, Sylhet

3.1.3.5 Constitution: Enacted 4 November 1972; effective 16 December 1972; suspended following coup of 24 March 1982; restored 10 November 1986; amended many times

3.1.3.6 Executive branch:

3.1.3.6.1 Chief of State: President, elected by the National Parliament for a five-year term (eligible for a second term)

3.1.3.6.2 Head of Government: Prime Minister

3.1.3.6.3 Cabinet: Cabinet selected by the prime minister and appointed by the president

3.1.3.7 Legislative branch: Unicameral National Parliament or Jatiya Sangsad; 300 seats (45 reserved for women) elected by popular vote from single territorial constituencies; members serve five-year terms

3.1.3.8 Judicial branch:

3.1.3.8.1 Highest court(s): Supreme Court of Bangladesh (organized into the Appellate Division with 7 justices and the High Court Division with 99 justices)

3.1.3.8.2 Judge selection and term of office: Chief justice and justices are appointed by the president; justices serve until retirement at age 67

3.1.3.8.3 Subordinate courts: Civil courts include: Assistant Judge's Court; Joint District Judge's Court; Additional District Judge's Court; District Judge's Court; criminal courts include: Court of Sessions; Court of Metropolitan Sessions; special courts/tribunals; Metropolitan Magistrate Courts; Magistrate Court

3.1.3.9 Flag description: Green field with a large red disk shifted slightly to the hoist side of center; the red disk represents the rising sun and the sacrifice to achieve independence; the green field symbolizes the lush vegetation of Bangladesh

3.1.3.10 National symbol(s): Bengal tiger

3.1.3.11 National anthem:

Name: "Amar Shonar Bangla" (My Golden Bengal)

Lyrics/music: adopted 1971; written by Rabindranath TAGORE, a Nobel laureate

3.1.4 Economy

3.1.4.1 Currency: Bangladesh Taka (BDT)

3.1.4.2 Fiscal year: 1 July - 30 June

3.1.4.3 Trade organizations: WTO, WCO, SAFTA, D8

3.1.4.4 Current National Income (Provisional) Aggregates (2013-2014, Source: BBS)

GDP at current prices, in million Taka	: 13509204
GNI at current prices, in million Taka	: 14409370
NNI at current prices, in million Taka	: 13242572
GDP at constant prices (base 2005-06), in million Taka	: 7745385
Per Capita GDP at current prices, in Taka	: 86731
Per Capita GDP at constant prices (base 2005-06), in Taka	: 49714
Per Capita GNI at current prices, in Taka	: 92510

3.1.4.5 Remittance Inflow: \$1286.37 million (June, 2014; Source: BB)

3.1.4.6 Agriculture - products: Rice, jute, tea, wheat, sugarcane, potatoes, tobacco, pulses, oilseeds, spices, fruit; beef, milk, poultry

3.1.4.7 Industrial production: Textiles and apparel, jute, tea, leather, telecommunications, pharmaceuticals, cement, ceramics, shipbuilding, fertilizer, food processing, paper newsprint, light engineering, sugar, fisheries, rubber, ship repairing, agriculture

3.1.4.8 Industrial production growth rate: 9% (2013 est.)

3.1.4.9 Labor force: 78.62 million (2013)

3.1.4.10 Labor force - by occupation:

Agriculture: 47% (2010)

Industry: 13% (2010)

Services: 40% (2010)

3.1.4.11 Unemployment rate: 5% (2013 est.)

3.1.4.12 Population below poverty line: 24 % (2013 est.)

3.1.4.13 Inflation rate (consumer prices index): 7.48% (May, 2014; Source: BBS)

3.1.4.14 Exports: \$26.91 billion (2013 est.)

3.1.4.15 Export commodities: Garments, knitwear, agricultural products, frozen food (fish and seafood), jute and jute goods, leather

3.1.4.16 Main export partners: US 18.7%, Germany 15.8%, UK 10.2%, France 6.2%, Spain 4.6%, Canada 4.3%, Italy 4% (2013 est.)

3.1.4.17 Imports: \$32.94 billion (2013 est.)

3.1.4.18 Import commodities: Machinery and equipment, chemicals, iron and steel, textiles, foodstuffs, petroleum products, cement

3.1.4.19 Public finances

Public debt: 30.9% of GDP (2013 est.)

Revenues: \$17.19 billion (2013 est.)

Expenses: \$24.02 billion (2013 est.)

Reserves of foreign exchange and gold: \$22.327 billion million (July 2014, BB)

Stock of foreign direct investment (FDI):

At home: \$7.04 billion (31 December 2013 est.)

At abroad: \$110.1 million (31 December 2013 est.)

Exchange rates in Taka (BDT) per US dollar: 77.5400 (22nd July 2014, BB)

3.1.4.20 Ease of Doing Business Rank: 130th (www.doingbusiness.org/rankings)

3.1.5 Telecommunication

3.1.5.1 Telephones - main lines in use: 962,000 (2012)

3.1.5.2 Telephones - mobile cellular: 116.871 million (BTRC Website, July 2014)

3.1.5.3 Telephone system:

3.1.5.3.1 General assessment: inadequate for a modern country; introducing digital systems; trunk systems include VHF and UHF microwave radio relay links, and some fiber-optic cable in cities

3.1.5.3.2 Domestic: fixed-line teledensity remains only about 1 per 100 persons; mobile-cellular telephone subscribership has been increasing rapidly and now exceeds 50 telephones per 100 persons

3.1.5.3.3 International: country code - 880; landing point for the SEA-ME-WE-4 fiber-optic submarine cable system that provides links to Europe, the Middle East, and Asia; satellite earth stations - 6; international radiotelephone communications and landline service to neighboring countries (2011)

3.1.5.4 Broadcast media:

State-owned Bangladesh Television (BTV) operates 1 terrestrial TV station, 3 radio networks, and about 10 local stations; 8 private satellite TV stations and 3 private radio stations also broadcasting; foreign satellite TV stations are gaining audience share in the large cities; several international radio broadcasters are available (2007)

3.1.5.5 Internet country code: .bd

3.1.5.6 Internet hosts: 71,164 (2012)

3.1.5.7 Internet users: 617,300 (2009)

3.2 Telecommunication Industry in Bangladesh

Bangladesh became independent from Pakistan in the year 1971 and before that United India was divided into India and Pakistan in 1948 as separate states. Hence, the inception of the telecom industry of Bangladesh was marked from the period of the then United India.

3.2.1 Telecom Industry in the Indian Sub-Continent and the then East Pakistan

The following Table 3.1 exhibits the Chronological Development of Telecommunication Industry in the Indian Sub-Continent and the then East Pakistan (until 1971)

Table 3.1: Chronological Development of Telecom Industry in the Indian Sub-Continent and the then East Pakistan

Years	Chronological Development of Telecom Industry in Indian Sub-Continent and the then East Pakistan
1850	East India Company used Electric Telegraph Line between Calcutta and Diamond Harbour
1853	Telegraph branch was set up under Posts & Telegraph Department, British India.
1853	4000 miles Telegraph lines were constructed in India
1855	Telegraph service was opened to public in India.
1858	India-Srilanka Telegraph cable was laid.
1885	Telegraph Act came into effect
1886	Copper wire replaced iron wire.
1895	Phonogram was introduced in India.
1902	Wireless Telegraphy was started in India.
1914	Postal and Telegraph departments were merged in India
1933	Wireless Telegraphy Act came into effect
1949	Introduction of Hindi script telegram.
1962	Reconstructed as Pakistan Telegraph and Telephone Department.

Source: Literature Survey [<http://www.btcl.gov.bd/home/main/museum/museum.php>]

3.2.2 Telecommunication Industry in Bangladesh (1971 – till today)

After the independence of Bangladesh in 1971 the Bangladesh Telegraph and Telephone (T&T) Department was set up under the Ministry of Posts and Telecommunications [MoPT] to run telecommunication services in Bangladesh. T&T was then converted into a corporate body named Bangladesh Telegraph and Telephone Board [BTTB] in 1975. In pursuance of the Ordinance No XII of 1979 and under the Ministry of Posts and Telecommunications [MoPT], BTTB was re-converted into a Government Board to function consisting of a Chairman, four full time members and three part time members, all of whom are appointed by the Government.

Until 1989, BTTB was responsible for providing, maintaining and developing telecommunications facilities and services, both within and outside the geographical boundary of the country. In 1989, the telecom sector was liberalized and private sector participation was allowed. The sector was first opened up in 1989 with nationwide operating licenses being issued to Hutchison Bangladesh Telecom Limited [HBTL] for mobile and fixed wireless applications for all-Bangladesh for 20 years. This was followed by another licence to Bangladesh Rural Telecom Authority [BRTA] in the same year for rural telephony for 25 years. Pacific Bangladesh Telecom Limited [PBTL] was acquired HBTL in 1991.

Bangladesh is the first South Asian country to adopt cellular technology back in 1993 by introducing Advanced Mobile Phone System (AMPS) (BTRC, 2011a). The sector was regulated [licensing and spectrum management] by BTTB until the responsibility was transferred to MoPT in 1995. In 1996 the then government awarded three GSM licenses aimed at breaking the monopoly and making the cellular technology affordable to the general masses.

Later, under the National Telecommunication Policy of 1998 and the subsequent Bangladesh Telecommunications Act of 2001, the Bangladesh Telecommunications Regulatory Commission [BTRC] was established to be effective as at 31 January 2002 with an objective to take over the regulatory functions from MoPT. When BTRC took over its function from the MoPT, the mobile industry had been suffering from grueling interconnection crisis. Regrettably the commission took no steps to mitigate this crisis.

Finally on April 17, 2003 the frustrated mobile operators were awarded a USD 2 million turnkey contract for a switch to BTTB. The operators' lack of confidence on the regulator became evident when they directly appealed to MoPT for compensation when the Government shut down mobile networks.

BTCL or Bangladesh Telecommunications Company Limited, formerly BTTB, started its journey on July 1, 2008. BTCL provides land-line telephone services in the urban areas, domestic long-distance and international services. Though the Bangladeshi government has given out nationwide PSTN licenses, the lucrative Dhaka market (which account for majority of the nationwide market) is still under the monopoly of BTCL. It provides dial-up Internet access in all 64 districts of the country, making it the most-accessible Internet service provider in the country.

The following Table 3.2 exhibits the Chronological Development of Telecommunication Industry in Bangladesh after her independence.

Table 3.2: Chronological Development of Telecommunication Industry in Bangladesh

Years	Chronological Development of Telecommunication Industry in Bangladesh
1971	Bangladesh Telegraph & Telephone (T&T) Department was created under the Ministry of Posts & Telecommunications [MoPT]
1975	T&T was converted into a corporate body named Bangladesh Telegraph and Telephone Board [BTTB]
1979	By Ordinance No XII of 1979 and under the [MoPT], BTTB was re-converted into a Government Board with right to issue license for telecom and wireless services.
1981	Digital Telex Exchange was established in Bangladesh.
1983	Automatic Digital ITX was started in Dhaka.
1985	Coinbox Telephone service was introduced in Bangladesh by BTTB.
1989	GENTEX Telegraph messaging service was introduced in Bangladesh.
1989	The telecom sector was liberalized and private sector participation was allowed.

1989	Nationwide operating licenses were issued to Hutchison Bangladesh Telecom Limited [HBTL] for mobile and fixed wireless applications for all-Bangladesh for 20 years.
1989	Bangladesh Rural Telecom Authority (BRTA) got license for rural telephony to operate exchanges in 200 upazilla for 25 years.
1989	Sheba Telecom got license to operate exchange in 199 upazilla.
1989	Cellular mobile phone company Pacific Bangladesh Telephone Limited and Bangladesh Telecom Limited (BTL) were awarded a license to operate cellular, paging, and other wireless communication networks.
1990	Hutchison Bangladesh Telecom Limited (HBTL) was incorporated in Bangladesh as a joint venture between BTL and Hutchison Telecommunications (Bangladesh) Limited.
1991	Pacific Bangladesh Telecom Limited [PBTL] was acquired HBTL in 1991.
1993	Agreement with BTTB was made regarding PSTN links to start the first cellular operation in the South Asian sub-continent 1993 by introducing Advanced Mobile Phone System (AMPS)
1993	HBTL began commercial operation in Dhaka using the AMPS mobile technology in the same month.
1995	Card Telephone service was introduced in Bangladesh by BTTB and TSS.
1995	Regulatory power of BTTB was transferred to Ministry (MoPT).
1995	2nd and 3rd ITX was installed in Dhaka.
1996	<ul style="list-style-type: none"> • Government was awarded three GSM licenses aimed at breaking the monopoly and making the cellular technology affordable to the general masses. • HBTL was renamed as Pacific Bangladesh Telecom Limited (PBTL) and launched the brand name “CityCell Digital” to market its cellular products. • Grameen Phone and Telecom Malaysia International Bangladesh were offered a cellular license in Bangladesh by the Ministry of Posts and Telecommunications.
1997	<ul style="list-style-type: none"> • Grameen Phone launched its service on the Independence Day of Bangladesh. • TMIB [Aktel] launched its GSM services in 1997.
1998	Sheba Telecom launched its GSM services in 1998.
1998	The 3 GSM operators signed a revenue sharing agreement with BTTB in April 1998.
1998	National Telecommunication Policy of 1998 came into force
1999	CDMA technology was first introduced by CityCell in the beginning of 1999.
2000	Global Telecom Service (GTS) Telex Exchange started venture with British Telecom.
2001	Bangladesh Telecommunication Act, 2001 was enacted to establish Bangladesh Telecommunication Regulatory Commission (BTRC).
2001	In April 2001, the MoPT licensed five companies (Omnicom Ltd, Coronet Corporation, Cosmos Telecom, Uttara Telecom and Formula One International) through competitive bidding to operate prepaid calling card services [PCCS].
2002	Establishment and functioning of Independent Commission named Bangladesh Telecommunication Regulatory Commission (BTRC) was commenced with an objective to takeover the regulatory functions from MoPT.
2002	Information & Communications Technology (ICT) Policy came into force.
2002	BTTB unilaterally announced that flat tariff of local calls would be replaced by charging per unit of five minutes peak and eight minutes off-peak.
2003	Mobile operators were awarded a USD 2 million turnkey contract for a switch to BTTB.
2004	Despite having finally obtained an operating license in the mid 2004, BTTB continues functioning as a government department.
2004	Teletalk cellular mobile was launched.
2004	BTRC issued a nationwide fixed-telephone operating licence to Bashundara Group for a BDT 80 million “entry fee” plus a BDT 20 million annual licence fee in May 2004 without Dhaka.
2004	BTRC began inviting investors to submit applications for PSTN franchises on an open license basis.

2005	Egypt based Orascom acquired Sheba Telecom and established the brand name 'Banglalink'
2006	Next Generation Network (NGN) was introduced in BTTB (Bangladesh Telegraph and Telephone Board).
2007	International Long Distance Telecommunications Services (ILDTS) Policy 2007 came into force
2008	BTTB is converted into BTCL (Bangladesh Telecommunications Company Limited) with 100% shares owned by the Government and with 9 directors, headed by the secretary of Ministry of Post and Telecommunications to provide land-line telephone services in the urban areas, domestic long-distance and international services and dial-up Internet access in all 64 districts of the country.
2008	The Submarine Cable Project was transformed into Bangladesh Submarine Cable Company Limited (BSCCL)
2008 /2010	Japanese NTT DoCoMO bought 30 percent stake in Aktel and rebranded as 'Robi'.
2009	Internet Protocol Telephony Service Provider (IPTSP) Operators were launched.
2009	Market largest telecom operator Grameenphone was listed in the capital market in late 2009.
2010	Bharti Airtel acquired 70% stake in Warid Telecom in January 2010 and rebranded as 'Airtel'.
2012	3G mobile service is introduced by state owned Teletalk in October 2012.
2013	Private mobile operators were awarded 3G license.

Source: Literature Survey [<http://www.btcl.gov.bd/home/main/museum/museum.php>]

3.2.3 Regulatory framework

Table 3.3: Framework of the Bangladesh Telecommunication Sector

Policy Maker	Ministry of Posts and Telecommunication [MoPT]	
Regulatory Agency	Bangladesh Telecommunications Regulatory Commission [BTRC]	
Service Providers	Fixed Line Telephony	Bangladesh Telegraph and Telephone Board [BTTB] (Public Sector)
		Bangladesh Rural Telecom Authority [BRTA] (Private Sector)
	Mobile Telephony	Teletalk (Public Sector)
		GP (Private Sector)
		BanglaLink (Private Sector)
		Robi (Private Sector)
		Airtel (Private Sector)
CityCell (Private Sector)		
Value-added components	ISPs, VSAT, etc.	

Source: Literature Survey

The Ministry of Posts and Telecommunication (MoPT) holds the responsibility for sector regulation.

The Telegraph Act of 1885 is the primary law governing the sector and granted the government exclusive powers to establish and provide all telecommunication services and products.

The Wireless Telegraphy Act of 1933 governs the operation of radio communications, paging and other radio services.

The BTTB Ordinance of 1979 enabled BTTB to operate as a public sector operator and also to exercise the authority of the regulator.

In October 1995, the Government of Bangladesh amended the 1979 BTTB Ordinance and transferred the regulatory responsibility from BTTB to MoPT. To strengthen the process of regulation, market access and elimination of monopoly, MoPT has undertaken a project to set up an independent regulatory commission for open market access in the telecom sector. MoPT is the main telecommunication policy making body of the government.

Other institutions also influence communications policy and regulations, such as the Ministry of Finance, the Planning Commission, BTTB, etc.

3.3 Mobile Phone Telecom Operators in Bangladesh

The mobile telecom industry is the largest infrastructure provider within telecom sector of Bangladesh and has created new opportunities by generating employment, facilitating education and health services for the common people (BTRC, 2011a; Wikipedia, 2012f). Telecom voice market in Bangladesh is dominated by Mobile phone operators and its percentage is 97% while land phone is 3% only, of which BTCL represents 2% and all private land phone is 1% (BTRC, 2011a). The successful regulation of BTRC, ensuring competitive environment among the telecom operators, has reduced the cell phone tariff in Bangladesh to one of the lowest in the world (BTRC, 2011c).

Utilizing the above benefits currently there are six mobile phone telecom companies operating their services in Bangladesh. These are Grameenphone (GP), Banglalink, Robi, Airtel, Citycell and Teletalk (Wikipedia, 2012f).

3.3.1 Grameenphone (GP)

Grameenphone is the largest GSM (Global System of Mobile Communication) based mobile telecommunications operator in Bangladesh in terms of revenue, coverage and subscriber base. Grameen Phone's brand name is GP (www.grameenphone.com). The name Grameenphone was kept as part of the new identity because the name Grameenphone carries with it all of the heritage, success and values of the companies past, added the then CEO of Grameenphone Erik Aas.

Huawei, and Ericsson provides technological support to GrameenPhone. The tower range of GP exists 5-7 km. The technology used by Grameenphone is 3G.

Grameenphone has been a market leader in introducing new products and services in Bangladesh. The company was one of the first mobile phone operators to launch GSM service in the country. Being a pioneer company GP has diversified its cellular phone service in Bangladesh. At present, easy to afford various core voice services in the form of Pre Paid and Post Paid packages of Grameen Phone have acquired coverage all over Bangladesh. Grameenphone also offers different value-added services including SMS, MMS, Welcome Tunes (Ringback Tones), Voice SMS, SMS Push-Pull Service, Voice Mail Service (VMS), and Fax and Data among the others. Grameenphone was the first mobile operator in Bangladesh to deploy EDGE technology to rural Bangladesh and GPRS technology for urban areas, giving people access to all the latest information on the high-speed Internet and data services from anywhere within the coverage area. These have enabled people, who were previously out of touch with communication technologies, to have access to all kinds of information.

Table 3.4 exhibits the chronological accounts of GP.

Table 3.4: Chronological Accounts of GP

Years	Chronological Accounts of GP
1996	<ul style="list-style-type: none"> The company was incorporated on October 10, 1996 as a private limited company. GP was awarded a cellular license in Bangladesh by the MoPT.
1997	Commenced its operation on the Independence Day of Bangladesh.
1998	Launched Mobile to Mobile Service (without PSTN Access)
1999	Launched First Prepaid Service in the Country
2001	Launched WAP Service
2002	Achieved BD Business Award for “Best Joint Venture Enterprise”
2003	Launched Prepaid Product with PSTN Connectivity.
2005	Launched Electronic Recharge System, ‘djuice’ brand by targeting Youth Segment, EDGE & Voice SMS for the first time in Bangladesh.
2006	<ul style="list-style-type: none"> Launched HealthLine, Smile Prepaid & Xplore Postpaid, Cellbazaar, Business Solutions for Business Class & Community. GP formally changed its logo to match its parent company Telenor’s logo. GP has already picked up 425 core taka of Non-convertible Senior Coupon Biasing Bond @ interest rate of 14.5 by the help of ten financial Group of the companies.
2007	<ul style="list-style-type: none"> The company was converted to a public limited company on June 25, 2007. GP re-launched Business Solutions, launched New VAS, Bull Stock Information, Missed Call Alert & PayForMe Service and re-branded djuice.
2008	GP became the first mobile operator in Bangladesh to offer BlackBerry™ services.
2009	<ul style="list-style-type: none"> Successfully listed on the Dhaka and Chittagong Stock Exchanges. Shareholding comprises of Telenor Mobile Communications AS (55.80%), Grameen Telecom (34.20%) and the rest 10.00% includes General public & other Institutions. Launched Internet Modem, Grameenphone Branded Handset & Studyline, etc.
2010	Launched New Tariff Plan, ‘MobiCash’ Financial Service Brand, Ekota for SME, Baadhon Package, Mobile Application Development Contest & Network Campaign, etc.
2011	Built its network on a nationwide basis with more than 13,000 base stations located in about 7,200 sites in operation around the country.
2011	Launched ‘My zone’- location based discount on usage and Micro SIM cards for iPhone
2012	<ul style="list-style-type: none"> GP was awarded 2G License by BTRC for 15 years A GP App was also launched to facilitate mobile self service.
2013	<ul style="list-style-type: none"> The company also has more than 46.043 million subscribers and 4.087 employees as of third quarter of 2013. Launched 3G Service
2014	<ul style="list-style-type: none"> Grameenphone partners with WiMax operators GP to partner with MOPT&IT for Mobile App Development Program GP, Wikimedia initiative to enrich Bangla Wikipedia

Source: GP Annual Report, 2012 and GP Website (www.grameenphone.com)

Grameenphone has been a pioneer in bringing innovative mobile-based solutions to Bangladesh. Notable among these is the Healthline, a 24 hour medical call centre manned by licensed physicians. Other innovations include Studyline, a call centre-based service providing education related information, Mobicash, for electronic purchase of train tickets, Billpay, for paying bills through mobile phones and over 500 community information centres across Bangladesh. These centres bring affordable Internet access and other information based services to people in rural areas.

3.3.2 BanglaLink

Banglalink Digital Communications Ltd. (Banglalink) is a limited liability public company incorporated in Bangladesh. It is the second largest cellular service provider in Bangladesh after Grameenphone. The audited report of Banglalink exhibits that the company has earned net revenue of BDT 23,527 and BDT 32,608 million respectively in the year 2011 and 2012. As of June 2013, Banglalink has a subscriber base of 27 million with 25.7% market share.

Banglalink digital communications limited is fully owned by telecom ventures ltd. (previously Orascom Telecom Ventures limited) of Malta, which is a fully owned subsidiary of global telecom holding s.a.e. (formerly known as Orascom Telecom Holding s.a.e.) (www.orascomtelecom.com). following business combination in April 2011 between Vimpelcom Ltd and Wind Telecom s.p.a, Vimpelcom owns 51.92% shares of global telecom holding s.a.e. (formerly known as Orascom Telecom Holding s.a.e.).

Banglalink became a market challenger in the mobile telecom industry of Bangladesh by rapidly expanding its GSM network to provide high quality communications services at affordable prices. Hence, since its launch in February 2005, its impact was felt immediately and overnight mobile telephony became an affordable option for customers across a wide range of market segments.

Banglalink's success was based on a simple mission: "bringing mobile telephony to the masses" which was the cornerstone of its strategy. Banglalink changed the mobile phone status from luxury to a necessity and brought mobile telephone to the general people of Bangladesh and made a place in their hearts. The mobile phone has become the symbol for the positive change in Bangladesh.

The corporate positioning of Banglalink with its slogan "making a difference" or "din bodol" - has been reflected in everything Banglalink does. The logo of the company is designed by keeping the national animal i.e. Royal Bengal Tiger in mind, which symbolizes to the faster growth.

Banglalink's growth over the preceding years have been fuelled with innovative pre-paid and post-paid mobile telephony and internet or data service packages targeting different market segments including individual and corporate users, aggressive improvement of network quality and dedicated customer care, creating an extensive distribution network across the country, and establishing a strong brand that is emotionally connected customers with Banglalink. The company currently offers its services under the brand names of 'Banglalink' and 'icon'.

Being strategically located at key points around the country, customer service centers of the company namely Banglalink sales & care centers, Banglalink points, Banglalink service points and Banglalink care lines aim at providing a complete mobile solution, connections, handsets, accessories and provide selected customer services like SIM replacement, reconnection, bill payment, etc.

Nokia-Siemens network and Huawei provide technological support to Banglalink. The tower range of Banglalink exists 5-9 km, however, sometime it varies to about 13-15 km. The technology used by Banglalink now is 3G (Third Generation). Banglalink also has 1500 km. of Fiber Optic cable which gives the surety of good network. During the occasional periods Banglalink ensures much better service than the other operators.

Table 3.5 exhibits the chronological accounts of Banglalink.

Table 3.5: Chronological Accounts of Banglalink

Years	Chronological Accounts of Banglalink
1989	Sheba Telecom (PVT Ltd) was granted license in 1989 to operate in the rural areas of 199 upazilas.
1996	Obtained GSM license in 1996 to extend its business to cellular mobile, radio telephone services.
1997	Launched operation in the last quarter of 1997 as a Bangladesh-Malaysia joint venture.
2004	Egypt based ORASCOM Telecom purchased the Malaysian stakes in Sheba Telecom.
2004	In September, 2004, ORASCOM Telecom Holdings purchased 100% of the shares of Sheba Telecom (Pvt.) Limited (“Sheba”) for US\$60 million.
2005	Re-branded and launched its services under the “Banglalink” brand on February 10, 2005.
2008	In March, 2008, Sheba Telecom (Pvt.) Limited changed its name as ORASCOM Telecom Bangladesh Limited, matching its parent company name.
2013	In September 8, 2013, Banglalink has been officially awarded the 3G spectrum license. In September 25, 2013, Banglalink officially test launched 3G services.

Source: Banglalink Website [<http://www.banglalink.com.bd>]

3.3.3 Robi

Robi Axiata Limited, formerly known as Telekom Malaysia International (Bangladesh) is a joint venture between Axiata Group Berhad, Malaysia and NTT DOCOMO INC, Japan with 70% and 30% shareholding respectively.

Being the most dynamic and rapidly growing telecommunications operator in Bangladesh, Robi is developing its services to meet customers’ needs in voice, high speed internet services and tailor-made telecommunications solutions.

Robi supports 3G voice, CAMEL Phase II and III, and GPRS/EDGE service with high speed internet connectivity. Its GSM service is based on a robust network architecture and cutting edge technology. It has the widest international roaming coverage in Bangladesh, connecting 600 operators across more than 200 countries. Its customer centric solutions include VAS, quality customer care, digital network security and flexible tariffs. Robi is committed to the people of Bangladesh and will continue to ensure that its customers are able to enjoy the best experience with the leading edge technology and innovative products and services.

Robi offers an array of different packages. In addition to offering the fundamental pre-paid and post-paid mobile services for individual and corporate users, it offers a wide range of value added products and services such as, FNF and Partner Numbers, Voice Bundle offers, Business Solutions, SMS and Bengali SMS, GPRS, mobile data services such as 3.5G Internet, 2G Data Bundles, 2G Pay Per Use, Internet Settings, Robi WiFi, infotainment services, SMS banking, Caller Ring Back Tone, Ringtones download, Picture Messaging, MMS, Voice Greetings, Call Blocking, which give subscriber to control which call s/he receives or not. Through its 24 hours helpline or call center, customer care centers, Robi Sheba points, Facebook helpdesk, etc., Robi offers very customer friendly services like SIM change/replacement, number change, 3.5G device support, etc.

Table 3.6 exhibits the chronological accounts of Robi.

Table 3.6: Chronological Accounts of Robi

Years	Chronological Accounts of Robi
1997	Commenced operations as Telekom Malaysia International (Bangladesh) with the brand name of Aktel.
2005	Robi was awarded TeleLink Telecommunication Award 2005 for excellence in service
2006	<ul style="list-style-type: none"> • Desher Kagoj Business Award 2006 was launched for CSR activities. • Standard Chartered - Financial Express Corporate Social Responsibility (CSR) Awards 2006 was launched for contribution in Education, Primary Health, poverty alleviation and ecological impact. • Arthokontho Business Award 2006 was launched for better telecom service provider in Bangladesh. • Financial Mirror & Robintex Business Award 2006 was launched for its excellence in service, corporate social responsibilities activities throughout Bangladesh.
2007	TeleLink Telecommunication Award 2007" was awarded to Robi for its excellence in service, CSR and dealership management for the year 2006 in commemoration of WORLD Telecommunication Day 2007.
2008-2009	The Weekly Financial Mirror – Samsung Mobile & Robintex Business Award 2008-2009 was awarded to Robi as the best Telecommunication company.
2008-2009	Bangladesh Mobile Phone Businessmen Association (BMBA) Award 2008-2009 was awarded to Robi as the best service provider in Bangladesh
2009	Robi was ranked within top 6 global comparable telcom companies in A.T. Kearney benchmarking exercise in 2009.
2009	Robi was awarded the prestigious fund grant from GSMA MMU (Mobile Money for the Unbanked) in 2009.
2010	Robi was conferred the prestigious Frost & Sullivan Asia Pacific ICT Award 2010 for "Emerging Market Service Provider of the Year".
2010	On 28th March 2010, the service name was rebranded as ‘Robi’ and the company also changed its name to Robi Axiata Limited.
2012	Robi was crossed the landmark of 2 crore (20 million) subscriber base.
2012	Robi was rewarded with ISO 9001:2008 certifications.
2013	<ul style="list-style-type: none"> • On September 8, 2013, Robi was officially awarded the 3G spectrum license. • On 7th October 2013, Robi launched 3.5G network. • On October 31, 2013 Robi launched 3.5G commercial for customers.
2014	Robi brings co-branded Visa Credit Cards with Eastern Bank Limited

Source: Robi Website [<http://www.robicom.bd/>]

3.3.4 Airtel

Airtel Bangladesh Limited is one of the fastest growing mobile services providers in Bangladesh and is a concern of Bharti Airtel Limited, a leading global telecommunications services provider. The company offers a wide array of innovative mobile services, including voice (e.g., post-paid and pre-paid mobile telephony), value added services (such as SMS, MMS, GPRS, 64K SIM, Dual SIM product, Corporate packages for product advertising via SMS, and a host of other features), 3G data services and m-commerce products and is focused on expanding its state-of-the-art mobile network both for coverage and capacity.

With a customer base of more than 8 million, Airtel Bangladesh is the most preferred youth brand of the country that thrives on excellent data service. To make customers' lives easier Airtel Bangladesh has Doorstep Service by which customers can enjoy all kinds of service at their preferred place. M-Commerce opened a new horizon in money transfer that gives Airtel customers the freedom to send money to their dear ones instantly from their mobile. Through

M-health, customers can now reach professional doctors over phone 24/7 and get basic treatment.

To enrich the lives of the customers apart from its corporate office at Banani, Airtel has 7 Airtel Experience Centers (AEC) and 77 Airtel Relationship Centers (ARC) across the country. SIM Cards, Scratch Cards and sometimes mobile sets are sold at these outlets. Bill collection for post paid users and top up for pre-paid users can also be availed at these centers.

Currently the company operates in altogether seven regions of Bangladesh with total customers of 11.2 Million, total number of 800 employees of which 90% is male and 10% female. It has network coverage area in 64 districts of Bangladesh.

Table 3.7 exhibits the chronological accounts of Airtel.

Table 3.7: Chronological Accounts of Airtel

Years	Chronological Accounts of Airtel
2005	In December 2005, Warid Telecom International LLC paid \$50 million dollars (US) to obtain a GSM license from the BTRC and became the 6th mobile phone operator in Bangladesh.
2006	Warid announced that his network would be activated two months ahead of schedule, in October, 2006. Again in October, 2006 Warid Telecom put off the launch of its cellphone services in Bangladesh until April, 2007 after its major supplier Nokia walked out on an agreement over a payment dispute.
2007	Warid officially launched its commercial services in Bangladesh on May 10, 2007 as the single largest launch of GSM Mobile Cellular network covering 64 districts of the Bangladesh that the country has ever seen.
2010	In January 2010, Bharti Airtel Limited, Asia's leading integrated telecom services provider, acquired 70% stake in Warid Telecom, Bangladesh, a subsidiary of the UAE-based Abu Dhabi Group.
2013	On September 8, 2013, Airtel Bangladesh received 5 MHz 3G spectrum with 1.25 million US\$.

Source: Airtel Website [<http://www.bd.airtel.com/>]

3.3.5 Teletalk

Teletalk Bangladesh Limited is a public limited company, registered under the Registrar of the Joint stock companies of Bangladesh. Total share of TeleTalk is/are owned by the Government of the Peoples Republic of Bangladesh. Among the mobile phone operators in Bangladesh, Teletalk is the only domestic and state-owned operator. It is again the only operator with 100% native technical and engineering human resource base, Teletalk thrives to become the true people's phone – "Amader Phone".

Teletalk Bangladesh limited was established with a view to achieving some objectives such as (1) to provide mobile telephone service to the people from the public sector, (2) to ensure fair competition between public and private sectors and thereby to safeguard public interest, (3) to meet a portion of unmitigated high demand of mobile telephone, and (4) to create a new source of revenue for the government.

The Company obtained the Cellular Mobile Phone Operator License from Bangladesh Telecom Regulatory Commission ("BTRC") on 1st September, 2004 for a period of 15 years. Initially the license was issued in the name of BTTB, and subsequently upon application,

BTRC has changed the name of the operator as Teletalk Bangladesh Ltd. in place of BTTB. Its brand name is also TeleTalk (www.teletalk.com). Table 3.8 exhibits the chronological accounts of TeleTalk.

Teletalk offers an array of different packages. In addition to offering the fundamental pre-paid and post-paid mobile services, it offers a wide range of value added products and services such as, SMS, GPRS, mobile data services, infotainment services, SMS banking, Caller Ring Back Tone, Ringtones download, Picture Messaging, MMS, Voice Greetings, etc.

With the help of third party software and mobile interactivity, Teletalk is ready to provide m-Governance services for the citizens of Bangladesh which, may include, but not limited to: i) Mobile based Live Citizen Reporting Solution, ii) Mobile User Info bank (Database of Mobile Users of Bangladesh), iii) Agriculture information services for the farmers and also for the end users, like product price in different parts of the country, iv) Product ID for all consumer products/Organization and v) Interactivity between the Government and the Citizens.

Teletalk has both call centers and service points which offer services like SIM Replacement Service, VAS Service, SET Configurations Service, GPRS Service, General Information Service, and sales services for any type of Teletalk Product.

Teletalk Bangladesh Limited has continually expanded its network, to better accommodate its growing customer base as well as to keep the promise of providing better service. As of now, Teletalk has already established its network foothold in 64 Districts, 402 Upazilas, and most of the highways. Teletalk is continuing its network expansion to reach more corners of Bangladesh.

Table 3.8 exhibits the chronological accounts of Teletalk.

Table 3.8: Chronological Accounts of Teletalk

Years	Chronological Accounts of Teletalk
2004	Teletalk Bangladesh Limited (the “Company”) was incorporated on 26 December, 2004 as a public limited company under the Companies Act, 1994.
2004	On the same day of 26 December, 2004, the Company obtained Certificate of Commencement of Business.
2012	To enhance the participatory role of Teletalk to build "Digital Bangladesh" Teletalk launched 3G services for the first time in Bangladesh on 14th October 2012 for commercial testing purpose.

Source: Teletalk Website [http://www.teletalk.com.bd/]

3.3.6 City Cell

Pacific Bangladesh Telecom Limited (PBTL) is the first mobile communications company of Bangladesh since 1993. It is the first and only CDMA (Code division multiple access) network operator in the country. PBTL’s brand name is City Cell (www.citycell.com). As of August 2013, Citycell's total mobile subscriber base is 1.338 million. Citycell is currently owned by SingTel Asia Pacific Investments Pte Ltd. with 45% stake, Pacific Motors Limited with 31.43% and Far East Telecom Limited with 23.57%.

Citycell offers voice services such as postpaid, prepaid, international roaming, handsets and devices, internet services, value added services, m-commerce services and m-banking services. Since Citycell operates in CDMA, RIM's are usually sold with a phone mostly cheap Chinese sets produced by ZTE, Huawei, Samsung, Motorola and Alcatel. Citycell currently has the cheapest phone plus connection tariff.

Currently the network coverage of CityCell is 89.6%. Citycell's extensive network coverage ensures that customers are always connected, no matter where they are in Bangladesh. With a superior CDMA network the company has built up a reputation for strong and uninterrupted signal quality. The company continuously invests in network expansion programs designed to upgrade technology and add capacity to support its ever-increasing customer base. The introduction of revolutionary EV-DO technology, only shows its drive to provide customers with the best.

Huawei, Ericsson & Motorola provides technological support to Citycell. The tower range of Citycell exists to 5-6 km. in case sometime it varies to about 9 km.(Max.) The technology used by Citycell is CDMA1X (Code division multiple access). Citycell consolidated its position in wireless data by launching their Zoom EV-DO (evaluation data optimize) for the broadband wireless internet service.

Table 3.9 exhibits the chronological accounts of Citycell.

Table 3.9: Chronological Accounts of Citycell At A Glance

Years	Chronological Accounts of Citycell At A Glance
1989	In 1989, Bangladesh Telecom Limited (BTL) was awarded a license to operate cellular, paging, and other wireless communication networks.
1990	In 1990, Hutchison Bangladesh Telecom Limited (HBTL) was incorporated in Bangladesh as a joint venture between BTL and Hutchison Telecommunications (Bangladesh) Limited.
1993	HBTL began commercial operation in Dhaka using the AMPS mobile technology in 1993 and became the 1st cellular operator in South Asia. Later on that year the Pacific Motors bought 50% of BTL.
1996	By 1996 HBTL was renamed as Pacific Bangladesh Telecom Limited (PBTL) and launched the brand name "Citycell Digital" to market its cellular products.
2007	Citycell was fined Tk. 1.5 billion by the BTRC for its involvement in illegal VoIP or international call termination. Citycell's involvement in illegal VoIP was discovered in May 2007 during a raid in the company's Mohakhali office by the BTRC.
2008	Citycell has been converted into a Public Limited Company with effect from 28 March, 2008 in compliance with the notification of the Securities and Exchange Commission of Bangladesh.

Source: Citycell Website [<http://www.citycell.com/>]

Mobile Phone Telecom Operators in Bangladesh

The following Table exhibits the mobile phone telecom operators in Bangladesh as per chronological date of commencement.

Table 3.10: Mobile Phone Telecom Operators in Bangladesh At A Glance

S/L No	Name of the Operators (Brand)	System	Date of Issue	Date of Commencement
01	Pacific Bangladesh Telecom Limited (Citycell)	AMPS /CDMA	26-07-1989	11-08-1993
02	Grameen Phone Ltd. (GP)	GSM	11-11-1996	26-03-1997
03	Robi Axiata Limited (Robi)	GSM	11-11-1996	11-08-1997
04	Bangladesh Digital Communications Limited (Banglalink)	GSM	11-11-1996	03-09-1997
05	Teletalk Bangladesh Ltd. (Teletalk)	GSM	01-09-2004	31-03-2005
06	Airtel Bangladesh Limited (Airtel)	GSM	20-12-2005	10-05-2007

Source: BTRC Web Site (<http://www.btrc.gov.bd>)

Mobile Phone Subscribers in Bangladesh

The total number of active mobile phone subscribers has reached 116.871 million at the end of July 2014 which is exhibited in the Table 3.11.

Table 3.11: Active Mobile Phone Subscribers in Bangladesh

Rank	Operators	Active Subscribers in July 2014
01	Grameen Phone Ltd. (GP)	49.482
02	Banglalink Digital Communications Limited (Banglalink)	29.760
03	Robi Axiata Limited (Robi)	24.214
04	Airtel Bangladesh Limited (Airtel)	8.353
05	Pacific Bangladesh Telecom Limited (Citycell)	1.392
06	Teletalk Bangladesh Ltd. (Teletalk)	3.670
Total		116.871

Source: BTRC Web Site (<http://www.btrc.gov.bd>)

* Subscribers in Millions

** The above subscribers' numbers are declared by the mobile operators

So, it is clearly evident that though the industry is relatively new yet the growth is much faster in comparison to the other industries due to aggressive market oriented business strategy (Yousuf et al., 2006). However, there are challenges of converting such growth potentials and opportunities into real and tangible figures of higher sales revenue, profitability, etc. For example, when Bangladesh is about to launch 3G technology oriented services, the total number of 4G subscribers worldwide, including both LTE and WiMAX, is expected to exceed 90 million in 2013, according to a new forecast from ABI Research. Therefore, to ensure handsome amount of revenue with higher rate of profitability, productivity, market share and market growth of the respective business in particular and sustainable development of the industry in general each of the company needs to be market oriented by making a holistic trade-off or balance among the stakeholders and factors of internal and external environment with special reference to micro and macro environmental influences.

REVIEW OF THE RELATED LITERATURE

CHAPTER 4

REVIEW OF THE RELATED LITERATURE

This chapter provides an introduction to the sustainable development of the telecom through holistic marketing. It is divided mainly into three sections. Of them the section 4.1 and the section 4.2 respectively present issues related to the sustainable development and sustainable development in the telecom. While the section 4.3 reviews the research findings on holistic marketing including the background, definitions, benefits, elements and factors of relationship marketing that affect sustainable development of mobile telecom industry in the sub section 4.3.1, the objectives, definitions, essentials, dimensions, importance, perspectives and factors of internal marketing that affect sustainable development of mobile telecom industry in the sub section 4.3.2, the conceptual aspects and factors of integrated marketing that affect sustainable development of mobile telecom industry in the sub section 4.3.3 and finally, the theoretical perspectives and factors of performance marketing that affect sustainable development of mobile telecom industry in the sub section 4.3.4.

4. Introduction

The mobile phone telecommunication industry is becoming one of the most important industries in the world. This industry delivers voice communications, data, graphics, and video at ever increasing speeds. But to gain maximum return from this industry many companies of varied types have appeared in today's marketplace. As a result, competition is also becoming sharper (Ranaweera & Prabhu, 2003) and many challenges are emerging as threats to each company. It is, therefore, to survive in such acutely competitive environment, each of the mobile operator as individual entity and the industry as a whole require(s) to adopt such marketing approach that can ensure continuous improvement of the economic/financial, environmental and the wellbeing of the concerned and society's people by reducing risks, avoiding waste, creating new innovative mobile devices and services, improving the levels of living standards and above all increasing efficiency and profitability. The following sections, in this regard, highlight the review of literature on holistic marketing as a justified marketing approach to ensure sustainable development of the mobile phone telecom industry.

4.1 Sustainable Development

Even though sustainable development is relatively new concept, there are now many standard definitions of the term. As early as 1971, UNESCO used its Man and the Biosphere (MAB) program to draw attention to a new approach to development that stressed the role of man as a major environmental force, as well as the need for an integrated interdisciplinary, rather than multi-disciplinary, approach to development (Von Droste, 1987, pp.4-7).

4.1.1 UN Framework of Sustainable Development (1971): Under "Agenda 21" at the U.N. Conference on Environment and Development, the United Nations defined the term "sustainable development" as any activity that has economic impact, and is equitable, and has no negative environmental impact. There can be no development without economic impact, and "equitable" refers to social justice which means equal benefit from the earth's resources. To be sustainable, according to the U.N. definition, development must have no negative environmental impact. It was also emphasized that companies should not only be concerned with profit generation, but be mindful of social and environmental values. So, the definition

given by UN emphasizes the following three elements to qualify as “sustainable development.”

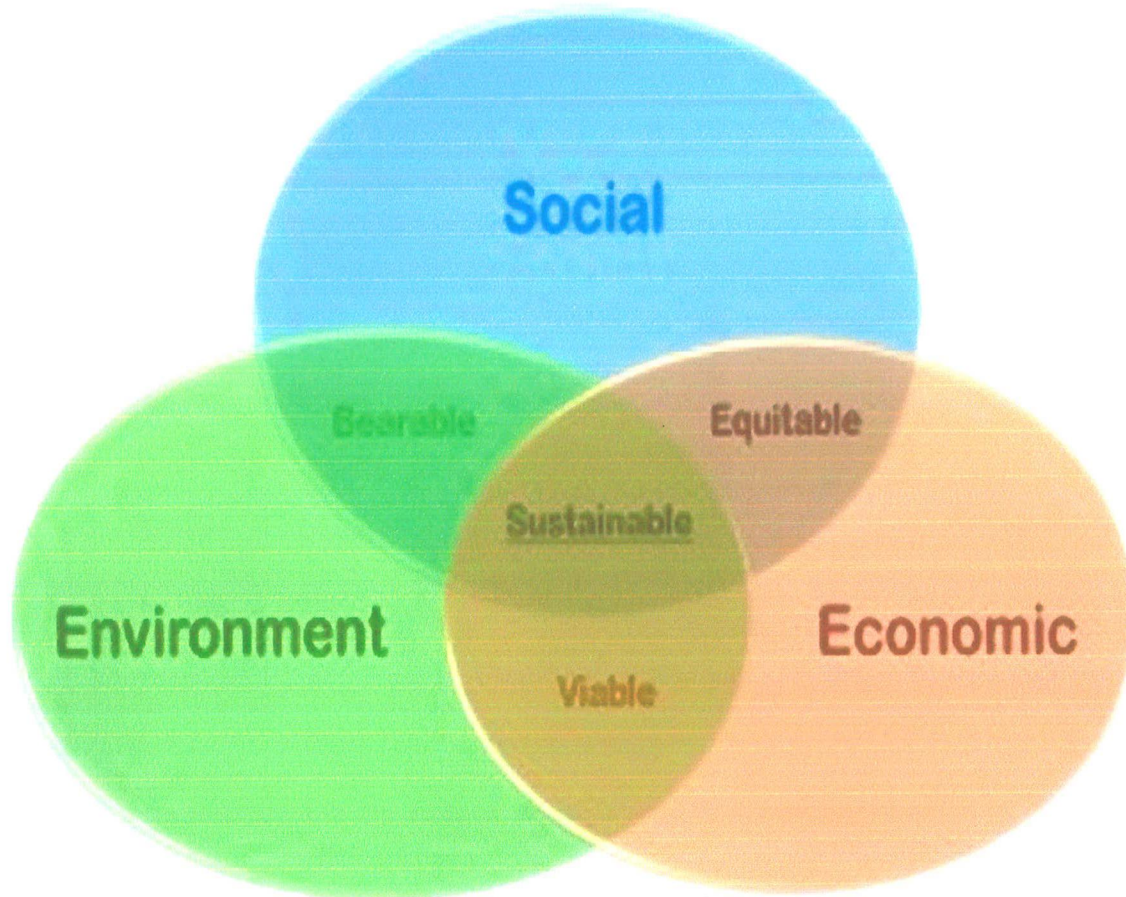


Figure 4.1: UN Framework of Sustainable Development (1971)

4.1.2 Resource Based Sustainable Development (1987): Goodland and Ledoc (1987) led the way in the nature resources perspective in the theory and practice of sustainable development. According to them, sustainable development implies using renewable natural resources in a manner which does not eliminate or degrade them, or otherwise diminish their usefulness for future generations. It also implies using non-renewable (exhaustible) mineral resources in a manner which does not unnecessarily preclude easy access to them by future generations. In addition, according to them, it implies depleting non-renewable energy resources at a slow enough rate so as to ensure the high probability of an orderly societal transition to renewable energy sources. And sustainable development's applicability to even the developed countries was pointed out by the World Commission on Environment and Development in 1984, when they stated that sustainable development has become a goal not just for the developing nations, but for industrial ones as well.

Mustafa Tolba (1987) stressed this point when he explained that sustainable development encompasses the notion of people centered initiatives with human beings as the key resources in the concept; the idea of self-reliant development within natural resource constraints; help for the very poor who may be forced to destroy their environment in order to feed or survive; and the great issues of health control, appropriate technologies, food self-reliance, clean water and shelter for all.

4.1.3 UN Framework of Sustainable Development (1988): The General Assembly of the United Nations threw more light on the concept of sustainable development when it adopted in 1988 a broad framework to guide national action and international cooperation on policies and programs aimed at "achieving environmentally sound development" (Hornik, 1988). Pearce, et al. (1989) put the Bruntland Commission's conception of sustainable development most successfully when they stated that the commission holds that with this approach to develop, "it is possible to follow a path of economic development for the global economy which meets the needs of the present generation without compromising the chances of the future generations to meet their needs."

4.1.4 Three Es of Sustainable Development (1991, 1992, 1996): According to Crump (1991), for development to be sustainable it must not interface with natural functioning of life support systems or natural ecologically processes and equilibrium. Michael Young (1992) described sustainable development with three Es, which are environmental integrity, economic efficiency and equality pursuance which is defined to include present and future generations' interests and needs. To him, sustainable development must include thorough considerations of justice, rights and obligations in all their ramifications. Sustainable development involves the simultaneous improvement of the economy, the environment, and the wellbeing of people through equity (IISD, 1996).

4.1.5 Rio Declaration and World Summit on Sustainable Development (1992-2002): The Rio Declaration in 1992 and the follow-up World Summit on Sustainable Development in Johannesburg in 2002 further fostered the discussion on these topics and opened up new directions for the debate on the roles and responsibilities of business organizations in society. Hence, from the early 1990s onwards the discussion on sustainability has been extended into the field of business activity, and the terms 'sustainable' and 'sustainability' have been integrated into the standard business jargon.

4.1.6 Morality for Sustainable Business Development (1994, 1999, 2001): Moral businesses will introduce sustainable business practices that are believed to be right for society and the environment (Bramwell and Alletorp, 2001). However, unfolding moral motives of companies from their self-interest in the benefits generated from sustainable business practices is very difficult (Cannon, 1994). Indeed, the implementation of voluntary initiatives has been criticized for being solely designed to prevent statutory control and regulations. Industry initiatives tend to not make a significant difference as the issue of sustainable development is not considered from a broad perspective, often solely considering environmental issues and involving only little investment (Swarbrooke, 1999).

4.1.7 Capital Theory of Sustainable Development (1995): When discussing sustainable development, most economists use the "*capital theory*" approach (Harte, 1995). "Capital" consists of natural and manufactured (economic and social) capital. This approach assumes that the current level of living can be maintained, and still provides similar levels of living standards for future generations by providing them with at least the same amount of capital the present generation owns.

4.1.8 Menominee Model of Sustainable Development (2004): Bill Van Lopik (2004), the Academic Program Director for the Sustainable Development Institute at the College of Menominee Nation in Keshena, Wisconsin, in the United States, outlines the results of a recent international dialogue entitled "Indigenous Dialogue on Sustainable Development", by focusing on the models of sustainable development and positive practices of indigenous

peoples. This created an opportunity to give voice to realities and studies of sustainability practices and concepts within indigenous communities which was realized in June 2004 with the conference, "Sharing Indigenous Wisdom: An International Dialogue on Sustainable Development".

The Menominee model of sustainable development which is given below is a theoretical model that conceptualizes sustainable development as the process of maintaining the balance and reconciling the inherent tensions among/between the six dimensions of sustainability, which are:

- i. land and sovereignty;
- ii. natural environment;
- iii. institutions;
- iv. technology;
- v. economics; and,
- vi. human perception, activity and Behavior.



Figure 4.2: Menominee Model of Sustainable Development (Source: Bill Van Lopik, 2004)

4.1.9 Sustainable Development via Social, Economic & Environmental Improvement (2000-09): Sustainable development implies balancing the social, economical and environmental areas in the world to avoid threatening long term survival (Lohman and Steinholtz, 2004). It has been a significant conceptual tool for assessing not only economic and social development, but also business activity more generally (Crane & Matten 2004). It is about building a society where a proper balance exists between economic, social and ecological aims (Székele and Knirsch, 2005).

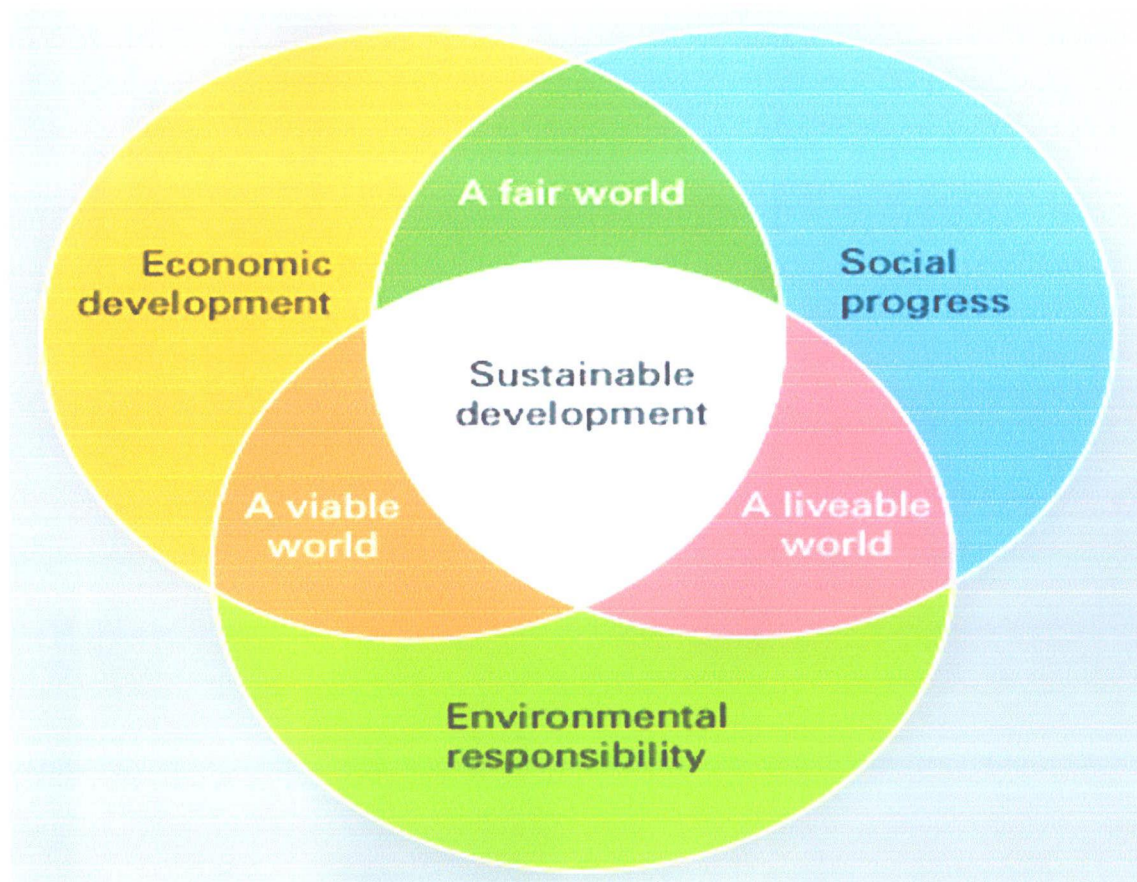


Figure 4.3: Sustainable Development through Social, Economic and Environmental Improvement
(Source: Székele and Knirsch, 2005)

Székele and Knirsch (2005) asserts that there is a business case for sustainability, as it assists the organization to reduce risks, avoid waste, increase energy efficiency and being driven to create new innovative products and services. According to them, by adopting sustainability principles, a company can become more profitable. So, the key factor, however, according to their studies, is strong leadership – commitment from executive management and distributed to all levels of the organization. Székele and Knirsch (2005) state further that risks and uncertainties have strong links to environmental concerns. Cost analysis of direct and indirect energy measurements can lead to an exposure of risks that a company faces and lead to a new strategy of applying renewable energy.

A second key factor mentioned by Székele and Knirsch (2005) to achieve sustainability is flexibility to change. Management must adopt an approach of continuous improvement and adaptation, whereby business activities are constantly aligned with the overall business strategy. Lastly, an openness to engage with all the stakeholders in industry to benchmark activities and initiatives is required.

However, taking environmental initiatives can be the first step towards sustainability according to the four-step model for sustainable development in tourism enterprises by Kernel (2005). The first steps are mainly concerned with developing environmentally cleaner processes and environmental management practices. The consequent and final steps challenge Organizations to go further and include social and ethical aspects as well as integration in the community (Kernel, 2005). Similarly, Dunphy, Griffiths and Benn's (2007) sustainability phase model defines distinct steps Organizations can take to reach sustainability. The final phase is called 'The sustaining corporation' where the ideology of sustainability is internalized with a fundamental commitment to facilitate ecological viability of the planet and contribute to equitable social practices and human fulfillment. According to Dunphy et al. (2007) this stage has not been reached by any organization for the time being. Many businesses appear to be in the initial phase and need to continue their efforts to combine the ecologic, environmental and socio-cultural dimension of sustainability. The Sustainable Farm Project exhibits the "Sustainable-Development-Philosophy" through the Figure 4.4.

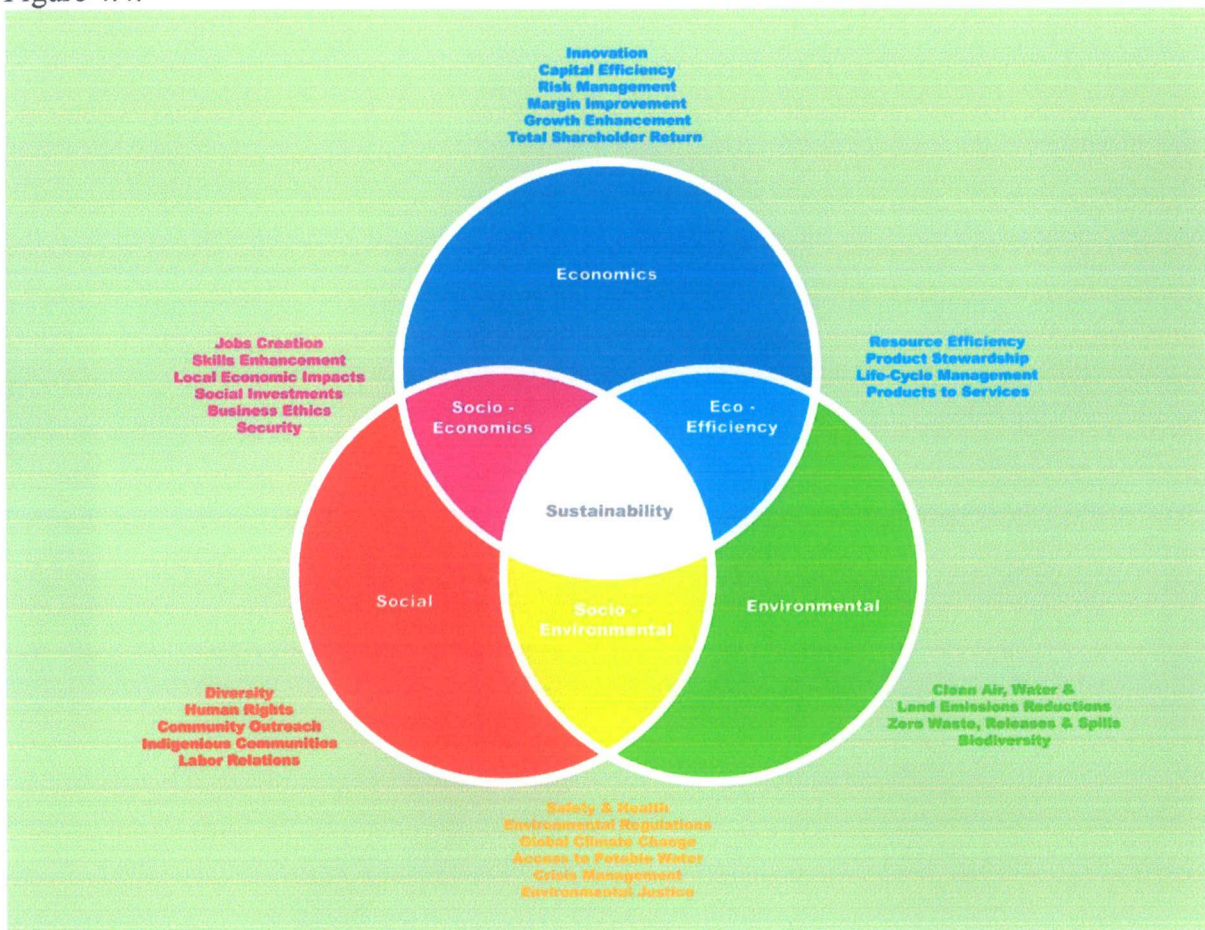


Figure 4.4: Sustainable-Development-Philosophy (Source: Dunphy et al., 2007)

4.1.9.1 Economic Dimension of sustainable business practices: 'Economic sustainability' refers to a business's ability to make profit in order to survive and benefit the economic systems at the local and national level (Roberts and Tribe, 2008). Sustainable businesses consider their economic impact on the community, such as job creation, local wages, and their contribution to local economic growth. Also suppliers and an engagement across the supply chain to ensure similar values and practices are issues of economic sustainability. At the same time businesses need to maintain corporate profitability and internal financial stability (Landrum and Edwards, 2009).

4.1.9.2 Socio-cultural Dimension of sustainable business practices: Socio-cultural sustainability is concerned with the social interaction, relations, behavioral patterns and values between people (Mason, 2003; Roberts and Tribe, 2008). A respectful interaction between hosts and guests, involvement of the local people and recognition of the contribution of traditions and culture to the tourist experience are the key issues for sustainable businesses (Roberts and Tribe, 2008).

4.1.9.3 Environmental Dimension of sustainable business practices: A study showed that almost all respondents indicated to be taking action on environmental matters (Knowles et al., 1999). Initiatives towards more environmental friendly operations management adopted by a business could be: recycling systems; use of recycled supplies, etc. (Swarbrooke, 1999; Hobson and Essex, 2001). However, cost-reductions through environmental actions have been criticized for being the only motivator for action (Knowles, et al., 1999; Swarbrooke, 1999; Hobson and Essex, 2001). Some researchers argue that environmentally friendly measures facilitate sustainable business practices (Deng and Burnett, 2000; Butler, 2008; Landrum and Edwards, 2009).

The main motive for the implementation of sustainable business practices is based on the business managers' or the corporations' philosophy and closely linked to the possibility of saving costs (Bohdanowicz et al., 2004; Landrum and Edwards 2009; Hitchcock and Willard, 2009). But positive public relations and higher employee commitment and satisfaction were also mentioned as important benefits (Swarbrooke, 1999; Baum, 2006; Hitchcock and Willard, 2009). However, the majority of previous studies as well as the measures taken by businesses focus primarily on the environmental dimensions of sustainability and therefore fail to acknowledge the holistic principle of sustainable development (Swarbrooke, 1999; Sharpley, 2000). The socio-cultural, environmental and economic realms are interdependent and the aim of a sustainably managed business should be the optimization of all three (Elkington, 2004; Hitchcock and Willard, 2009).

4.1.10 McKinsey Global Survey on “The business of sustainability” (2011): The findings of the October 2011 McKinsey Global Survey “The business of sustainability” exhibit that more companies are managing sustainability to improve processes, pursue growth, and add value to their companies rather than focusing on reputation alone. It was also found that many companies are actively integrating sustainability principles into their businesses by pursuing goals that go far beyond earlier concern for reputation management—for example, saving energy, developing green products, and retaining and motivating employees, all of which help companies capture value through growth and return on capital.

4.1.11 The SLDI Code™ Sustainable Development Matrix (2011):

The SLDI Code Sustainable Development Matrix begins with the three bottom lines (people, planet and profit) necessary for sustainable project development. From this foundation, nine interdependent guiding principles (depicted in the following graphic) provide a universal gateway to all of the vital components of any sustainable result (Terry Mock and Tony Wernke, 2011). At its most basic level, sustainable development incorporates these instructions through the broad concepts of People, Planet and Profit. ‘Profit’ represents the utility to be attained, ‘Planet’ represents efficiency and the understanding of limited resources. ‘People’ represents the opportunity for effectiveness (*ibid*).



Figure 4.5: Sustainable Development Matrix (Source: Terry Mock and Tony Wernke, 2011)

The guiding nine principles then guide increasingly specific decisions, while maintaining the holistic triple-bottom-line balance that is needed throughout the planning, design, implementation and management phases of any project.

The findings of Terry Mock and Tony Wernke (2011), the guiding nine (9) principles are as follows:

As the matrix goes deeper, the basic instruction of optimizing/balancing utility (i.e., the “satisfaction,” “incentive,” “desire,” or “pure state”), efficiency (i.e., achieving the lowest possible input/output ratio) and effectiveness (i.e., doing the “right” things with accuracy and completeness) continues to replicate itself.

Three (3) Triads

4.1.11.1 Profit triad: Within the Profit triad for example, utility is manifested through the Create Value principle, efficiency through the Eliminate Waste principle, and effectiveness through the Recognize Interdependence principle.

Profit (Economic Capital)

1. **Create Value** – Maximizing economic value for all stakeholders
2. **Eliminate Waste** – By developing and following proven best practices in budgeting, scheduling, bid/contract management, and asset management, returns can be substantively improved.
3. **Recognize Interdependence** – By including all of the stakeholders with a variety of interests toward achieving the optimal economic and environmental returns on investments. Over the longer-term, there can be no economic capital without preserving and maximizing environmental and social capital.

4.1.11.2 Planet triad: Similarly, the Planet triad is comprised of a Model Nature principle to represent utility, an Energy Flows principle for efficiency, and a Humans and Nature Co-Exist principle for the effectiveness requirement.

Planet (Environmental Capital)

1. **Model Nature** – This can be accomplished through the study of nature’s best ideas and then imitating these designs and processes to solve human problems. Further, human beings have an innate and evolutionarily based affinity for nature by connecting an environmental, social and economic context.
2. **Energy Flows** – Capturing and leveraging natural energy systems through renewable energy sources and biological materials to minimize the amount of non-renewable energy and pollutants used throughout the product manufacturing, use, maintenance, etc.
3. **Humans and Nature Co-exist** – For a sustainable future, humans must effectively integrate with nature, not separate from it because they have the capacity to restore the natural systems to greater health through effective planning, implementation and management.

4.1.11.3 People triad: Finally, the People triad includes a Quality of Life principle for utility, a Share Knowledge for efficiency, and an Accept Responsibility principle for effectiveness.

People (Social Capital)

1. **Accept Responsibility** – It is ethical responsibility to assume leadership over the vision and values that maximize economic results, minimize environmental impact and restore degraded ecosystems, and maximize the quality of life for the community.
2. **Quality of Life** – By focusing on the innovative ways and providing unique value to meet and exceed all project stakeholders’ quality-of-life needs.
3. **Share Knowledge** – Through the transfer of knowledge current project team members, future owners and stakeholders can understand the original project vision and intent and more effectively integrate their efforts and products in order to maintain the sustainability of a project indefinitely.

Thus, a number of research findings reveal that the concept of sustainable development generally refers to achieving a balance among the environmental, economic, and social pillars of sustainability (Dempsey et al. 2011; Casula Vifell & Soneryd, 2012).

4.2 Sustainable Development in the Telecom

Telecom companies must keep improving their quality of service to retain their loyal employees and customers and enhance its performance in order to increase their brand share and profitability (Vivek Khattar, 2006).

4.2.1 Sustainable Development of Airtel

The findings of the sustainability report 2012 of Airtel, it is exhibited that in order to map the stakeholder expectations with business priorities, risks and opportunities, Airtel has adopted the above materiality matrix as part of its comprehensive and structured sustainability plan in 2011.

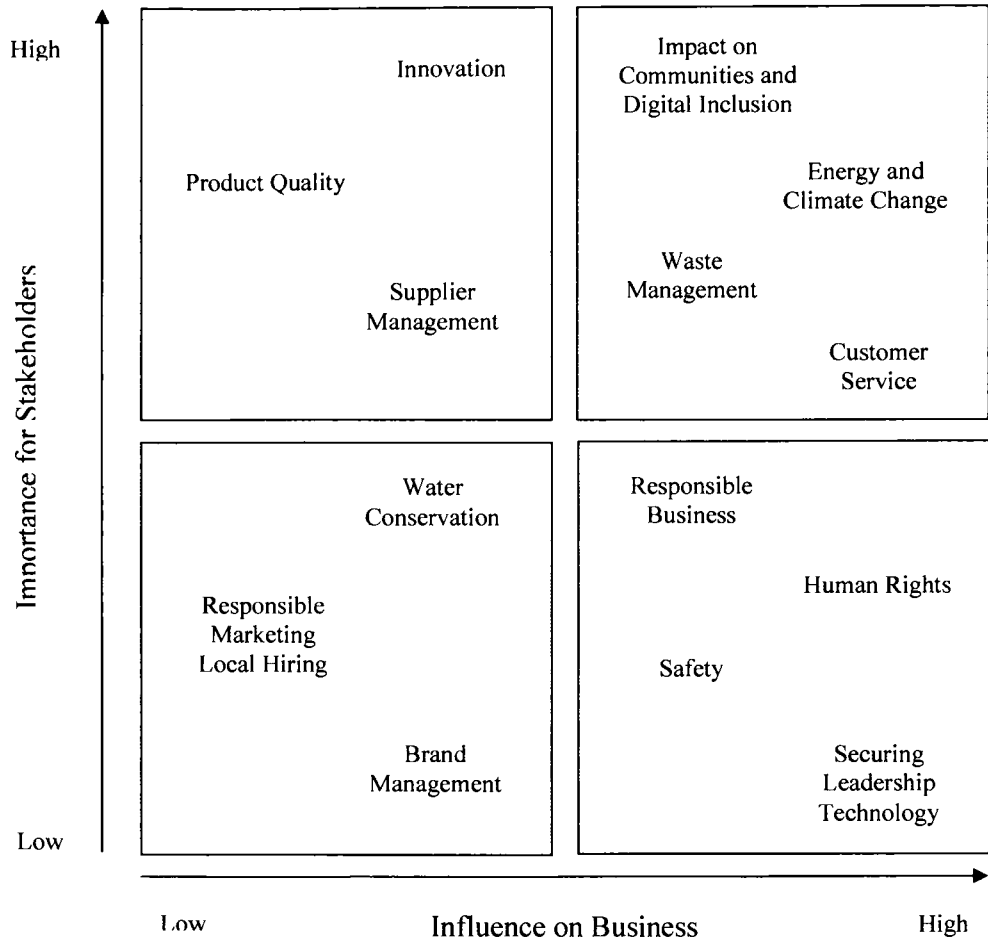


Figure 4.6: Airtel's Materiality Matrix of Sustainability (Source: Airtel Sustainability Report, 2012)

The findings after the adoption of the matrix are as follows:

4.2.1.1 Factors with high importance for stakeholders and high influence on Business

4.2.1.1.1 Impact on communities and Digital Inclusion: To bridge the digital divide Airtel has established a robust network and far-reaching distribution to constantly expand bouquet of services and enhance communication technologies to make a positive impact on the communities. With its vision pillar 1 Airtel has brought millions into digi-presence to live an empowered, happy and sustainable life. Toward this end, Airtel has taken action plan to ensure digital presence through far-reaching, even and efficient network coverage and deep internet penetration. Digi-presence at Airtel means creating a platform for digital accessibility of telecommunication, internet and digital television services. "No one left out" is a commonly heard call to action at Airtel (Airtel Sustainability Report, 2012).

4.2.1.1.2 Energy and Climate Change: According to the Airtel Sustainability Report (2012), as part of its energy and climate change mitigation strategy Airtel works with its infrastructure partners to ensure a sustained decline in their green house gas (GHG) emissions. Airtel has also intensified its efforts towards reducing carbon footprint, increasing resource efficiency and adopting green practices in areas where it has operational control. With this approach Airtel has already used renewable energy to make successful transition of around 2000 mobile tower sites to solar energy. Conversion of over 5000 additional sites to solar power, 100 sites to Biomass and 50 sites to Hybrid battery solutions are in progress. Airtel is also conducting trials to tap wind energy at various sites. In addition to this, various

energy saving initiatives were also undertaken by Airtel's infrastructure partners over the years and in 2011 some of which are as follows:

- **Green shelter** with optimal cooling, power and thermal management back-up systems like DG sets, reducing energy consumption by up to 40%
- **Reduced power consuming Base Tower Stations (BTS)** by 60% with renewable energy
- Limiting the '**Electromagnetic Field Radiation (EMF)**' within the International Commission on Non-Ionizing Radiation Protection (ICNIRP) standard

4.2.1.1.3 Waste Management and Resource Optimization: With the commitment to utilize natural resources responsibly and minimize the negative impact of its business practices on the environment, Airtel has emphasized on increasing its resource efficiency by preventing and reducing waste and environment-friendly disposal of the residual waste. Airtel has launched user-friendly payment gateway by reducing the use of paper, by means of online payments and electronic bills. The initiative of sending e-bills over the last 3 years has helped Airtel convert 2.42 million postpaid customers to the e-billing mode. This directly translates to saving 80,000 trees from being cut (Airtel Sustainability Report, 2012).

4.2.1.1.4 Customer Service and Satisfaction: By giving paramount importance to customer service Airtel continuously measures and enhances customer satisfaction and engagement levels. Continuous collection and evaluation of individual and enterprise customers' feedback, process improvement, etc., enhance satisfaction of Airtel's customers through exemplary customer service (Airtel Sustainability Report, 2012).

4.2.1.2 Factors with high importance for stakeholders and low influence on Business

4.2.1.2.1 Innovation: According to the Airtel Sustainability Report (2012), the company provides a rich platform for innovative services through the following:

- Offering enhanced data experience through superior internet experience for broadband customers by providing speeds up to 8mbps, consolidation of all Dedicated Accounts (DA) of a single customer into one account, and upgradation of Airtel Live platform with additional features such as federated search, editorial content, social objects and prepaid self-care integration for enhancing usability and discoverability.
- Enabling choices for the customer through Value Added Services (VAS) to provide a single platform which empowers customers to access, discover and control VAS activation and deactivation, anytime and anywhere, Airtel is currently investing in devising value-added services that would not only address customers' telecommunication needs but also provide life enriching experiences.

4.2.1.2.2 Product Quality: To ensure highest quality Airtel procures its various products and services from the ISO certified and best performing suppliers.

4.2.1.2.3 Supplier Management: Airtel currently works with over 99000 suppliers operating in diverse areas and locations, worldwide. The partner selection process of Airtel is governed by rigorous principles of transparency, honesty, equal opportunity, fairness and confidentiality. One of the important parameters of supplier selection at Airtel is the supplier's achievement of management certifications such as TL9000, ISO 9001, ISO27001, ISO 14001, OHSAS18001 and RoHS. Such certifications ensure that the suppliers follow accepted practices and procedures to create reliable products in an environmentally and socially responsible manner. Thus, the suppliers with certifications for high standards in their areas of expertise are selected. Airtel also enhances an effective management of its suppliers through online communication, quicker resolutions, answering suppliers' queries online, and personalised attention to issues.

- **Transparent and effective communication:** Airtel organizes annual events like ‘Partnership meets’ which provide opportunities for suppliers to interact with the top management of Airtel. Similarly, ‘engagement meetings’ are held frequently to communicate and discuss trends and analysis, product innovation, technology roadmap, scorecard-based improvement plans, specific issues and/or grievances. In order to broaden the scope and maximize engagement, Airtel has also formed partners’ forum to address issues relating to sustainability.
- **Partner rewards and recognition:** To ensure maximum satisfaction of its customers, Airtel has adopted half-yearly Partner Scorecard, which is given to selected partners such as suppliers to provide feedback about their performance on several parameters. These include the quality of products and services through the entire life cycle, consistent and on-time delivery, continuous improvement through product innovation and new technology, competitive advantage, and compliance with statutory/regulatory requirements and quality certifications. The performance on the scorecard is the basis of our partner’s annual reward and recognition.
- **Partners’ satisfaction:** To improve processes, cultivate longlasting relationships with suppliers and ensure their satisfaction in a number of key areas, Airtel undertakes extensive online surveys to collect suppliers’ feedback. For the past 3 years, Airtel has been consistently obtaining scores above 90% in partner satisfaction.
- **Partner grievance handling:** To address partner grievances in a transparent and structured manner. All grievances are monitored and reviewed by the Supply Chain Council comprising of senior members of the supply chain function.

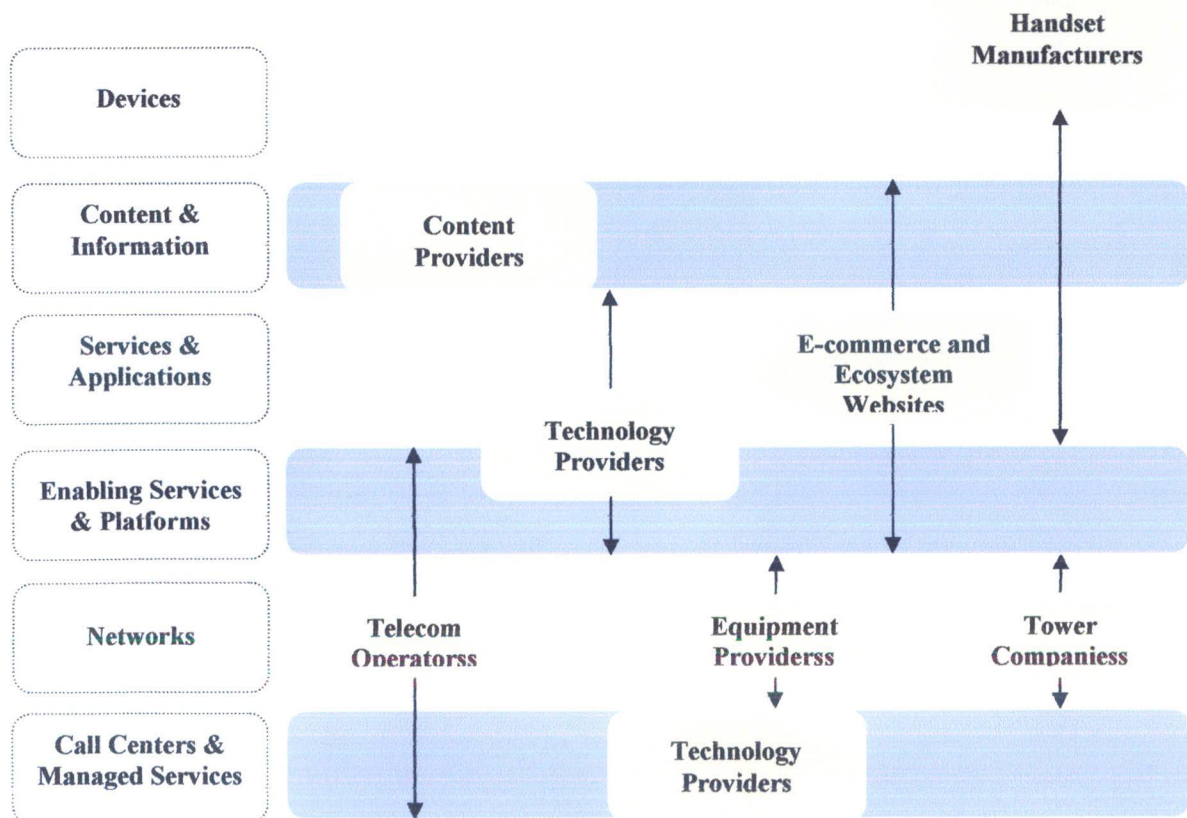


Figure 4.7: Supplier Ecosystem of Airtel
(Source: Airtel Sustainability Report, 2012)

4.2.1.3 Factors with low importance for stakeholders and low influence on Business

4.2.1.3.1 Water Conservation: As part of reducing environmental footprint, optimizing resources and providing an enhanced employee experience, Airtel initiated to consolidate its facilities such as ground water re-charging, use of preused water for gardening, installation of advanced air cooled chillers to conserve water, etc. Through this approach, Airtel has reduced water consumption by about 31.2 million litres due to facility consolidation. In 2011-12, this initiative has led to approximately 30% reduction in the consumption of domestic water.

4.2.1.3.2 Responsible Marketing Local Hiring: As a responsible corporate citizen employee contributions of Airtel span from promoting community development through health and road safety drives, environment protection; provision of self employment to physically challenged; tree plantation, blood donation, health and eye donation camps; awareness campaigns about empowerment of the girl child, widows and underprivileged women, eradication of social evils like child marriage and caste discrimination, global warming, awareness against substance abuse etc.; and promoting music, art, local culture and sports across regions and sections of society. Airtel has been a keen partner in many community development programs which help children to make a tangible difference in their communities. Recognising the socio-economic benefits of local hiring and procurement, Airtel encourages hiring local youth for employment and sourcing from within the region's economy.

4.2.1.3.3 Brand Management: With the vision to be the most loved brand by enriching the lives of millions by 2015, Airtel unveiled new youthful and dynamic brand identity in the year 2009. The brand promise of Airtel is to create an all encompassing world of utilities and experiences for its customer to live in. To ensure effective brand management, Airtel evaluates its brands progress through Brand Scorecard by a) providing superior shareholder returns, b) maximizing customer advocacy, c) winning in new and emerging categories, d) maximizing employee engagement and e) being a benchmark for corporate responsibility. Recently Airtel has been ranked as the No.1 Service Brand and No.3 in the overall rankings of the annual 'Brand Equity Most Trusted Brands Survey'.

4.2.1.4 Factors with low importance for stakeholders and high influence on Business

4.2.1.4.1 Responsible Business Conduct: Policies, requirements and codes that guide Airtel's actions can be found on its website (www.Airtel.in/partner-world/index.htm). This platform, apart from managing end-to-end preselection, also facilitates strategic alignment, best practice sharing and helps suppliers with common goals and interests to interact in a community 'Partner Space'. Issues related to ethics and integrity are handled as per the Ombudsman Process drafted in the Airtel Code of Conduct. Airtel's Business Standards of Conduct includes (but is not limited to) such areas as compliance with applicable laws, ethical competition, non-discrimination against employees, prohibition of child and forced labour, safe working conditions, compliance with environmental laws, accuracy of financial records, and avoidance of conflicts of interest. Airtel also encourages its partners to publicly disclose their performance on environmental, social, and governance measures.

4.2.1.4.2 Human Rights: Airtel procurement team has embeded standard conditions into the contract with suppliers and other partners requiring adherence to laws relating to human rights, forced and child labour which are also periodically monitored for compliance and necessary action.³⁹

4.2.1.4.3 Safety: Airtel has taken several measures to secure customer interests some of which are as follows:

- **Bill Protection and Bill Shield** as a default inbuilt feature for all post paid plans with a maximum limit that can be incurred on a customer's bill to ensure a 'no surprise' data usage.
- **Responsible data usage on international roaming with awareness** drives on responsible data usage during roaming and continuous reminders during roaming with the usage details to safeguard customers from excessive usage without knowledge.
- **State-of-the-art data centres** in providing a secure environment for customer data. In this regard, special attention is given to efforts that safeguard sensitive information and individual privacy. Airtel has a highly trained team of security professionals to take care of information security, people and infrastructure safety, business continuity and compliance. The structured security-training program of Airtel encompasses all domains of ISO 27001 across the organization and is conducted annually.
- **Data security and privacy policies and procedures** of Airtel under a competent fraud management program managed by dedicated revenue assurance and fraud management experts are used together with sophisticated tools and highly evolved processes to prevent occurrences of frauds thus helping protect customer interests. Moreover, Airtel constantly endeavors to ensure that personal data are protected and handled in accordance with governing laws and best practices. In 2011, Airtel encountered no significant breaches or substantiated complaints of invasion of customer privacy and loss of data.

4.2.1.4.4 Securing Leadership Technology

- Airtel has built an **electronic office culture** through the use of telecommunication services like teleconferencing and video-conferencing to effectively minimize business travel of its employees.
- The **Digital Media service** from Airtel is a media exchange platform that connects all the content owners, content production facilities and screens (DTH, computers, mobile phones, digital signage, digital cinema theatres and the like).
- Airtel pioneered **GPS-based tracking solutions** with the launch of TrackMATE, which allows for the monitoring of delivery vehicles enroute, leading to better productivity through faster delivery of goods and reduction in fuel consumption.
- Airtel has **collaborated with seven other network and managed service providers** across the world to launch the first video services of the Open Visual Communications Consortium (OVCC). OVCC will open the door to faster decisions, easier collaboration with partners and customers and streamline supply chains. This will also expand the reach of distance learning programs and tele-medicine in rural and underserved areas.

4.2.2 Sustainable Development of Axiata

Focusing on an integrated approach towards sustainability where financial, social and environmental concerns are equally looked after, the Axiata has adopted the Figure 4.8 as sustainability framework in its operation. According to this framework, the sustainability doctrine is built on Axiata's promise of advancing Asia. As a Group, Axiata aims to do this through two focused and strategic pillars; operating a responsible business and developing the communities that it serves. Talent development, environmental management, sustainable supply chain and community assistance are the four focus areas for Axiata to achieve its sustainability goals and vision. This is all held together with Axiata's strong corporate ethics and governance (Axiata Sustainability Report, 2012).

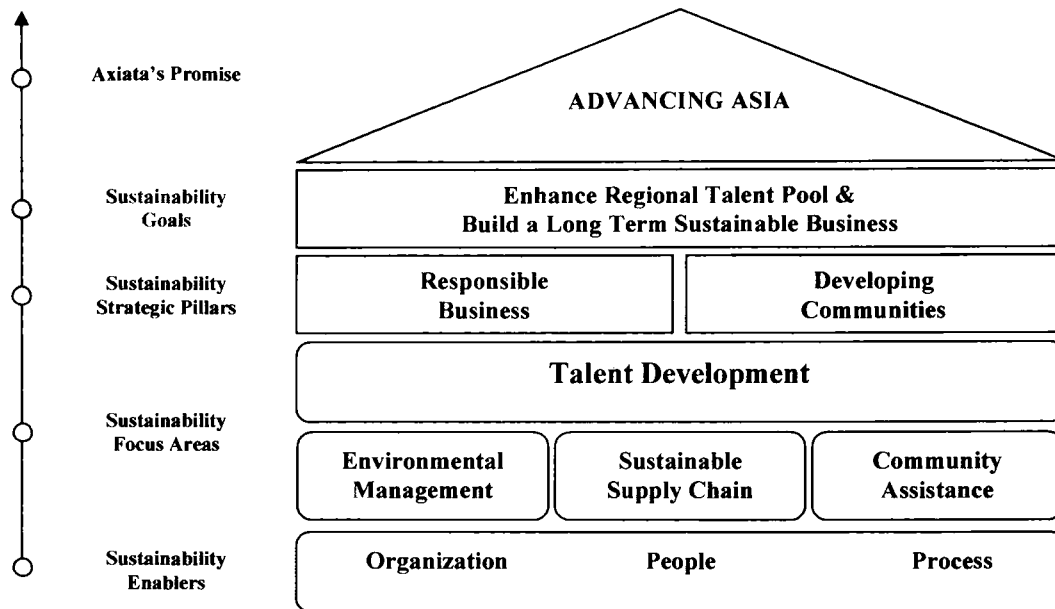


Figure 4.8: Sustainability framework of Axiata
(Source: Axiata Sustainability Report, 2012)

4.3 Sustainable Development through Marketing

The beginning of “sustainable development through marketing”, however, can be dated back to the late 1960s and early 1970s, when the appropriate scope and the societal role of marketing was discussed and debated among marketing scholars (Dawson 1971; Feldman 1971; Kelley 1971; Kotler and Levy 1969, 1971; Kotler and Zaltman 1971; Lavidge 1970; Lazer 1969).

Sheth and Parvatiyar (1995) discussed the term *sustainable development through marketing* as marketing efforts that are both competitively and ecologically sustainable. Taking a macro-marketing perspective, they recognized the link between marketing and sustainable development and as a result, also the urgent need to move from the current consumption marketing to a more sustainable marketing. According to them, sustainability can only be achieved by combining active government intervention with proactive marketing targeting at sounder consumption and production patterns. Taking a more managerial perspective, Menon and Menon (1997) also proposed the concept of *enviropreneurial marketing*, referring to the process of formulating and implementing entrepreneurial and environmentally beneficial marketing activities with the goal of creating revenue by providing exchanges that satisfy a firm’s economic and social performance objectives (Varadarajan 1992).

Fuller (1999: 4) defines the concept of sustainable development through Marketing as the process of planning, implementing, and controlling the development, pricing, promotion, and distribution of products in a manner that satisfies the following three criteria: (1) customer needs are met, (2) organizational goals are attained, and (3) the process is compatible with ecosystems.

Sustainable development through marketing refers to ‘building and maintaining sustainable relationships with customers, the social environment and the natural environment’ (Belz, 2008; Belz and Peattie, 2009).

The following section focuses on the various factors that affect the four elements of holistic marketing that can ensure the sustainable development.

Holistic Marketing

The holistic marketing concept is based on the development, design and implementation of marketing programs, processes, and activities that recognizes their breadth and interdependencies (Kotler & Keller, 2009-10). The above review of literature evidences that sustainability relies on the holistic performance of an organization by building mutual relationships with customers, satisfying and retaining the resourceful and experienced employees with a view to having an integrated and meaningful long-term business. This justifies the adoption of the following four components of the holistic marketing for the sustainable development of the mobile phone telecom industry of Bangladesh.

4.3.1 Relationship Marketing (RM)

In the telecommunication industry most of the customers maintain long term relationships with the operators (Ranaweera & Prabhu, 2003). Hence, satisfaction is a highly important factor to predict price sensitivity of a mobile phone teleom user, while other predictors are also available which are innovativeness, services package, demographics, geographic, etc., (Munnukka, 2005). In such context, to ensure sustainable development, mobile phone telecommunication firms are forced to make innovation and do the best for customer satisfaction. Due to this, relationship marketing plays an important role in telecommunication industry. It demands a relationship-oriented strategy in marketing (Grönroos, 2004).

4.3.1.1 Background of Relationship Marketing

As the competitive environment becomes more turbulent, the most important issue the sellers face is no longer to provide excellent, good quality products or services, but also to keep loyal customers who will contribute long-term profit to organizations (Tseng, 2007). As a part of marketing strategy, relationship marketing seeks to acquire and retain customers by providing good quality customer services, and therefore has become one of the keys to success in acquiring strong competitiveness in the present markets, because of its implications for access to markets, generation of repeat purchase, creation of exit barriers, and the view that it benefits all parties (Andaleeb, 1996).

Bund Jackson is recorded as having used the term “relationship marketing” in 1970’s in the field of industrial marketing (Gummesson et al., 1997). Since then the researchers, both in the USA (Wilson 1976; Jackson 1985); and Europe (Ford 1980; Gummesson, 1987; Hakansson, 1982; Johanson and Mattsson, 1987) came to understand the importance of relationship building in the field of marketing and came up with different theories at the same time. The term ‘relationship marketing’ emerged as an influential issue in the marketing literature during 70s and early 80s. Then, it became popular during the 1990s.

Theodore Levitt (1983) once said that the purpose of marketing was to create and keep customers. Marketers have historically focused on the former, i.e. creating or "getting" customers, giving less consideration to retaining them as well (Buttle 1996, 2003). This emphasis has now been reversed, resulting in what has been termed "Relationship Marketing" (Christopher et al. 1991).

Christopher, Payne and Ballantyne (1991) have summarized the shifts from a transaction focus to a relationship focus.

Table 4.1: Transactional Marketing vs. Relationship Marketing

(Old perspective) Transaction-focus	(New perspective) Relationship focus
<ul style="list-style-type: none"> - Focus on single sale - Orientation on product features - Short-term scale - Little emphasis on customer service - Little customer commitment - Moderate customer contact - Quality a concern for production (e. g. Consumer Packaged Goods)	<ul style="list-style-type: none"> -Focus on customer retention - Orientation on product benefits - Long-term scale - High customer service emphasis - High customer commitment - High customer contact - Quality a concern for all (e. g. Services)

Source: Christopher, Payne and Ballantyne (1991)

During the last decade of the 20th century, relationship marketing began to dominate the marketing field (Egan, 2001). During this period, relationship marketing became a major trend in marketing and management business (Ibid). It has also been seen as the mainstream of planning a marketing strategy both in industrial marketing and consumer marketing (Tseng, 2007).

Furthermore, when supply is higher than demand, the traditional marketing strategies might not be enough to achieve long- term goals (Bjerre & Hougaard, 2002). Relationship Marketing was brought into the business world in 1983 (Gummesson, 2002). Later was the concept of Customer Relationship Management (CRM) was also developed. The idea with this concept was that organizations should focus on customer relations to better be able to meet with customer demand (Hughes, 2003).

4.3.1.2 Definitions of Relationship Marketing

Relationship marketing is attracting, maintaining, and - in multi – service organizations - enhancing customer relationships (Berry, 1983). It is marketing which is orientated towards strong, lasting relationships with individual accounts. It is defined as a method of targeting, attracting and retaining good customers of a company (Gronroos, 1990). Relationship marketing is a business practice where the consistent application of up-to-date, interactively communicated knowledge to individual customers of product and service design forms a continuous and long-term relationship, which is mutually beneficial (Cram, 1994). According to Cram (1994), relationship marketing is a process in which the service provider needs to be listening to customers, interacting with them and establishing, recording and responding to their preferences. It implies appropriate and differentiated communications. It is a long-term, continuous series of transactions between parties. This occurs when each trusts the other to deal fairly, reliably and helpfully. When a good working relationship is built, negotiating time and costs are reduced and the pattern of transactions becomes more predictable and secure (Doyle, 1994). Morgan and Hunt (1994) defined relationship marketing as all the marketing activities that are designed to establishing, developing, and maintaining successful relationship with customers. Relationship marketing means all market activities directed towards establishing, developing and maintaining successful relational exchanges (Morgan and Hunt, 1994).

Gummesson (2002) defined relationship marketing as a business focusing on networks, relations and interaction when implementing marketing strategies. It is company behavior with the purpose of establishing, maintaining and developing competitive and profitable customer relationship to the benefit of both the parties (Hougaard and Bjerre, 2002). It is also

a business strategy that entails the development of long-term partnerships with customers (Lamb, Hair and McDaniel, 2002). The idea with this concept was that organizations should focus on customer relations to better be able to meet with customer demand (Hughes, 2003). So, relationship marketing essentially means developing customers as partners, where an approach is different from traditional transaction (Bowen and Shoemaker, 2003). Such marketing enables companies to communicate in a more effective way by using more qualitative messages to reach existing and potential customers and to get a better understanding what they might expect from the company (Doole and Lowe, 2008). Relationship Marketing is a method that is pursued to better understand and identify the needs of these customers in order to offer their best products and services in return (Liou, 2009).

4.3.1.3 Benefits of Relationship Marketing

Because of the economic advantages associated with retaining existing customers as opposed to recruiting new ones, academics and practitioners today are paying increasing attention to relationship marketing (Anderson et al., 1994; Price and Arnould, 1999; Verhoef, 2003; Ndubisi, 2007). In order to remain competitive, firms indeed need to build and enhance customer relationships that deliver value beyond that provided by the core product (Zineldin, 2006). Benefits associated with such an approach include improved seller performance (Reynolds and Beatty, 1999), profitability (Bowen and Shoemaker, 1998), business referral and publicity (Kim and Cha, 2002), customer share (De Wulf et al., 2001; Verhoef, 2003), competitive positioning (Zineldin, 2006), and most significantly, customer loyalty (Hennig-Thurau et al., 2002; Reynolds and Beatty, 1999). Bowen and Shoemaker (1998) maintain that a small increase in loyal customers can result in a substantial increase in profitability. In this context, Reichheld and Sasser (1990) found that firms could improve their profits from two to eight percent by reducing customer defections by five percent. Telecom companies must keep improving their quality of service to retain their loyal customers and in order to increase their brand share and profitability (Vivek Khattar, 2006). Reichheld and Sasser (1990) claimed that a 5% improvement in customer retention can cause an increase in profitability between 25% and 85% (in terms of net present value) depending upon the industry. The benefits of relationship marketing, however, are not limited to service firms. Customer benefits include the simplification of information processes, customization of product and services (Crosby et al., 1990), and reduced risk associated with purchase and enhanced psychological comfort (Bejou, 1997; Grönroos, 2004; Berry, 2002). Relationship marketing, therefore, represents a strategy for achieving a distinct and sustainable competitive advantage (Roberts et al., 2003) to keep customers loyal.

By gathering useful information, and building, and maintaining relationships with customers, it is possible to learn what the segment really values in a product or service, which results in an increased chance to gain an advantage against competitors. Managing customer relations is becoming more important and is being portrayed as a new paradigm within marketing management (Bjerre & Hougaard, 2002).

Buyers and sellers in markets achieve mutual benefits through developing relationships, which are not simple that a customer is 100 per cent loyal to a vendor (Stone & Woodcock & Machtynger, 2000). There are often switching behaviors occurred in different stages of a partnership relationship. Relationship marketing tactics are thus approaches to apply relationship marketing in practice (Tseng, 2007). Effective customer-oriented relationship marketing tactics may help marketers to acquire customers, keep customers, and maximize customer profitability, and finally build up customer loyalty. (*ibid*)

The benefits of relationship marketing derive from the continuing patronage of loyal customers who as a partnership are not sensitive to price cut over time (Bowen and Shoemaker, 2003).

4.3.1.4 Elements of Relationship Marketing

Adam Lingreen (2001) provided a comprehensive framework of relationship marketing, where he identified objectives, defining construct and instruments as three major conceptual constructs of relationship marketing. This framework can be explored using a simple analytical model.

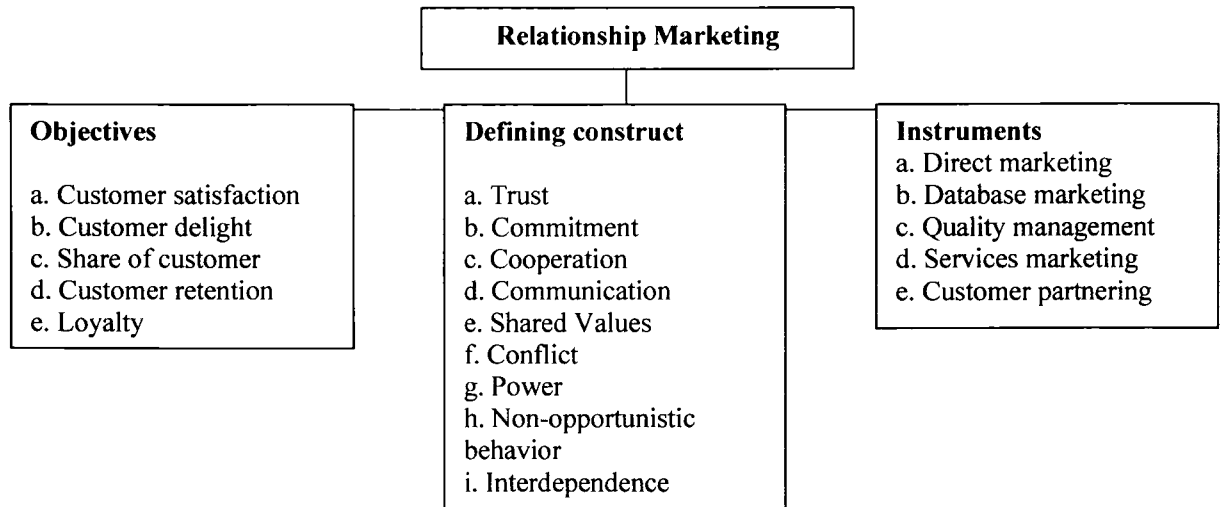


Figure 4.9: Breakdown of relationship marketing into objectives, defining constructs and instruments

Source: Adam Lingreen (2001), A framework for studying relationship-marketing dyads, *Qualitative Market Research*, Vol. 4, No. 2

4.3.1.5 Sustainable Development through Relationship Marketing

According to Roseland, Conelly (2005), sustainable development should go further than the 'protection of the environment': it implies social and economic changes in order to improve people's life and at the same time to reduce the need for environmental protection. In this regard, Gummesson (1999) suggests the following relationship model which shows that good relationship leads to good quality and good customer satisfaction. Good quality arises as internal relationships/employee relationships are fostered. Good customer satisfaction arises as specific customer needs and wants are understood better and served better. Good quality and customer satisfaction leads to customer retention and consequent improved profitability.

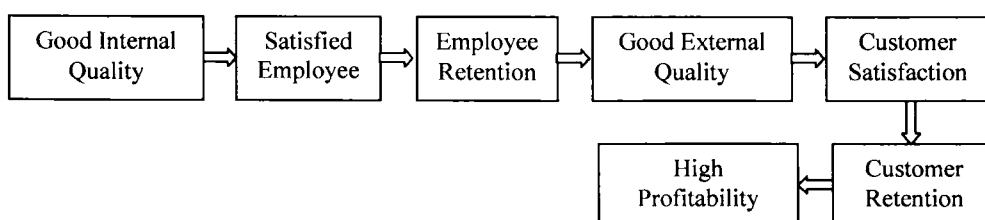


Figure 4.10: Relationship Marketing Model (Source: Gummesson, 1999)

Marketing approach of sustainable customer relationship falls in with the wide range of applied sustainability concepts, which enjoy a remarkable proliferation since the term of sustainable development has been introduced in economic thinking. Proliferation is marked by applied concepts such as sustainable product development, sustainable production, sustainable tourism, sustainable infrastructure, etc. (Mária Vágási et al, 2012).

Mária Vágási et al (2012) also found the four main orientations given below that serve as framework for sustainable customer relationship:

- (1) increasing role of added value delivery to customers;
- (2) shift towards societal marketing concept;
- (3) adoption of the relationship marketing concept e.g. building of long-run and mutually beneficial relations with the key customers
- (4) building networks for close cooperation, based on partnership with the key customers along the supply chain.

Among the possible effects of sustainable customer relationship Epstein and Roy (2003) call attention for the following ones:

- 1) reducing time and investment required to bring new products and services to market.
- 2) better access to capital, as the financial community pays greater attention to favorable company records
- 3) cost reduction from material substitution or less packaging or lower energy consumption
- 4) reduced material storage, reduced waste disposal
- 5) positive reaction from customers who may benefit from this saving product improvements
- 6) sending positive message to financial analysts and investors
- 7) to show corporate ability to improve competitive position.

4.3.1.6 Relationship Marketing Factors that Affect Sustainable Development of Mobile Telecom Industry

The factors of relationship marketing that influence sustainable development of mobile telecom industry have been exhibited in this section.

4.3.1.6.1 Sincere Service

Sincerity is a determinant and key factor for building customer relations (Karlsen et al., 2008; Zaltman and Moorman, 1988). Being straightforward and truthful in communication with others, and fulfilling promises are significant to be perceived as sincere. Furthermore, the advantage of admitting mistakes and being up front, rather than keeping quiet and then ending up begging for forgiveness is emphasized (ibid.).

4.3.1.6.1.1 Trustworthy services: Trust is enhanced by salesperson benevolence such as putting customer interests first (Swan, Trawick, and Silva, 1985), honesty (Boles, Barksdale, and Johnson, 1996); and expressing sincerity, truthfulness, (Prus, 1989), etc.

Relationship marketing is built on the foundation of trust (Morgan and Hunt, 1994). Trust is a 'willingness to rely on an exchange partner in whom one has confidence' (Moorman, Deshpande and Zaltman, 1993). Trust ensures that the relational exchange is mutually beneficial, as the good intentions of partners are not in doubt (Berry, 1995).

Iacobucci and Hibbard (1999) reinforce the importance of trust in understanding business relationships. Trust or distrust often takes place with a relationship built up. As a supplier actively makes relationship efforts, it provides evidence to customers that the supplier can be trusted, concerns about the customers' interests and is willing to make sacrifices for satisfying customers' needs in the relationship (Liang and Wang, 2008).

Trust has been treated in one of two distinct ways in the literature. First, trust has been conceptualized as a feature or an aspect of relationship quality. Dwyer and Oh (1987) and Crosby, Evans, and Cowles (1990), for example, describe trust as a feature of relationship quality, along with satisfaction and opportunism; Anderson, Lodish, and Weitz (1987) view trust as a feature of relationships, in addition to power, communications, and goal compatibility. Second, consistent with the view adopted in their research, trust has been conceptualized as a determinant of relationship quality. For example, Anderson and Narus (1984, 1990) view trust as a determinant of the amount of cooperation and the functionality of conflict between parties. Parsuraman, Zeithaml, and Berry (1985) view trustworthiness, in addition to believability and honesty, as part of credibility, which determines perceptions of service quality. Finally, Anderson and Weitz (1990) and Mohr and Nevin (1990) model trust as a determinant of communications between parties.

In practical business activities, therefore, the development of trust is considered to be a critical result of establishing a long-term successful relationship between all the parties involved. In face of complicated service markets, customers tend to behave and make purchasing decision depending on their previous consuming experiences (Doney and Cannon, 1997), their expectations (Anderson and Narus, 1990; Mayer *et al.*, 1995) and perception (Liu *et al.*, 2008; Gwinner *et al.*, 1998; Doney and Cannon, 1997) to service providers. Investing in long-term relationship with customers thus helps to develop customer trusts and improve the effective quality of a relationship in order to obtain mutual interests (Anderson & Weitz, 1989). Customers with trusts in service providers' capability would probably be willing to commit to a service relationship for meeting their expectations (Morgan and Hunt, 1994). Even when the environment is changing, the customers would believe that the service provider will take customers' interests into account instead of doing anything harmful to the development of relationship (Liu *et al.*, 2008).

Trust is considered very important to long-term relationships and enhancing customer loyalty. Many researches have suggested that customers' trust has a significant role in building long-term relationship and achieving customer loyalty (Berry, 1995; Bowen and Shoemaker, 2003; Chu, 2009). With trust as a precursor, a customer becomes loyal to a firm and forms a commitment to that firm (Bowen and Shoemaker, 2003).

The goal of creating a trust relationship between the business and the customer is to create a competitive advantage for the organization. This will include the ability of the organization to quickly solve problems and settle disagreements (Dickson, 1997).

Trust is a stronger emotion than satisfaction and that it may therefore better predict customer retention (Ranaweera & Prabhu, 2003). Trust is characterized by the development of an honest, trusting, sincere relationship based on open communication (Lewis, 1996). In telecommunication services it is frequently pointed out that once a customer is attached with a particular service provider or operator, then their mutual trust and long term relationships are of great importance to the success of the company in competitive markets than they are in the other industry sectors (*ibid*). Hence, sincerity in billing and extending services act as principal components of trust in the service based industry like mobile telecom.

4.3.1.6.1.2 Committed services: As part of sincerity to the customers organizations provided committed services. Commitment is an adaptation process, which is the result of the parties' intention to act and show positive attitude towards each other (Storbacka, Strandvik & Gronroos, 1994). It may also be defined as an implicit or explicit pledge of the continuity of a

relationship between exchange parties. In an ongoing relationship between supplier and buyer, parties expect to be committed to what they have in common. Relationship commitment is a key characteristic associated with successful relationship marketing (Morgan & Hunt, 1994), and is the most desirable aspect of relationships (Wetzels et al, 1998).

Commitment is the foundation upon which relationships are built (Berry & Parasuraman, 1994) and has been described as crucial in determining relationship formation (Knapp & Taylor, 1994). Commitment is an important factor in relationship maintenance and in absence of direct rewards may be the predictor of whether the relationship lasts (Lund, 1985). If there is no commitment, the customer may be lost forever (Grossman, 1998). Parties identify commitment among exchange partners as key to achieving valuable outcomes for themselves, and they endeavor to develop and maintain this attribute in their relationships (Morgan & Hunt, 1994). Therefore, commitment is a psychological sentiment of the mind through which an attitude concerning continuation of a relationship with a business partner is formed (Grossman, 1998).

Commitment can be described as a way of responding to customer needs and is a key dimension of being market oriented (Kohli & Jarworski, 1990). This commitment is expected to be a norm within a relationship, and fulfilling this expectation is thus postulated to drive customer satisfaction. Just like trust, commitment has been linked to satisfaction, still producing a confusing relationship. Some authors believe that satisfaction increases commitment from both the parties in a relationship (Buttle, Naude, Myhal & Hopkinson, 2000) while others like Seines (1998) consider commitment to drive customer satisfaction, which in turn leads to customer retention.

Commitment of mobile telecom is exhibited when the concerned providers ensure upgraded services for their customers.

Tribbia (2006) found that mobile telecom service providers constantly try to upgrade their services by improving basic features such as displaying callers' contact number, call log, SMS, etc., to make such services very convenient to the customers. Upgradation of services through migration from traditional voice traffic and ATM data traffic to IP traffic in mobile telecom networks has already become a prevailing trend in telecommunication network development (Stiller, 2000). Dahlman et al. (2008) advised the upgradation of new congestion avoidance methods to ensure the appropriate Quality of Service (QoS). Tilson & Lyytinen (2006) found that the transition of the mobile industry from second to third generation is not a simple technology upgrade but a major economic transformation of the mobile sector as the industry moves from the provision of gradually commoditized voice services to an array of converging communication, information, and entertainment enhanced data services so that users can enjoy state-of-the-art-technology services.

After 1995 the state owned Moldtelecom of the Soviet Union began to upgrade their lines and stations and in 1999 Moldtelecom began a rapid upgrade process of all of their equipments and installations across the country. In 2000 around 440,000 new lines were installed and the overall power of telephone stations was increased to 645,000 numbers, at that time the average number of telephones per 100 inh. was around 16. The upgrade process to digital has also sped up and in 2008 around 83% of all stations were digital, for example, in 1993 only 4% of all stations were digital. Currently all stations in the country are digital and the number of installed lines has reached 1,179,000 with around 33 telephones per 100 inhabitants.

Currently Moldtelecom is the dominant provider in this industry holding around 65.9% of the market share, the rest are shared between some ISP's who provide triple play options to their customers, however, most if not all of them rent lines from Moldtelecom (http://en.wikipedia.org/wiki/Telecommunications_in_Moldova).

4.3.1.6.2 Accurate Billing

Billing is the group of processes and systems that are responsible for collection of appropriate usage records, determining charging and billing information, production of timely and accurate bills, for providing pre-bill use information and billing to customers, for processing their payments, and performing payment collections (*Hunter and Thiebaud, 2003; TM Forum, 2011*).

The findings of Hunter (2003) reveal that billing operations area includes functions of capturing usage records (including call detail records, charging data records, network traffic measurement data, in some cases usage data could be prepared by telecommunications mediation system), rating consumption (for example, calculating total time of calls for each tariff zones, count of short messages, traffic summary in gigabytes), applying prices, tariffs, discounts, taxes and compiling charges for each customer account, rendering bills, managing bill delivery, applying adjustments, maintaining of customer account.

A number of studies found that the communication service providers which operate with multiple services in multiple modes are used to integrate in one bill all charges, unify customer management in one system. In this regard, convergent billing system is considered as such a solution, that could maintain single customer account and produce a single bill for all services (for example, it could be public switched telephone network, cable TV and cable internet services for one customer) and also do it regardless a prepaid or postpaid payment method (*Pulkkinen, 2006; Tornkvist and Schubert, 2009*).

Bamfo (2009) reports that factors like accuracy of bills, competitive pricing, etc., may affect mobile telecom operators' relationship with customers. Billing system includes the provision of accurate or, correct billing system, ease in resolving the billing issues, the speed of resolving the billing problem, ability of solving billing issues and the reasonability of pricing structure including special offers (*Lim et al., 2006*).

The findings of Lim et al. (2006), also recognize that the billing system factor is an important dimension of mobile communications service quality. Lee et al. (2001) note that customers consider precision of billing service as one of the most important service performance attributes.

Similarly, the results of Pezeshki, Mousavi, and Grant's (2009) study indicate that the accuracy of billing is one of the major weaknesses in the mobile telecommunication industry that leads to customer dissatisfaction. The results of this study indicate that customers require mobile communications service providers to provide accurate billing, understandable invoice, and convenient payment of invoice as these are important aspects of Billing System.

4.3.1.6.3 Customer Security

Mobile phone is becoming very popular because people are leaving landline to rely completely on mobile phones primarily because of mobility, safety, price and privacy (*T. Alhaiou, 2000*). Increasingly, mobile phones are carried and domesticated as part of an individual's desire to preserve and maintain safety and security (*Agar, 2003*), becoming a

part of the social image of the technology (Agar, 2003; Ling, 2004). As a result, safety and security are the two aspects of mobile phone use that are gaining increased attention in low and middle income countries with growing numbers of mobile phone users (Mechael, 2006).

Safety and security management against fraud, intrusions, and cloned mobile phones, just to mention a few, will be one of the major issues in the next wireless and mobile generations. A “safe” system provides protection against errors of trusted users, whereas a “secure” system protects against errors introduced by impostors and untrusted users (Alexander, et al.)

4.3.1.6.4 Quality Service

Quality service is an important indicator of customer satisfaction (Spreng and Machoy, 1996). Commitment to service quality can make an organization different from other organizations and gain a lasting competitive advantage (Boshoff and Gray, 2004). In particular, consumers prefer service quality when the price and other cost elements are held constant (Turban, 2002). It has become a distinct and important aspect of the product and service offering (Caruana, 2002). According to Brady and Robertson (2001) service quality helps to create the necessary competitive advantage by being an effective differentiating factor. Service quality was initiated in the 1980s as the worldwide trend when marketers realized that only a quality product could guarantee and maintain competitive advantage (Boshoff and Gray, 2004).

According to Parasuraman et al. (1985), service quality is the consumer’s comparison between service expectation and service performance. They proposed service quality to be a function of pre-purchase customer expectations, perceived process quality, and perceived output quality. Based on their statement in 1985, they then suggested that service quality is determined by differences between customers’ expectation of the service and their perceptions of the service experience. Parasuraman (1988) define service quality as the degree and direction of discrepancy between the consumer’s perceptions and expectations, or the extent to which a service meets or exceeds customer expectations. The quality of a service depends on that service consistently conforming to customers’ expectations (Mevvis and Janiszewski, 2002). Parasuraman, Zeithaml, and Berry (1988, 1990) projected a service quality model that identified perceived service quality into five dimensions: tangibility, reliability, responsiveness, assurance, and empathy.

In mobile telecommunication industry, several previous researches have proved the positive effect of service quality on customer satisfaction (Wang & Lo, 2002; Eshghi et al., 2008; Negi, 2009; Gunjan et al., 2011). Some of the researchers measured mobile service quality as customers overall evaluation of their experience with the service provider (Akroush et al., 2011; Aydin & Özer, 2005; Edward et al., 2010; Liu et al., 2011; Shin & Kim, 2008; Lai et al., 2009). Some mobile operators used and adapted SERVQUAL model to measure mobile service quality (Boohene & Agyapong, 2011; Leisen & Vance, 2001; Negi, 2009; Wang & Lo, 2002).

The findings of Negi (2009), Kim et al. (2004), and Wang et al. (2004) reveal that the Network Quality dimension (network aspects/call quality) is one of the most important dimensions pertaining to customers’ quality perceptions of mobile communication services. Wang et al. (2004) explain that the network quality factor can significantly influence customers’ quality perceptions of mobile communication services. Kim et al. (2004) argue that the importance of call quality to customers’ quality perceptions of mobile communication services has not changed, despite the fact that mobile communication service

providers have been continually improving call quality over the past several years. Negi (2009) maintains that the network aspects, such as transmission quality and network coverage, can significantly drive customers' perceptions of mobile communications service quality. Mobile communication service providers must provide sound and clear network quality to their customers if they are going to maintain a consistent level of outcome quality (ibid).

Wang and Lo (2002) employed a modified version of SERVQUAL model to measure service quality of mobile phone operators in China. They added network quality dimension to the model based on focus group discussions and expert opinions. According to their findings, the most important service quality dimensions in predicting customers overall satisfaction was assurance, followed by reliability and network quality. But they found no evidence to support the influence of responsiveness and empathy on customer satisfaction (Wang & Lo, 2002).

Similarly, Negi (2009) tried to modify SERVQUAL scale to best fit in the context of mobile telecommunication market in Ethiopia. In a pilot study, respondents were asked about additional service quality dimensions by using open-ended questions. Three additional dimensions were derived including network quality, compliant handling and service convenience. According to regression analysis, network quality scored the highest in predicting overall customer satisfaction followed by reliability, empathy and assurance (Negi, 2009).

Some researches in mobile telecommunication industry extended the traditional definition of service quality and incorporated aspects particularly relevant to mobile services. For example, Eshghi et al. (2008) used literature review to identify thirty two attributes relevant to mobile telecommunication industry. Six factors were derived using factor analysis including relational quality, competitiveness, reliability, reputation, customer support and transmission quality. These factors were taken as service quality dimensions. Based on regression analysis, competitiveness and reliability had the greatest effect on customer satisfaction followed by relational quality and transmission quality. Also, a regression analysis was done to identify most important service quality dimensions in predicting repurchase intention of customers. Results indicated that relational quality and reliability are the most determinant factors in customers' purchase decisions (Eshghi et al., 2008).

In another study on the perceptions of mobile phone operators' service quality, Santouridis and Trivellas (2010) suggested that customers evaluate service quality of their mobile phone operators based on quality of six dimensions including network, value-added services, mobile devices, customer service, pricing structure and billing system. This scale was administered to two hundred five residential non-business mobile phone users in Greece. Their findings show that customer service, pricing structure and billing system are the service quality dimensions that have the most significant positive effect on customer satisfaction, which in turn have significant positive impact on customer loyalty (Santouridis & Trivellas, 2010).

Moreover, Lu et al. (2009) proposed that mobile service quality was composed of three primary dimensions, which are interaction quality, environment quality and outcome quality. Each primary dimensions further included sub-dimensions. An instrument was developed and empirically tested using data collected from four hundred thirty eight mobile brokerage service users (Lu et al., 2009). Also recently, Zhao et al. (2012) used this model to assess the effect of mobile telecommunication service quality on customer satisfaction and the continuance intention of mobile value-added services. Their findings showed that all three

dimensions of service quality have significant and positive effect on customers' satisfaction and continuance intention (Zhao et al., 2012).

SERVQUAL has been widely used in the telecommunication industries in different cultural context with high reliability and validity (Hoffman & Bateson, 2001; Tyran & Ross, 2006; Stafford et al., 1998; Sureschander et al., 2002). In a study of mobile telecommunication in South Africa, Van der Wal et al. (2002) used SERVQUAL with some modifications. The modified instrument resulted scale reliability of 0.95. In their study of service quality in telecommunication services, Ward and Mullee (1997) used reliability, availability, security, assurance, simplicity, and flexibility as criteria of service quality. They argued that, from customers' perspective, it is not appropriate to separate network quality from the other dimensions of quality.

Global System for Mobile Communication (GSM) Association identified a list of indicators for mobile phone quality of services. These indicators included network access, service access, service integrity, and service retainability (Sutherland, 2007).

J.D. Power and Associates Survey (2009) studied the mobile phone users' satisfaction in the United Kingdom. The study used a sample of 3325 mobile phone customers throughout United Kingdom. Important dimensions of service quality included in the survey were coverage, call quality, promotions and offerings of incentives and rewards, prices of service, billing, customer, bundled services. The study showed rising customer expectations with regard to the additional features and services from the mobile operators.

Based on the survey of 22052 users of wireless phone in the United States in 2008, the Wireless Phone Users' Satisfaction Index of the United States of America indicated that important dimensions of service quality included customer satisfaction, billing, brand image; call quality, cost of service and options for service plans (Customer Satisfaction Index, 2009)

A qualitative (focus groups) and quantitative (consumer surveys) research study about consumer satisfaction was undertaken by Australian Communications and Media Authority, ACMA (2008). The study reported highest levels of dissatisfaction with mobile phone services (35 per cent), citing problems such as drop-outs, poor call quality and interference.

Accenture (2008) carried out survey of 4189 consumers in Australia, Brazil, Canada, China, France, Germany, India, United States, and United Kingdom. More than 67% respondents confirmed poor customer services as the core reason for leaving the operators. The survey also found the rising expectations of customers in mature and growing markets.

In 2008, Telecom Regulatory Authority India carried out quality of service survey of mobile operators based on users' satisfaction. The sample consisted of 1318 mobile phone users. The important dimensions of regulatory services benchmark dimensions of service quality included billing, customer care, availability of network, value-added services and pre-sales and sales dimensions. Out of 11 operators, only five operators achieved the 90% service quality benchmark (Survey, 2008).

Souki and Filho (2008) carried out a study based on 434 customers in Brazil. The study focused on satisfaction of mobile phone users. The results of the study indicated high rating of customers' services, quality of connections, ambience of outlets, and the coverage provided.

A study of 10 regions in Japan measured the customer satisfaction among 7500 individual mobile telephone service users. The important dimensions of service quality of mobile service providers included handset, price, quality of call, coverage of area, non-voice functions and services, and customer contact strength in that order of priority (Mobile Phone Survey, 2004).

Barnhoorn (2006) carried out a study in 2008 in South Africa indicated the ever increasing expectations of customers with regard to the services of mobile phone operators. The salient dimensions of quality of service accorded priority by mobile phone users included courteous and facilitating role of front-line personnel, ease of availability for cards and recharge services, availability of products and services at the company outlets, accurate information and facts about services, affordable prices of the packages, and customized services.

A study by Sukumar (2007), using a sample of 104 mobile phone subscribers, measured the mobile phone users' preferences for the selection of an operator. The result of the study found important dimensions as brand image, customer care, services availability, credit facility for connection, deposit amount, and prices in that order of priority.

In Canada, the consumers' satisfaction survey in 2007 based on the responses of 6000 mobile phone users indicated the essential elements of service quality of mobile operators as quality of calls, prices, billing, customers' services, and diversity of bundled options of services (Customer Satisfaction, 2007).

A study was undertaken in 2007 on Consumer Satisfaction in Telecommunication markets in the Organization of Economic Cooperation and Development (OECD) countries by the Directorate for Science, Technology, and Industry (DSTI) Committee on Consumer Policy. The study found imperfect information on quality and price, lack of transparency in roaming charges for international in service and contractual binding in changing the operators affect consumer Behavior. The study focused on mobile phone users and identified and found that quality of service and price were two major factors for switching over to new operators. The study further highlighted that major factors affecting mobile phone users' dissatisfaction included lack of differentiation in the United Kingdom, prices and quality of services in Portugal, early termination fee and unsolicited calls and inaccurate billing in the United States, and lack of meeting and exceeding customer's satisfaction in Australia (DSTI, 2007).

A study of mobile phone customers satisfaction about quality dimensions was undertaken in 2006 in Finland and other Scandinavian (Denmark, Sweden) and Baltic (Lithuania and Latvia) countries. The important drivers of customers' perception of quality emerged product and service in Scandinavian and Baltic countries. The results found that the significant aspects of quality of service included attributes of service, image of the operators, and value-added services. Pricing of the services emerged as the most important dimension of quality (ESPI, 2006).

Sigala (2006) noted, in a study of mobile phone users in Greece that customization of service, pleasing interaction of staff and customers, company's image and differentiated features were the important dimensions of service quality of mobile phone users.

In Turkey, a study was undertaken to determine the National Customer Satisfaction Index of mobile phone users based on a sample of 1950 mobile phone subscribers. The dimensions that emerged in customer satisfaction included meeting customers' pre-purchase

expectations, perceived quality (coverage, responsiveness to customers complaints, value-added services, promotional activities and their fulfillment), and complaint handling (Ozer & Aydin, 2005)

Consumer Surveys (Cap Gemini, 2005; McKinsey Quarterly, 2004; Consumer Reports, 2005) found that network quality based on data services and voice services strongly influence customer satisfaction and loyalty with regard to the use of mobile phone.

4.3.1.6.5 Cooperative Employees

Co-operation is defined as "working to achieve mutual goals" (Anderson and Narus 1990). Co-operation is an outcome of relationship commitment and trust and is a necessary element of relationship marketing success (Morgan and Hunt, 1994). Morgan and Hunt (1994) disclosed that commitment and trust lead to cooperation. From their study, it is revealed that the interaction of cooperation and commitment results in cooperative behavior that enables the relationship to work and ensures that both parties receive the benefits of the relationship, and therefore, achieve mutual satisfaction. Although research on the influence of integration in trust and commitment is scant, there is evidence that both communication (Sharma & Patterson, 1999) and collaboration or cooperation (Plewa, 2009) improves the level of trust in relationships with customers.

The study of Anderson & Narus (1990) found that similar or complementary coordinated and cooperative actions taken by firms in relationships with customers are aimed to achieve mutual or singular outcomes with expected reciprocation over time.

Wilson (1995) sees the interaction of co-operation and commitment as resulting in "cooperative Behavior allowing the partnership to work ensuring that both parties receive the benefits of the relationship". Co-operation is also strengthened if both parties concerned have shared values, which are seen as a direct indicator of both relationship commitment and trust (Buttle 1996, 2002). Shared values involve the extent to which both partners have common beliefs on what behaviors, goals and policies are important or unimportant, appropriate or inappropriate and right or wrong (Morgan and Hunt, 1994).

It has been found from the study that the usage of trust as an alternative or complementary relationship marketing tool can, firstly, help to mitigate the adversities (Bendapudi & Berry, 1997), and secondly, help to increase the level of integration and commitment among both relationship parties. Additionally, trust can have a persuasive effect in the resolution of disagreements or conflicts between the concerned, easing the mutual understanding and the friendly acceptance of discrepancies between both parties, and enhancing their joint cooperation (Dwyer et al., 1987).

The study of Hokanson (1995) found that good and long lasting relationship with customers depend on many factors including friendly, courteous, knowledgeable and helpful employees. The courteous behavior and friendly attitude of the service workers with the customer increase the goodwill of company and customer satisfaction towards service increased (Soderlund & Rosengren, 2008).

Spreng and Mackoy (1996) advocate the significance of friendliness of the staff as an important indicator in long lasting relationship with customers.

A study identified that staff empathy measures particularly care and individual attention provide to customers as well as including customer responsiveness, employee courtesy and the ability of conveying confidence and trust (Parasuraman et al., 1988).

4.3.1.6.6 Attention to Customers

Customer expectations of quality treatment in a service requires individual attention and resolution of complaints and taking responsibility of personal/corporate errors (Singh & Deshmukh, 1999). Howard (1974) confirms that satisfaction/loyalty relationship is path for the good managers in paying attention in consumer behaviors connected to firm's performance.

In emphasizing individual attention on customer needs, a number of studies found that a direct relationship exists between customer orientation of service employees and service quality, service recovery, price fairness, and brand image (Kholi and Jaworski, 1990; Narver and Slater, 1990).

On the basis of a comprehensive review of major theoretical leanings (Anderson and Sullivan, 1993; Michel and Meuter, 2008; Nimako et al., 2010; Herrmann et al., 2007; Minkiewicz et al., 2011), a conceptual framework has been found which suggested that relationship marketing through individual attention to customer specific needs in the mobile telecommunications industry would be a function of mobile telecommunications provider's service quality, service recovery, price fairness, brand image, and customer orientation of service employees.

Parasuraman et al. (1985) found that caring and individual attention of the firm employees are important in understanding the needs of their customers and convenient business hours which may enhance better relationships. In their study, Ananth et al. (2011) emphasized on giving individual attention; convenient operating hours; giving personal attention; best interest in heart and understand customer's specific needs.

4.3.1.6.7 Informative Services

Information is considered as a very valuable issue in mobile marketing because recipients react very positively to advertising transferring incentives (Varshney, 2003). Marketers generally want to convey information via advertising messages (Gordon and De Lima-Turner, 1997). Information received by consumers through mobile devices must demonstrate qualitative features like accuracy, timeliness, and usefulness for consumers (Siau and Shen, 2003).

As a part of personalized relationship (Wind & Rangaswamy, 2001) companies need to provide accurate and timely information to customers which, in turn, often generates additional sales (Postma & Brokke, 2002). Personalization has also been shown to increase the level of loyalty consumers hold toward a retailer (Cyber Dialogue, 2001; Srinivasan, Anderson, & Ponnawolu, 2002).

Haghirian et al. (2005) found that the higher the informativeness of mobile advertising messages, the higher the perceived advertising value of the consumer. According to Tsang et al. (2004), perceived informativeness of mobile advertising has a direct positive effect on attitude toward mobile advertising. Consistent with this view, other studies identified information value as one of the strongest drivers of mobile advertising acceptance (Merisavo and Kajalo, 2007).

Text messaging services permit customers to access the firm's services from a mobile phone or PDA with internet access anywhere, anytime, resulting in high flexibility (Balasubramanian et al., 2002). Also, communication via mobile medium could be interactive and immediate when companies are able to establish a direct dialogue with their customers, and at the same time, customers are able to take action quickly using such information (Barnes & Scornavacca, 2004). Further, the increase in security of wireless network allows customer data be sent over the network with more confidence (Ranjan & Bhatnagar, 2009).

Doherty (2007) concluded that consumers would accept SMS advertising only if it was relevant to consumers' interests and involved quality information. Carroll *et al.* (2007), Pagnani (2004) and Nasco and Bruner (2008) found that consumers were more likely to accept the messages when the content was relevant to them.

Quality of relationship is also characterized by satisfactory and informative communication (Carey et al., 1988). Communication is used to initiate and build relationships; mediate ideas, thoughts and feelings, transfer information, solve problems and simply connect people (Bordia, 1997; Rix, Buss, and Herford, 2001). Communication is defined broadly as the formal as well as informal sharing of meaningful and timely information between firms on the efficacy of information exchange rather than the quantity or amount, and inherently taps past communications (Anderson and Narus, 1990). Relationship marketing researchers view communication effectiveness and quality as important factors in relationship development, maintenance and performance and customer value (Anderson and Narus, 1984, 1990; Berry, 1995; Dwyer, 1987; Fontenot and Wilson, 1997; Morgan and Hunt, 1994; Selnes, 1998). Communication enhances the relationship, trust and commitment (Anderson and Narus, 1990; Lewin and Johnston, 1997; Morgan and Hunt, 1994; Selnes, 1998).

4.3.1.6.8 Responsiveness to Customers

Responsiveness is the willingness to help the customers in case of any problem (Parasuraman et al., 1988; Philip Kotler 1999; Bitner, M. J., Zeithaml, V. A.; 2003). Solving the complaints of customers efficiently creates a positive image about the quality of service but if customers are kept waiting, it creates negative impression about the quality of service. Dealing the customer's complaints and helping in recovery with professionalism (Parasuraman et al., 1988), in the words of Rosen and Karwan (1994), responsiveness is the willingness of the firm's staff to help customers and provide prompt services. Gilbert A. Churchill, Jr. & J. Paul Peter (1999) added that customer must see service provider as ready and willing to perform. Hayes (1998) emphasized that if a customer and organizational requirement is for customer service, the satisfaction dimension may include responsiveness. Responsiveness is likely to have an important and positive effect on customer satisfaction (Jun & Cai, 2001; Diaz & Ruiz, 2002; Joseph et al., 2005; Glaveli et al., 2006).

Griffith and Krampf (1998) mentioned that enough staff supports are needed with prompt responsiveness in order to improve their customer service and satisfy their customers.

Responsiveness accounts for a prompt response to the customers' needs. Mobile phone users are keen to get a prompt response from the employees regarding their complaints and enquiries (Muhammad Asif Khan, 2010). As company is providing products and services to the customers so for the consequences, company is responsible. It is the responsibility of the company to provide actually what they are saying and create a flexible system to continuously respond to the customers (*ibid*).

Trained and motivated middlemen service: As part of responsive service to the customers, organizations often train and motivate their distributors as well who render their services at the time of product or service selling. Some motivational strategies commonly used by firms to induce channel member cooperation include paying higher slotting allowances, offering higher trade discounts, providing strong advertising and promotional support, training channel members' salespeople, and offering superior logistical support (Rosenbloom B, 1999). The producer secures and converts prospects to formal channel members by offering them various motivational inducements (Stern L, et al, 1996).

4.3.1.6.9 Service centers

Service centers handle all relationships with the customer and utilize multiple channels integrating traditional channels of telephone and fax, with newer technologies such as e-mail, SMS, and Internet. According to Reuters, a contact centre is an operational group within a business which is concerned with the development of customer relationships, using integrated technology solutions and business processes (Reuters, 2001).

Service delivery represents as a prominent tool for creating long-term customer relationships (Hennig-Thurau, Gwinner, and Gremler 2002). Moreover, the quality of the service delivered strongly affects relationship quality (i.e., customer satisfaction, trust, and affective commitment) and outcomes (customer loyalty, repurchase intentions, positive word of mouth), which puts even more pressure on organizations to deliver the best service possible (Rust, Zahorik, and Keiningham, 1995; Sharma and Patterson, 1999; Spreng and Mackoy, 1996).

In this setting, many organizations use customer contact centers as important instruments for delivering their services, whether partially or totally (Anton, 2000; Holman, Batt, and Holtgrewe, 2007; Miciak and Desmarais, 2001), and the number of customer contact centers is increasing substantially (Whitt, 1999). Average growth rates in the customer contact center industry for Europe, the Middle East, and Africa ranged around 130% in the period from 1999 to 2005 (Datamonitor, 2007). Such rapid growth coincides with a shift in the accessibility of organizations, such that fewer customers interact with a single contact person, such as a salesperson or an account manager, and many service companies have reduced or abandoned the idea of physical service encounters. Thus, on average, 80% of a firm's interactions with its customers take place through a customer contact center, and 92% of customers form opinions about an entire organization based solely on their experience with the customer contact center (Anton, Setting, and Gunderson 2004).

To create long-term customer relationships, organizations instead must implement relationship-oriented performance indicators, such as customer satisfaction, trust, and affective commitment (Alexander and Colgate, 2000; Coviello and Brodie, 1998; Morgan and Hunt, 1994).

In addition to basic service aspects, such as solving the problem, being friendly, and explaining the steps in the process, Dean (2004) identifies customer feedback and customer focus as two new dimensions of customer contact center quality.

Studies that focus on aspects of customer contact center quality also find positive relationships with customer satisfaction. For example, de Ruyter and Wetzels (2000) note the impact of a customer contact center representative's listening skills on customer satisfaction. Customers value the feeling of being understood by the employee and the feeling of empathy

they receive. Feinberg et al. (2000) find that the number of calls closed on first contact (i.e., first-time fixes) and average abandonment have positive impacts on customer satisfaction. The first-time fix measure appears in almost every performance management index for customer contact centers. Customers want an answer to their question or a resolution to their problem before they end the call. As derived from these aspects, customer contact center quality should have a positive impact on customer satisfaction with the organization, because positive evaluations of customer contact center quality improve overall attitudes toward the organization (Cronin and Taylor, 1992).

According to Doney and Cannon (1997), there are five processes for creating trust: calculative, prediction, capability, intentionality, and transference. All of them play a role for customer contact centers. That is, customer contact center quality induces trust by not cheating customers (calculative process), acting as promised (prediction process), acting in the best interest of the customer (intentionality process), and meeting obligations (capability process), and then this trust can transfer from the customer contact center to the organization (transference process).

4.3.1.6.10 Twenty Four (24) hours service

There is increasing evidence that call centres are gradually migrating into customer contact centres of the companies (Acey, John 2002). According to the Call Centre Association a call centre, is a physical or virtual operation within an organization in which a managed group of people spend most of their time doing business by telephone, usually working in a computer automated environment.

It is argued that today's call centres have complex operations that require a combination of technology, process, and human talent in order to succeed (Miciak, Alan and Desmanais, Mike 2001).

Call centres allow a company to build, maintain, and manage customer relationships by solving problems and resolving complaints quickly, having information, answering questions, and being available usually 24-hours a day, 7 days a week, 365 days of the year (Michell, P.J., 1998). It is argued that call centres can form the heart of successful customer-relationship management strategies (Michell, P.J., 1998).

To be competitive companies now-a-days provide 24 hours of customer service and call centers play an important role in this regard. As call centers compete to provide greater convenience to customers, there is pressure to increase hours of operation to 24 hour coverage, 7 days per week. However, a survey found that 20% have adopted this scheduling pattern with relatively little variation across countries. The rates of use are somewhat higher in the US, Poland and Israel where about one-third of centers are always open, and India, where majority of centers report 24/7 hours of operation (Holman, David et al., 2007).

Companies, therefore, are investing in call centers to improve customer service and provide access 24 hours a day, 7 days a week because customers began relying on 24-hour service. Hence, the center had to be reconfigured to handle more incoming calls and to provide more extensive data access (Baljko, 1998).

4.3.1.6.11 Attractive Rates and charges

Mobile phones have greatly reduced communication costs, thereby, allowing individuals and firms to send and to obtain information quickly and cheaply. An emerging body of research

shows that the reduction in communication costs associated with mobile phones has tangible economic benefits, improving agricultural and labor markets efficiency and producer and consumer welfare in specific circumstances and countries (Jensen, 2007; Aker, 2008; Aker, 2010; Klonner and Nolen, 2008). For example, in Chile poor people spend more of their incomes on telecommunications than on water, and even the average household spends more on telecoms than on water and electricity combined (Navas-Sabater, 2002; Wellenius, 2000; Blattman et al, 2002; De Melo cited in Forestier, 2002).

In his study, Requielme (2001) examined the knowledge of users when choosing between different telecom service brands. The study was built upon key attributes of rates and charges of mobile phone uses including connection fee, access cost, cell to cell phone rates, call rates and free calls related to mobile. The research also showed that mobile users with prior experience can predict their choices relatively well, although respondents tended to overestimate the importance of features, call rates and free calls and underestimate the importance of a monthly access fee, mobile to mobile phones rates and the connection fee. Mobile phone choice and use have also been found to be related to prior consumption style.

Most studies find that the elasticity of mobile connection with respect to low price and so, there are relatively small gains in penetration when prices are lowered (Crandall and Waverman, 2000; Garbacz and Thompson, 2005; Rosston and Wimmer, 2000). Studies suggest that the initial connection fee is more of an impediment to access than the monthly usage fees.

A recent paper (Milne, 2006) suggests that traditional regulatory provisions for 'social tariffs' have been focused on fixed lines—when people in developed countries on low or irregular incomes are increasingly abandoning fixed lines for the flexibility of prepaid mobile phones. Pre-payment eliminates bills and provides full user control of cash outgoings, both features that people on slim budgets tend to appreciate. For people who make little use of the phone, the relevant tariffs often reduce cash outlays overall compared with a fixed line (relatively high call charges being offset by low or zero regular payments).

4.3.1.6.12 Attractive Rewards

Companies should concern about customer's value from customer's point of view, and thoroughly understand customer's value chain in order to be able to reduce customer-perceived sacrifice (Wilson and Jantrania, 1995). Increasing the customer benefits means adding something to the core product that the customer perceives important, beneficial and of unique value (Ibid).

Value offers to a customer means adding something to the core product that the customer perceives important, beneficial and of unique value (Wilson and Jantrania, 1995).

Customers will judge the value of consumption after contrasting benefits gained from products and services with their costs (Zeithaml, 1988). Service firms provide superior value through enhanced offers which can improve customer satisfaction by increasing the customer's perceived benefits and reducing the sacrifice so that customer retention is improved (Ravald and Grönroos, 1996).

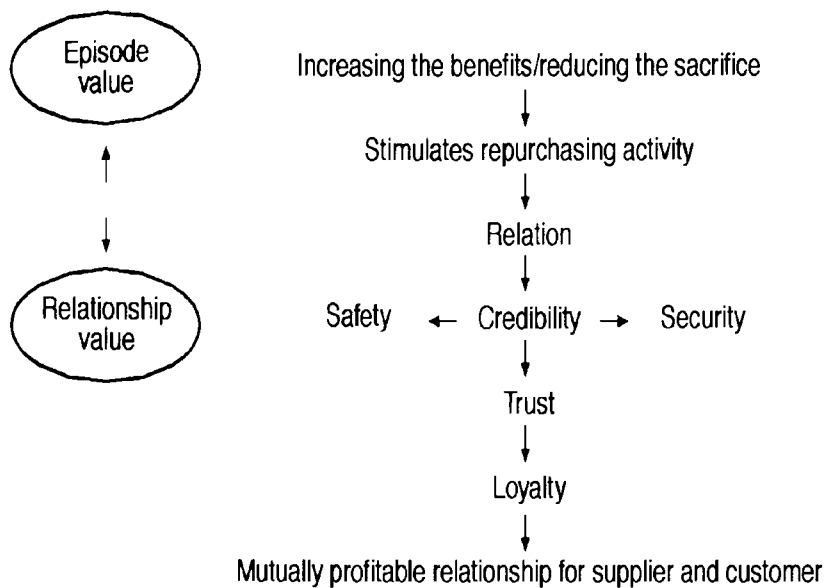


Figure 4.11: The Effect of Value-Adding Strategies in a Long Term Relationship
(Source: Ravald and Grönroos, 1996)

Ravald and Grönroos (1996) described the effect of value-adding strategies in the long term relationship. Through the following figure, Ravald and Grönroos (1996) made it clear that the companies which execute certain value-adding strategies can increase customer's perceived benefits and reducing customer's perceived sacrifices, which in turn stimulate customer repurchasing activities and remain in the same service provider. In a long-term relationship, customer perceived value offered is related to both episodes and expectations (Ravald and Grönroos, 1996). When customer's expectations are satisfied, they will feel safety, credibility, and security as perceived value in this relationship, which all together increase trust and then enhance customer's loyalty (*ibid*).

An example of such value is incentive. Incentives are values or benefits from which consumers can advantage when receiving SMS advertisements (Hanley, Martinsen, & Pryor, 2005; Pastore, 2002). According to Luk and Yip (2008) monetary promotions are incentive-based and transactional in nature and provide immediate rewards and utilitarian benefits to the customers. However, non-monetary promotions provide hedonic benefits but weaker utilitarian benefits (Kwok and Uncles, 2005).

In the telecommunication sector, it is essential for the operators to offer something valuable to customers in service interaction process, such as reward refund activities and promotional offers, in order to gain customer satisfaction and trust, which are expected to enhance customer loyalty. The mobile telecom operators may offer some such values as attractive rewards in the following section:

a) Financial rewards for customers to accept cell phone ads: Incentive-based advertising provides specific financial rewards to individuals who agree to receive ads into their mobile devices (Pietz&Storbacka, 2007). The main advantage of this approach is that mobile users are provided with a tangible reason for receiving SMS advertisements.

A survey from the United States showed that 66% of consumers will accept cell phone ads if they are paid to accept them and 59 percent would want at least \$1.00 or more per mobile advertising (Hanley et al., 2006). By sending incentive-based advertising, advertisers create value to the message, make it active and create good feeling for customer (Idris, 2006).

Incentive-based SMS advertising can be executed through many approaches. For instance, Tsang et al., (2004) suggest extra points or minutes or any other form of sales promotion, or free connection time for listening to voice advertisements, offered by mobile companies. Another approach is that consumers get something back in return, a reduction in the cost of advertised products or services, as suggested by Pastore (2002). Hanley et al. (2005) suggest some typical forms of value include offer of contextually sensitive services, coupons, free minutes, or monetary incentives. According to Hanley, Becker and Martinsen (2006), free ringtones and airtime were the most popular incentives for college students.

Mobile marketing research supports the relationship between incentives and attitude towards SMS advertising. Incentives are considered to have an impact on consumer intentions to receive mobile advertising under a given attitude, and consumers are more willing to accept incentive-based mobile advertising (Tsang et al., 2004). According to Hanley et al. (2006), college students' attitude towards SMS advertisements were affected and were tended to accept mobile advertising if they were given incentives. Furthermore, Rettie et al. (2005) analyzed the acceptance of 26 different SMS ads and found that monetary incentives was one of the main reasons that encouraged consumer acceptance, whereas Varshney (2003) found that SMS recipients react very positively towards advertisement that transfer incentives.

b) Free service offer: Research findings reveal that consumer attitudes are directly linked to behavioral intentions for mobile advertising, such as getting free coupons, calling back, sending text messages, visiting specific shops, and allowing messages. Consumers are also more likely to respond to the advertisement if they receive a discount or a promotional offer in exchange for making themselves available to advertisers (Rettie et al., 2005).

In order to provide access to customers to local language versions of Wikipedia along with the English version on their mobile, Axiata and the Wikimedia Foundation recently announced a partnership to offer Wikipedia on mobile devices free of data charges to Axiata customers throughout Asia. By making Wikipedia available at no data charge to its customers, Axiata is removing barriers to information. By joining the Wikimedia Foundation Axiata also increases access to free and open knowledge available on Wikipedia. This partnership is part of the Wikimedia Foundation's Wikipedia Zero program, which focuses on reaching out to billions of people around the world whose primary access to the Internet is via a mobile device. The partnership currently includes customers of Axiata's subsidiaries in Celcom, XL, Dialog, Robi and Smart (Axiata Sustainability Report, 2012:32).

c) Price discounts: Blatterger and Wisniewski (1989) reported that consumer gain more from price cut. Pauwels, Hanssens and Siddarth (2002) argued that price promotion elicits temporary changes in brand and product choices and purchased quantity for established brand in mature market. The most relevant results from Drossos et al. (2007) indicate that advertisements with incentives such as price discounts resulted in more positive attitudes towards the advertisement as well as higher purchase intentions versus advertisements without any incentives.

Mobile coupons: A Mobile Coupon is a form of text messaging service that can be sent to consumers via mobile devices that can be exchanged for a financial discount or rebate during a purchase. Different types of coupons include “Buy-one-get-one-free,” “free,” and “cents-off” or “dollars-off” (Mobile Marketing Association, 2007). Mobilab, the agency behind Facebook places mobile coupons, report their mobile coupons both build the brand and drive sales (Bonnier, 2011). The main advantages of using mobile couponing include personalized messages, time immediacy, and convenience (*ibid*).

Interactive feature of the mobile coupon is increasing attention from the consumer, and as a result becoming more effective (Keller, et al., 2008). The coupon message could be perceived as more rational with informative content due to the price discount being offered, which could also explain the higher purchase intentions (Drossos et al., 2007). A mobile coupon (m-coupon) is an electronic ticket solicited and/or delivered by mobile phone, which can be exchanged for a financial discount or rebate when purchasing a product or service [MMA, 2007]. Jupiter Research [2008] predicts that nearly 200 million mobile subscribers will use mobile coupons globally by 2013. A mobile coupon is an electronic ticket solicited and/or delivered by mobile phone that can be exchanged for a financial discount or rebate when purchasing a product or service [MMA, 2007].

4.3.1.6.13 Greeting customers

Relationship managers and front office staff can greet customers with their proactive Behavior to contribute to improved and satisfactory customer relationships. Bose (2002) found that customers are greeted personally by the staffs as part of customer relationship management. Saviga Unhanandana and Teerayout Wattanasupachoke (2012) referred to the techniques including greeting and remembering customers’ names and profiles, giving advice and friendliness, facilitating major customers with special services, etc.

4.3.1.6.14 Advising customers

As part of relationship marketing, employees give advice (Saviga Unhanandana and Teerayout Wattanasupachoke, 2012). Annual Report (2012–13) of the Department of Telecommunications, India highlighted that mobile telecom employees need to be committed to provide timely support and advice to their customers. From the European Mobile Industry Observations (2011), it is known that mobile operators provide advice and raise awareness regarding the safe use of mobile communications by children and support to fight against illegal content on mobiles.

4.3.1.6.15 Customized services

Customer service is one of the organizational processes which companies perform considering the growing competition and for attracting entrepreneurial opportunities for increasing profitability and better access to the market and increasing the customer satisfaction and loyalty level (Calif, 1987).

In a study, Pine II (1992) found that firms talk to individual customers to determine the precise offering that best serves the customer’s needs through personalized marketing and personal marketing orientation.

4.3.2 Internal Marketing

From the findings of many prominent research works this is evident as a common phenomenon that marketing is aimed to satisfy customers with a view to achieve competitive advantage. However, without effective pool of resourceful employees a business organization

is a ship in the middle of the rough ocean without sailors. It is, therefore, internal marketing is aimed at the attraction, retention, and motivation of “service-minded”, “customer-conscious” employees to aid the perceived service quality and effective external marketing of the enterprise as a way to competitive advantage (Varey & Lewis, 2000).

Hence, ‘Internal Marketing’ must precede ‘External Marketing’ because it makes no sense to promise excellent service before the company’s staff is ready to provide it (Kotler, 2003). It is because to have satisfied customers the organization must also have satisfied employees (George, 1977). Satisfied employees are a precondition for satisfied customers. Rosenblunth and Peters (1992 in Ewing & Caruana, 1999) go even further and say that the needs of the customer should come second to those of employees, as customer needs will only be successfully met after those of employees have been satisfactorily met.

4.3.2.1 Objectives of Internal Marketing

Stauss (1990) discusses the objectives and instruments of internal marketing and concludes that the objective of internal marketing is to get motivated and customer oriented personnel. The purpose of internal marketing is to motivate employees toward service-mindedness and customer oriented performance by an active marketing-like approach, where a variety of activities are used internally in an active and coordinated way (Grönroos, 1990 in Dunne & Barnes, 2000).

According to Ewing & Caruana (1999), the main objective of the internal marketing function is to obtain motivated and customer conscious personnel at every level, since the internal marketing concept holds that the organization’s personnel are the first market of a company. In other words, obtaining motivated and customer conscious personnel at every level (Ewing & Caruana (1999) is the objective of internal marketing which is not limited to the ‘front-line’ customer service staff alone (De Bussy et al., 2003). Even the employees who do not interact directly with customers may impact upon perceived service quality because they directly influence the service providers (George, 1990 in De Bussy et al., 2003).

Objectives of internal marketing are defined in internal and external market (Snoj, Mumel, 1998., Franjic, Šverko 2000.) There are three basic objectives of internal marketing (Bašic, 2008.): the first objective is related to internal market and it comprises investments in employees so that they feel they belong to the company, understand the vision of the company and its strategic objectives and how they will be realized. The second and third objective are related to external market and they refer to investments in customers geared at developing good long-term business relations and reaching competitive advantages, which is the basic premise for survival of the company in the market struggle. Additional objectives of internal marketing are employee motivation (Hay 1999.), an increase of employee satisfaction (Lings, 1999.), maximizing employee efficiency (Thomson and Whitwell, 1993.), harmonizing employee relations (Snoj, 1998), and keeping quality personnel (Green, Walls and Schrest, 1994.).

The objectives of internal marketing initiatives are: (1) to help employees understand and accept the importance of the interactions with the customer and their responsibility for the total quality and the interactive marketing performance of the firm; (2) to help employees understand and accept the mission, strategies, goals, services, systems and external campaigns of the firm; (3) to continually motivate the employees and inform them about new concepts, goods, services and external campaigns, as well as economic results; and (4) to attract and keep good employees (Compton et al., 1987 in Dunne & Barnes, 2000)

According to Arndt (1979 in Varey & Lewis, 1999), there are three major objectives for internal marketing which are: (1) the dissemination of information to and from all internal groups involved in or affected by the marketing activities, for the efficient implementation of marketing decisions; (2) the development of competence, especially important where “the organization is the product” (i.e. in service business); and (3) the development and maintenance of incentive and motivation systems which reward marketing performance.

While as per MacStravic (1985 in Dunne & Barnes, 2000), two primary objectives of internal marketing are: (1) to complement external strategic marketing efforts through the facilitation of personal interaction between staff and internal clients for encouraging customer attraction and satisfaction; (2) to develop and maintain motivated and satisfied work force that contributes to the organizations external and strategic marketing objectives, as well as to quality, productivity and efficiency.

Internal Marketing has a role in reducing conflict between the functional groups of the corporation by eroding barriers through improved sharing of information and alignment of objectives around external customer satisfaction and marketing principles (Varey, 2001).

4.3.2.2 Definitions of Internal Marketing

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The internal marketing concept holds that an organization’s internal market of employees can be influenced most effectively and hence motivated to customer consciousness, market orientation and sales mindedness by a marketing-like internal approach and by applying marketing like activities internally (Grönroos, 1982). Such activities include management support, staff welfare, training, information support and technical assistance (Grönroos, 2004). Internal Marketing is about the interaction within the company and the idea that the employees are the company’s first, internal market. Each employee at every level within the company knows about the operation, its activities and processes (Grönroos, 2004).

According to Winter, J. (1985), internal marketing is aligning, educating and motivating staff towards institutional objectives the process by which personnel understand and recognize not only the value of the program but their place in it.

Johnson, Scheuing, and Gaida (1986) define internal marketing as a service firm’s efforts to provide all members of the organization with a clear understanding of the corporate mission and objectives and with the training, motivation, and evaluation to achieve the desired objectives.

Internal marketing is a marketing approach inside the company allowing this to conceive and promote ideas, projects or values useful for the company, to communicate by the dialogue with the employees so that they can express themselves, choose freely and after all facilitate their implication in the company (Michon, 1988).

Stauss and Schultz (1990) suggest that internal marketing refers to the management of exchange processes with internal members and assert that one of the challenges of internal marketing is to generate information about these things of value that are exchanged specifically what the employee seeks from the job, what they are prepared to give up to get it and what competitors are offering in terms of employment.

Internal marketing is considered to be the process of creating market conditions within the Organization to ensure that internal customers' wants and needs are met (Bekkers and Van Haastrecht, 1993).

Internal marketing is the promoting of the firm and its product(s) to the firm's employees and for this strategy to be successful top level management must fully embrace it. Internal marketing means applying the philosophy and practices of marketing to the people who serve the external customers so that the best possible people can be employed and retained and they will do the best work possible. More specifically, internal marketing is viewing employees as internal customers, jobs as internal products, and endeavoring to design these products to meet the needs of these customers better (Greene et al., 1994).

Internal marketing is the application of marketing, human resources management, and allied theories, techniques, and principles to motivate, mobilize, co-opt, and manage employees at all levels of the organization to continuously improve the way they serve external customers and each other (Joseph, 1996).

Internal Marketing is viewed either as a concept, a philosophy or a management practice, as either relating to human resources management, services marketing or change management (Lings; Brooks, 1998).

According to Bowen & Johnston (1999), internal marketing is looking at and focuses on the internal relationships, between the different levels of personnel in an organization, and how these influence the service quality to the external customers. In the concept of internal marketing the employees are given the expression as internal customers.

Internal marketing is the planned use of communication actions to systematically influence the knowledge, attitudes and behaviors of current employees (Stauss and Hoffman, 2000).

Varey, R.J. and Lewis, B.R, (2000) defined internal marketing as attracting, developing, motivating and retaining qualified employees through job - products that satisfy their needs. Internal marketing is the philosophy of treating employees as customers - indeed, "wooing" employees - and is the strategy of shaping job - products to fit human needs.

According to Richard J. Valley and Barbara R. Lewis (2000: 176, 195) internal marketing includes attracting, developing, motivating and retaining qualified employees through job products that satisfy their needs. Internal marketing can be seen as a philosophy of treating employees as internal customers and it is the strategy of shaping job products to fit human wants.

Internal marketing is a planned effort using a marketing-like approach directed at motivating employees, for implementing and integrating organizational strategies towards customer orientation (Ahmed & Rafiq, 2004)

4.3.2.3 Essentials of Internal Marketing

Berry et al. (1991) identified seven basic components of Internal Marketing through the following model.

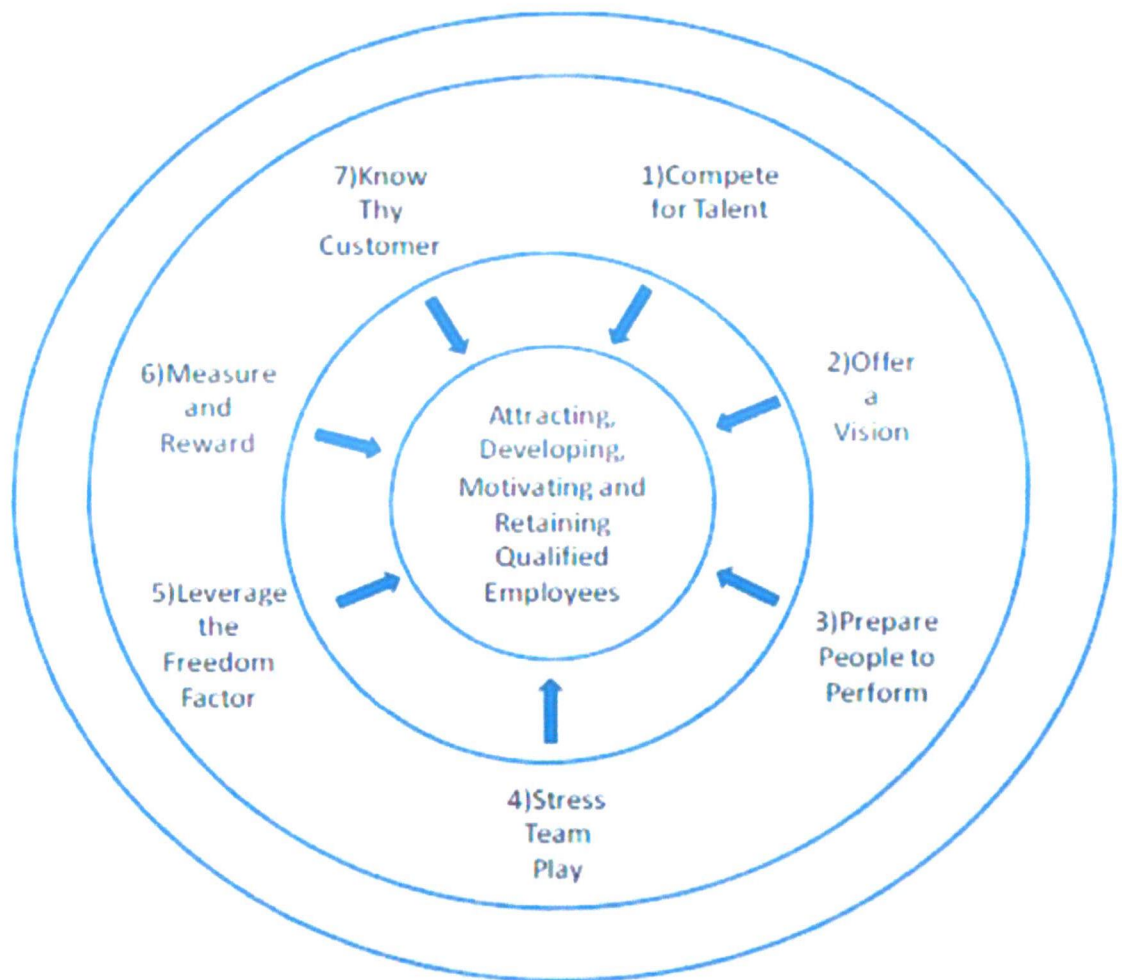


Figure 4.12: Essentials of Internal Marketing. (Source: Berry et al., 1991, p. 152)

The components of the model are as follows:

- i. **Compete for talent** – to hire the most competent employees in order to compete for the customers
- ii. **Offer a vision** – to the employees.
- iii. **Prepare people (i.e., employees) to perform** – and market the service through education and skills development.
- iv. **Stress team play** – to make everyone feel that they are working for each other and that they are not competing with each other to provide a good external service.
- v. **Leverage the freedom factor** - by empowering the employees through the delegation of authorities and responsibilities in their work.
- vi. **Measure and reward** – to achieve a performance culture within the company
- vii. **Know the customers** – by understanding, what they need and want.

The essentials of Internal Marketing have also been revealed from the following studies:

Paraskevas (2001) affirms that in an ideal working environment, internal service encounters would result in successful interdepartmental relationships. Several important components for implementing an internal marketing process require attention: “management support, training, internal communications, personnel administration, and external activities” (George, 1990).

Bansal, Mendelson, and Sharma (2001) promoted practice with the suggestion that internal marketing includes six points as follows: (1) employment assurance; (2) broad training; (3) abundant salary determined according to organizational performance; (4) information sharing; (5) employee empowerment, and (6) reducing differences in rank.

Referring to the seven items classified by Gronroo (1990), the Australian scholars Conduit and Mavondo (2001) categorized the internal marketing activity into five perspectives, which include education and training, management support, internal communication, external communication and human resource management and so on.

Liou & Chen (2001) classified internal marketing into seven perspectives such as life development, work environment, welfare and salary, individual condition, internal communication, decision participation and service training. Hu (2003) extracted six perspectives from internal marketing; including work environment, individual development, internal communication, empathy, salary, management empowerment, education and training.

Kotler's theory on internal marketing (2008) has been broken down to look at the following four components more closely: i) hiring, training and motivating employees; ii) all marketing functions must work together and be coordinated from the customer's point of view; iii) there must be vertical alignment with senior management; and iv) horizontal alignment with other departments.

4.3.2.4 Dimensions of Internal Marketing

To understand why frontline employees engage in certain behaviors six dimensions of internal marketing have been described by Bansal et al. (2001).

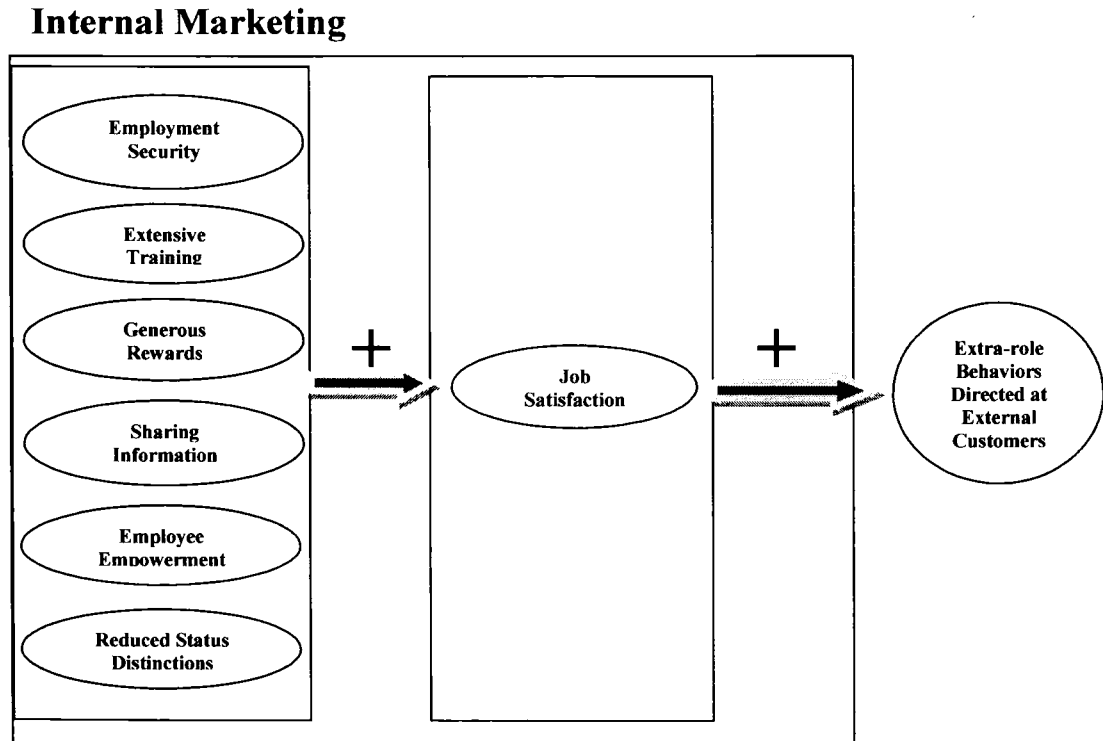


Figure 4.13: *Internal Marketing*, Modified version of Bansal, Mendelson, Sharma (2001)

4.3.2.4.1 Employment Security is concerned with providing frontline employees reasonable assurance that they will not be laid off, even during difficult times. Rather than layoffs, the organization will engage in transfers, retraining or job rotation. In other words, organizations that provide employment security will be more committed to their workforce because managers have realized that investing time and resources in frontline employees and then terminating their contracts provides competitors with well-trained autonomous team players (Dessler, 1999).

4.3.2.4.2 Extensive Training is important for frontline employees to ensure the customer of high service quality (Pfeffer, 1995) because investment in training programs ensures that frontline employees make the most of any possibilities that surface from customer interactions (MacCauley & Kuhnert, 1992).

4.3.2.4.3 Generous Rewards in the form of bonuses, salaries, and preferential stock options strengthen employee commitment to the organization because the more money that is invested in the frontline employees, the more the frontline employees provide excellent customer service (Luthans & Stajkovic, 1999).

4.3.2.4.4 Sharing Information to create a high trust organization where people are all-for-one and one-for-all, without having any secret (Fishman, 1996). The basic point is that the organization needs to build a sense of trust between its frontline employees and managers by openly sharing information on the organization's strategy, financial performance, and expenditures (Walton, 1985). The potential benefit of openly sharing information is enhancing frontline employees ability to provide customers with a better service and other colleagues with useful in-formation (Bansal et al., 2001).

4.3.2.4.5 Employee Empowerment entails that employees have the decision latitude to fix problems without any fear of being blamed if things go wrong; more importantly, employees can address these complaints without supervisory approval (Thompson, 1993) where rules and regulations are minimized, job responsibilities are broad, and processes are managed within a "decentralized, team oriented, and loose-knit structure" (Day, 1997, pp. 86). The general idea is that employee empowerment is a way to impact employee attitudes and behaviors that in turn will translate into a higher level of service provided to the customer (Goodale, Koerner, & Roney, 1997).

4.3.2.4.6 Reduced Status Distinctions to create a sound workplace in which all frontline employees are treated in a uniform manner so as to make them feel of equal value to the organization, more loyal, satisfied, and trusting of managers than those found in more traditionally structured and bureaucratic organizations (Bansal et al., 2001).

4.3.2.5 Importance of Internal Marketing

A good number of studies confirmed the importance of internal marketing. For example, Susan L Taylor & Robert M Conzenza (1997) discussed four different benefits for a company that stems from internal marketing.

- **Firstly** is the possibility of a decreasing employee's turnover rate, which may decrease the cost that is part of the recruitment process and training.
- **Secondly**, a proper internal marketing can increase the service quality, meaning that the employees are encouraged to improve the way they provide the service to the external customer.

- **Thirdly**, is a higher level of employee satisfaction, a motivation of the workers to be more engaged which in turn result in an increased customer satisfaction and loyalty and with that profitability for the company.
- **Lastly**, there is an improved ability to implement change in the organization. Internal marketing helps support and develop a culture where the need for change is understood and acknowledged.

Importance of Internal Marketing may be assumed from the findings of the following:

4.3.2.5.1 Job satisfaction and organizational/employee commitment: Internal marketing is important to organizations because it is related to employees' job satisfaction and organizational commitment (Chang & Chang, 2007; Farzad, Nahavandi, & Caruana, 2008; Kudo et al., 2006; Makanjee, Hartzer, & Uys, 2006; Sihombing & Gustam, 2007; Ting, 2010; Trimble, 2006).

4.3.2.5.1.1 Job satisfaction: Sasser and Arbeit (1976) argue that employees should be the first market of any service organization. This means that organizations must first seek to satisfy employees (as internal customers), in order to provide an atmosphere for effective marketing behavior (Ballantyne, 2000). Greene et al (1994) suggest that the practices of marketing, applied internally to the people who serve the external customer, will ensure that the employment offered meets the needs of those employed, and employees will then be motivated to meet the needs of customers. According to Heskett, Jones, Love-man, Sasser, and Schlesinger (1994), satisfied, loyal and productive employees create value. Employee satisfaction, in turn, results primarily from internal practices that enable employees to deliver results to the customers. Sasser and Arbeit (1976) asserted that firms' most critical productive resources are its workforce and suggested that services managers focus on satisfying and motivating their front line personnel by regarding jobs as principal products and employees as the most important customer. Moreover, Wildes (2005) provides evidence that increasing internal service quality given to workers resulted in a higher employee satisfaction, a reduced employee turnover, and an increase in employees' recommending their jobs to others. Similarly, Arnett, Laverie and McLane (2002) demonstrate that internal marketing contributed to both job satisfaction and pride in the organization, which both resulted in an increase in positive employee behavior, including well service, cooperation with other employees, and commitment to the organization.

4.3.2.5.1.2 Organizational/employee commitment: The major thrust of the internal marketing concept is to ensure that employees feel that management cares about them and their needs are met. If these are not met then the satisfaction of external customers is difficult, if they are met then employees become committed, co-operative, and enthusiastic about the organization (Ahmed et al., 2002; Ballantyne, 2003). The growing popularity of employee or employer branding is testimony to marketers' attempts to adapt tools and techniques used to motivate and engage customers, to secure the engagement and commitment of an internal audience (Simms, 2003). Major companies such as Unilever and Allied Domecq have started to develop internal employee/employer brand value as a platform to building their corporate brands (Simms, 2003).

4.3.2.5.2 Staff retention and the survival of their organizations: Furthermore, Chang and Chang (2009) indicate that managers need to recognize the importance of internal marketing for staff retention and the survival of their organizations as competitive pressure increases.

4.3.2.5.3 Addressing employee's needs for sound employee–customer relationship: Lo, Stalcup and Lee (2010) found that in order to build good relations with customers, organizations must address employee's needs firstly. Castellanos-Verdugo and Veerapermal (2009) suggest that a wide range of measures should be used by managers in order to develop and maintain employee–customer relationship quality.

4.3.2.5.4 Organizational performance: Turkoz and Akyol (2008) find a positive relationship between internal marketing and the dimensions of organizational performance, which indicated that a high level of internal marketing leads to a higher level of organizational performance, and a low level of internal marketing produces a lower level of organizational performance.

4.3.2.5.5 Employee empowerment: Internal marketing empowers employees and gives them accountability and responsibility. Zeithaml and Bitner (1996) stipulated that many organizations accept that in order to be responsive to customer needs, front-line staff need to be empowered to accommodate customer requests, and to recover on the spot when things go wrong.

4.3.2.5.6 Retention of competent employees: The loss of key employees, however, can have serious consequences for the companies (Michaud, 2002; Reichheld, 1996, p. 96; Stroh & Reilly, 1997). According to the U.S. Department of Labour, it costs a company one-third of a new employee's annual salary to replace an employee (Michaud, 2002; p. 36). Under these circumstances, it is important for companies to know how to retain competent employees.

Table 4.2: Prominent Research Findings on Importance of internal marketing

Blanchard and Bowel (1993)	"If you do not look after your people, they will not look after your customers."
Freiberg and Freiberg (1998)	"The way you treat your employees is the way they will treat your customers."
Albrecht (1992)	"The way your employees feel is ultimately the way your customers will feel."
Cannie and Caplin (1991)	"If you hope to take wonderful care of customers, first you need to take wonderful care of the caretakers."

Source: Literature Survey

4.3.2.6 Perspectives of Internal Marketing

4.3.2.6.1 Internal Marketing as a synonym of Human Resource Management (HRM)

Internal Marketing is believed to be useful in the management of the organization's human resources based on a marketing perspective (George, 1990). Critics suggest however, that internal marketing's claim to any relationship with HRM has yet to be clearly established, as internal marketing is little more than a 'new label' for HRM (Money & Foreman, 1996). In contrast, Glassman & McAfee (1992) emphasize that the fundamental role of internal marketing is integrating the marketing functions and the HRM functions to the extent that HRM becomes a resource tool for the marketing function in order to guarantee effective organizational behavior.

Collins and Payne (1991) affirm that internal marketing relates to all function within the organization, but it is vitally concerned with the management of human resources and describes the application of marketing internally in the organization where every department and every person inside an organization is both a supplier and a customer.

According to them, a market-oriented human resources manager is more likely to make an impact on the success of a company, considering it tends to be more effective in both demonstrating the relevance of human resources to all the company, helping other managers to increase their productivity. Marketing provides an “action framework and a practical approach by which the human resource manager can offer effective solutions to key corporate problems” (Collins and Payne, 1991).

Rafiq and Ahmed (1993) identify the main elements of HRM in internal marketing as: employee motivation and satisfaction; customer orientation and customer satisfaction; inter-functional coordination and integration; marketing-like approach; and implementation of specific corporate or functional strategies.

According to Bansal et al. (2001) some relevant aspects of human resources management practices in achieving internal customer commitment, job satisfaction, and trust are relevant to the success of internal marketing management.

Although human resource is responsible for recruiting and training employees and traditionally may be seen as responsible for internal marketing, communications between human resource and marketing functions is vital (Little & Little, 2009). Without input from marketing, who know ‘what’ should be delivered to the customer and what ‘be the brand’ actually means for employees, human resources may be unable to recruit or provide the right skills for the Organization (the ‘who’ component) (Little & Little, 2009).

Some researchers think that the important role of internal marketing is to foster effective human resource management (Ewing & Caruana, 1999), which implies the subordinate position of internal marketing in relation to HRM. Human resource experts, however, argue that they are already charged with this responsibility. Finally, there are researchers that do not find internal marketing necessary for organizations that have a good HR practice. For example, Tansuhaj et al. (1991 in Foreman & Money, 1995) suggest that organizations do not need to provide IM programs if they pay attention to employee needs and base management decisions on those needs. In addition, Foreman and Money (1995) question whether it is always necessary to treat all employees as customers. If the answer is no, which depends on the nature of the organization, in their opinion there is no sure case for internal marketing.

4.3.2.6.2 Internal Marketing as a usage of marketing techniques in internal marketplace
Internal Marketing is the application of persuasion strategies to convince people in-house that they are vital links in the production-customer satisfaction chain (Reardon & Enis, 1990). Internal Marketing is the development of marketing program aimed at the internal marketplace in the company, by using the same basic structures used for external marketing (Piercy & Morgan, 1991 in Rafiq & Ahmed, 1993). Internal Marketing is the spreading of the responsibility for all marketing activity across all functions of the organization, and the proactive application of marketing principles to ‘selling the staff’ on their role in providing customer satisfaction within a supportive organizational environment (Gilmore & Carson, 1995 in Varey, 2001). Internal Marketing encompasses internal market research and segmentation, internal product policy, internal pricing, internal sales and distribution, and internal communication and promotion (Ozretić Došen, 2004).

4.3.2.6.3 Internal Marketing for the purpose of satisfied external customers

Internal Marketing is a strategic approach to challenging both the attitudes and behavior of staff towards an understanding of the centrality of the customer (Ballantyne, 2000) while as a

management approach internal marketing enables and motivates all members of the corporation to examine their own role and communication competence and to adopt a customer consciousness and service orientation (which requires an interest in the problems of customers), whether front-line service performers or back-office service support workers, to meet the needs of external customers through a commitment to the corporation's goals (Varey, 2001).

4.3.2.6.4 Internal Marketing as a source of competitive advantage

Internal Marketing is aimed at the attraction, retention, and motivation of "serviceminded", "customer-conscious" employees to aid the perceived service quality and effective external marketing of the enterprise as a way to competitive advantage (Hales, 1994 in Varey & Lewis, 1999). Internal Marketing is any form of marketing within an organization which focuses staff attention on the internal activities that need to be changed in order to enhance external market place performance (Ballantyne et al., 1995 in Ballantyne, 2000).

4.3.2.7 Internal Marketing Mix

Table 4.3: Four elements of internal marketing (4Ps)

Product (P)	<ul style="list-style-type: none"> • Programs, policies and services (education, informing) – everything that has to be planned and continuously monitored that is oriented directly to employees. • Research, planning and education are part of product of internal marketing.
Price (P)	<ul style="list-style-type: none"> • Price or cost of internal programs, policies or services. • Cost and benefit ratio of changes has to be defined.
Place (P)	<ul style="list-style-type: none"> • Place/location of program implementation, policy, services, responsibility for implementation and submission of programs, policies and services
Promotion (P)	<ul style="list-style-type: none"> • Internal sale, internal public relations, • internal advertising, internal incentives and disincentives, internal website

Source: Literature Survey (Janicic 1990, Flipo, 1986, Devetak 1999, Bašic, 2008)

4.3.2.7.1 Product: Products in internal marketing are jobs that are necessary for changing and influencing on employees' attitudes and behaviors. So, needs and conditions of employees must be considered in planning of jobs (Ahmed and Rafiq, 1995). Berry and Parasuraman (1991) also describe internal marketing as the process of "attracting, developing, motivating, and retaining qualified employees through job-products that satisfy their needs. Thus, from this viewpoint, product in internal marketing is equivalent to job products.

4.3.2.7.2 Price: Element of price in the internal context of organization could be considered as an equivalent of employees' received values from the organization instead of their paid costs. Now it should be observed that employees receive what value against the paid cost. Perhaps new tasks provide an opportunity for increasing of the salary or receiving of reward or provide the possibility of job promotion in the organization for the person (Ahmed and Rafiq, 1995).

4.3.2.7.3 Place: This element in internal marketing is equivalent to the job place and environment of the organization that includes cultural, symbolic and metaphorical aspects of the organization in addition to physical aspects of the working environment. In such environment employees learn loyalty and following from the organization (Smirich, 1983 and Turner, 1986).

4.3.2.7.4 Promotion: This is equal to communications that could be regarded as an effective tool in increasing of employees' awareness from what should they do, when they do and how exactly do that. In fact this factor could demonstrate the role of employees in execution of the organization's strategy (Smirich, 1983 and Turner, 1986). Several authors claim that communication with company employees is the key component in the creation of relations with employees seen as internal customers (Gronroos, 2000, Rafiq and Ahmed, 2000).

4.3.2.8 Sustainable Development through Internal Marketing

In order to create a sustainable competitive advantage, today's organizations develop and maintain human capital such as the skills, knowledge and positive attitudes of the employees which is/are valuable, rare and hardly capable of being imitated (Hitt et al., 2006).

Through internal marketing and marketing communication companies implement their strategic values and communicate their commitment to sustainability to their customers, employees, supply networks and other business partners (Polonsky and Ottman 1998).

Through the following figure, Berry (1981) argue that treating the employees as internal customers, presenting the job as product to them and using marketing techniques inside the organization bring employee satisfaction (internal marketing). Thus, employee satisfaction causes services to be rendered to customers with better quality and as a result, bring about the creation of sustainable competitive advantage inside an organization (Ibid).

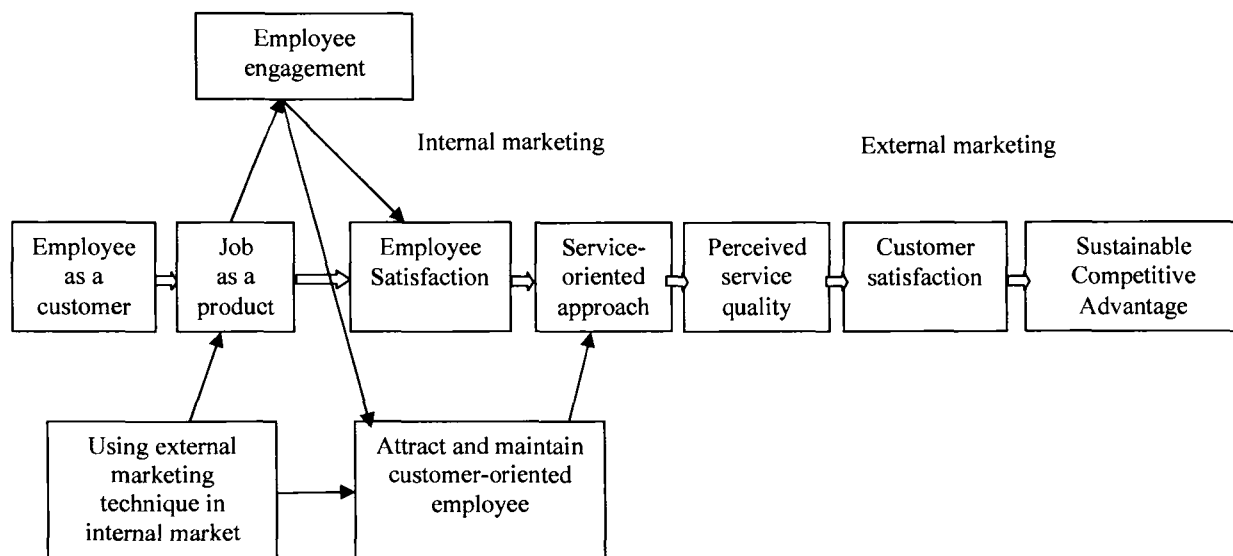


Figure 4.14: Relationship between Internal Marketing and Sustainable Competitive Advantage (Source: Berry, 1981)

Similarly in their study, Bhattacharya, Sen, Korschun (2007) advocated sustainable development by enhancing employee satisfaction.

Since Sustainability is linked to the concept of three pillars - People, Profit, Planet, in the context of internal marketing, this would translate into a triple advantage of employee satisfaction, long-term sustainable profit and a durable planet with less pollution (Dumitrescu et al, 2012)

4.5.2.9 Internal Marketing Factors that Affect Sustainable Development of the Mobile Telecom Industry

4.5.2.9.1 Employee welfare

Employee welfare measures including social security, extending the application of the provident fund, gratuity and unemployment insurance, good housing, health and family care, canteen, educational and training facilities and provision of welfare activities, etc. (Report of National Commission on Labour, Government of India, 2002). Employees are more satisfied when managers try to solve customers' problems instead of executing rules and regulations (Gronroos 2007). Seithi (1981) advocated employee services; training, counseling, granting allowances for the welfare of employees. Kang (2001) said that welfare and communication, recognition of systematic importance, and the consistency of payment have correlated with welfare satisfaction. The higher welfare satisfaction is, the higher the correlation with the work satisfaction and turnover.

Some of the remarkable employee welfare measures taken by the Axiata Group are as follows:

4.5.2.9.1.1 Respect for the Basic Human Rights of Employees: Robi maintains that its suppliers respect the basic human rights of employees as defined in the international conventions of the United Nations (UN), the International Labour Organization (ILO), the Organization for Economic Cooperation and Development (OECD) and the UN Global Compact Initiative. Robi fully supports the ILO's declaration of elimination of forced labour, ban on discrimination, freedom of association and the right to collective negotiation. Robi also expects its suppliers to abide by the same (Axiata Sustainability Report, 2012).

4.5.2.9.1.2 Prohibition of Child Labour: Robi strictly follows the ILO's Declaration on Fundamental Principles and Rights at work (1998) and has a zero tolerance policy on any kind of child labour in any form of employment and has made its partners comply with all the recommendations. Robi suppliers are also not allowed to employ workers under the age of 15 years (Axiata Sustainability Report, 2012).

4.5.2.9.1.3 Health and Safety of Employees: Protecting the health and safety of employees at the workplace is of high priority for Robi. In line with this, Robi has ensured that all its suppliers maintain health and safety policies and practice the same in their operations. Suppliers of Robi are also to provide a safe and healthy work environment in accordance with international and national standards, laws, rules and regulations (Axiata Sustainability Report, 2012).

Airtel reinforced its commitment to ensure women employees health and safety by organizing Self-defense training workshops for women, extended maternity leave of up to 6 months and the provision of flexible work options on return from maternity leave, updation of travel policy that upholds women's security and comfort under all circumstances. For example, safe and flexible early morning or late night travels along with the provision of safe and guarded accommodation during outstation travel (Airtel Sustainability Report, 2012). Airtel is committed to health and safety of employees through the policies like Health and Safety Policy, Health Checkup policy and HIV AIDS policy which provide a comprehensive framework for effective investment in health promotion and disease prevention activities at all levels of the business. The company is now in the process of aligning its safety approach and systems to the leading international practice standards such as the Occupational Health

and Safety Management Standard OSHAS18001 and ISO 31001 for risk management. Looking at the health and safety risks involved in field operations its prioritized its cable laying process within cities for OSHAS18001 certification. Airtel aims to operate with no new cases of occupational illnesses, as well as improve and maintain the wellbeing of its employees and contractors. Airtel's long term strategic goal continues to be to promote a healthy Organization to increase its performance and improve the work life quality and safety of the employees. In the near future Airtel plans to provide a more structured approach for employee involvement in the sphere of sustainability issues. Also, to engage more of its people in the realm of sustainability, Airtel has planned to incorporate sustainability centric Key Performance Indicators (KPIs) into its employees' appraisals. It has also extended its awareness programs to go beyond fostering a safe and healthy workforce, to wider health issues which impact its people inside and outside the workplace, including fatigue, weight management, smoking, stress or substance abuse (*ibid*).

4.5.2.9.2 Employees as resources

According to Argenti (1998), the goals of internal marketing is/are to create the sense that employees are an important asset to the organization. Employees become a critical resource with a vital role in long-term success (Dunne & Barnes, 2000), through their involvement and contribution in serving customers and achieving customers' satisfaction. The proportion of customer-oriented employees in the organization's workforce brings a significant difference to its competitive position in the marketplace (Varey, 2001).

Companies that embrace internal marketing understand that taking care of customers' means taking care of employees (Little & Little, 2009). They realize that their employees are important because they are responsible for delivering quality products and services to their customers (Little & Little, 2009) and sustained delivery of products and services that exceeds customers' expectations will develop customer loyalty, as they become highly satisfied or even delighted (Kotler, 2008, Little & Little, 2009).

Axiata Group, for example, considers its employees as its greatest assets in achieving its sustainability aims and corporate vision. As part of building a 'Talent Factory', Axiata has taken various initiatives covering career development, performance management and leadership growth programs to ensure its employees have every opportunity to develop their potential. These programs are continuously being improved and benchmarked against global best practices and standards (Axiata Sustainability Report, 2012).

The renowned mobile telecom company Vodafone invested over £55 million for employee training in 2010/11 (Vodafone Sustainability Report, 2010-11).

Dortok (2005) explains, internal communications "need to be undertaken strategically to encourage employees to a 'value adding' attitude". Lings (2004) and Joseph (1996) considered that internal marketing meant applying marketing and human resource management to motivate and manage employees in the organization. Collins, Payne (1991) advocates internal marketing as a marketing oriented human resource management by applying marketing internally in the organization.

4.5.2.9.2.1 Exit interview: To retain the resourceful employees many organizations adopt exit interview. In the words of Flamholtz. E. G (2003), the exit interview enables not only an improved understanding of the reasons why employees leave, but provides opportunities for effective communication in several additional areas as well. These include for example:

clarification of complaints against employees being released; sharing of information about benefits, including maintenance of medical insurance, pension programs, and eligibility for unemployment compensation; promotion of positive relations with former employees; discussion of policies on references and eligibility for rehire; and identification of problem areas that require corrective measures.

Garretson, P., & Teel, K. S. (1992) pointed that the two major elements of the exit interview are discovery and communication. Neither the discovery of an employee's motivation for vacating a position nor the sharing of this information with management are easy tasks. A commitment of sufficient time and appropriate staff for dialogue, analysis, and feedback is essential. Staff understanding and cooperation are also critical so that the exit interview is viewed as more than another mandatory procedure that must be completed before a final paycheck is issued.

The study of Lefkowitz, J., & Katz, M. L. (2006) reveals that 'Exit interviews' in an organization should be conducted by one individual, preferably a personnel professional who is knowledgeable about the work of the library, who is effective in a private and face-to-face interview setting, and who is trusted by the employees. Credibility and approachability are essential qualities. In some large organizations it may be necessary to share this responsibility by assigning one interviewer to each major employee group. In some small organizations, where a personnel professional is not on the staff, contracting with an outside office or individual may be appropriate.

4.5.2.9.3 Training and Development

In the service industry like mobile telecom, it is widely reported that employees who do not possess the requisite job and interpersonal skills fail to provide a high level of service in dealing with customers' complaints (Boshoff and Allen, 2000; Yavas et al., 2003; Lytle and Timmermann, 2006). Bitner et al. (1990) proposed that nearly half of all unsatisfactory service encounters are the result of employees who lack training, intention or skills to deal well with complaining customers. Boshoff and Allen (2000) suggest that while putting the right people in the jobs and empowering them is important for a consistently high level of service, they must be trained to deal with situations that arise.

Rafiq and Ahmed (2000), highlighted the key role of training in customer orientation and customer satisfaction. They explained that employees also need the right type and level of training to perform their jobs. This can help to reduce ambiguity surrounding their role and help employees to meet the needs of customers more effectively (Rafiq and Ahmed, 2000; Marketing Teacher LTD 2000).

It is believed that internal marketing is comprised of efforts within organizations to train and encourage employees to provide better services (Herrell and Fors, 1992; Cooper and Cronin, 2006).

Descriptions of internal marketing practices emphasize the importance of training because frontline employees need the requisite knowledge and ability to recognize and solve problems and to ensure high-quality products and services (Bansal et al., 2001)

Berry and Parasuraman (1992) argue that training helps to attract, develop, motivate and retain superior employees. It also heightens employee morale and commitment. Kale (2007) notes: training can be used as a means of creating shared perceptions about the company's

vision and goals. Training investment signals to the employee that the company cares for them and is willing to invest in their growth. Particularly in turbulent times, training can act as catalyst in reducing employee anxiety and promote acceptance of new roles and expectations. Training also demonstrates to potential employees and other companies that the organization is a great place to work and do business.

Gummersson (1991) emphasized that inadequately trained front-line staff would find it difficult to perform the task effectively. Varey (2001) views internal marketing as a continuous training to enhance the service providers' knowledge of their services and capabilities, their awareness of market opportunities and their marketing skills.

New employees (through induction) and existing employees need ongoing training and refreshment of: i) the Organization's brand values and strategy (Kotler, 2008, Little & Little, 2009); ii) functional or 'soft skills' (Kotler, 2008; Little & Little, 2009) and iii) the process and systems for collection and dissemination of marketing intelligence (Kotler, 2008). It is because:

4.5.2.9.3.1) employees need to 'be the brand' (Little & Little, 2009) when they interact with customers, so they need to be educated about what the brand means and what the customer expects from the brand (Kotler, 2008; Little & Little, 2009).

4.5.2.9.3.2) employees also need to be trained to deliver the 'functional demands' of the customer, which are considered 'soft skills' and go beyond what the customer expects the product or service to do for them (Kotler, 2008; Little & Little, 2009).

4.5.2.9.3.3) all employees need to be trained to capture marketing intelligence and understand the organization's knowledge management processes and systems, so the information can be disseminated throughout the Organization (Kotler, 2008; Schlosser & McNaughton, 2007).

Empowerment is an effective part of employee development (Proctor & Doukakis, 2003), which means authorizing and enabling employees to act, behave, think and make their decision to get the job faster and easy to make (Kaner et al., 2007). Empowerment has been described as a venue to enable employees make decisions (Bowen & Lawler, 1992) and as a personal experience where individuals take responsibility for their own actions (Pastor, 1996). Employee empowerment is an essential way to impact employee attitudes and behaviors and, hence, the level of service provided to the external customer" (Bansal et al., 2001)

Tschohl, (1998) found that service providers could give good service through empowerment to the front-line staff to enhance service quality. Empirical research has shown a negative relationship between empowerment and job stress, suggesting that as employees are more empowered their job stress decreases (Joiner and Bartram, 2004).

In early 2012, Axiata launched its Axiata Young Talent Program (AYTP), a developmental scholarship for young Malaysians, going beyond academics (Axiata Sustainability Report, 2012). The 'Mobility Policy for Talent Development' program has given Axiata a far-reaching regional footprint, cross-company and cross-market exposure by integrating its talent development and leadership building programs. As of end 2012, there was a 14% increase in the number of employees on cross-company long term assignments making a total of 24 to date. In addition to this, there were eight new short term assignments and another

seven completed assignments for the year. It is worthy to mention that in 2012, the Group's Employee Engagement Index, which measures how employees think, feel and act towards the organization, improved to reach 84%. This is significantly better than global telecommunications companies' ratings and is on par when benchmarked against global high performing companies (*ibid*).

For mentoring top talent the Airtel Management Board (AMB), has taken a very effective collaborative effort as part of which, senior leaders from across the country are paired with young managers hired from the top B-schools of the country, based on shared interests. The discussions range from topics like downloading apps, fashion trends, and the latest gadgets, to hard business strategies. Today, with over 20 active pairs, this program has helped senior management to master new skills in emerging fields and young managers to benefit from the experience of senior management (Airtel Sustainability Report, 2012).

At Airtel, a 70:20:10 principle is followed for employee development – where it is believed that 70% of development happens on the job, 20% through participation in cross-functional projects and the remaining 10% through classroom-based training programs. To ensure that every employee customizes his development plans based on his career aspirations, Airtel has developed a process of Development Action Plan (DAP) which provides an employee a platform to identify areas of strength and opportunities for development as per Airtel Leadership competency framework. There have been various initiatives undertaken to build employees' functional/behavioral capabilities and create a strong talent prospect for leadership and critical roles which include i) Building innovation capability within emerging businesses like Airtel Money, mHealth and mEducation, ii) Young Leaders (YL) program to create a talent pool to achieve superior business results and Organizational growth. Under YL program every year top talent is identified from premier business schools in the country and trained intensively for 6 months before being assigned a challenging role. iii) Leader Acceleration Program (LeAP) to groom talent for leadership roles in middle and top management through a mix of workshops and action learning activities. iv) iSeek learning platform: To provide easily accessible e-learning to all Airtel employees, and empower them in their endeavor to develop themselves and v) IRIS to serve as a centralized facility for all training and workshops (*ibid*).

Under Airtel's 'Talent Development' program', each employee received an average of 16 hours of training and over 5000 hours of Executive Management training including training has already been organized by top business schools like INSEAD, ISB Hyderabad and IIM Ahmedabad. In this regard, around 60,000 hours of leadership and competence-building training has also been provided in over 60 programs (*ibid*).

It has also been found that Vodafone is committed to the United Nations' Women's Empowerment Principles and takes part in the GSMA mWomen programme, a public – private partnership championed by Cherie Blair and Hilary Clinton that aims to bring 150 million more mobile connections to women over the next three years (Vodafone Sustainability Report, 2010-11).

4.5.2.9.4 Good Communication

A healthy manager – employee relationship is built on trust, caring mutual appreciation, two-ways respect and ongoing communication (Deeprise, 2003). Management should actively listen to their employees and learn what they know (Adair, 2009).

Open and two-way communication is the key to empower employees. Open communication helps employees across the organization to understand what is going on in the company (Case 2005). Communication up and down the organization is promoted by listening to each other (Johnston & Clark, 2008). Such internal communication is used to promote service mindset towards employees, enhance internal relationships, and support effective communication and feedback within the company. Internal marketing is also used to promote new products and services to employees before the commercial launch (Palmer, 2005; Gronroos, 2007; Kotler et al., 2009).

Organizations must give a serious consideration to improve the level of communication with employees to communicate its vision and missions and provide effective strategies to transfer knowledge and information, by using different methods such as team work discussion sessions and internal newsletters (Roberts-Lombard, 2010). An effective internal communication is very important tool for the internal marketing, it helps the management to ensure service delivery with high satisfactory level and build employee trust, respect and loyalty (Lovelock, 1999).

The study of internal communication is arguably one of the fastest growing areas within the field of communication, with a 25-30 percent growth rate in the past five years (Donaldson & Eyre, 2000). In fact, studies indicate that organizations are pointing to effective internal communication as an influential factor in business success (Cees, Berens, & Dijkstra, 2005; Holtz, 2004; Quirke, 2000).

Table 4.4: Internal Communication Matrix

Dimension	Level	Direction	Participants	Content
1. Internal Line Management Communication	Line Managers/ Supervisors	Predominantly Two Way	Line Managers-Employees	Employees Roles Personal Impact e.g., appraisal discussions, team briefings
2. Internal Team Peer Communication	Team Colleagues	Two Way	Employee-Employee	Team information, e.g., team task discussions
3. Internal Project Peer Communication	Project Group Colleagues	Two Way	Employee-Employee	Project information, e.g., project issues
4. Internal Corporate Communication	Strategic Managers/Top Management	Predominantly Two Way	Strategic Managers-All Employees	Organizational/Corporate issues, e.g., goals, objectives, new developments, activities and achievements

Source: Literature Survey (Welch & Jackson, 2007, p.185)

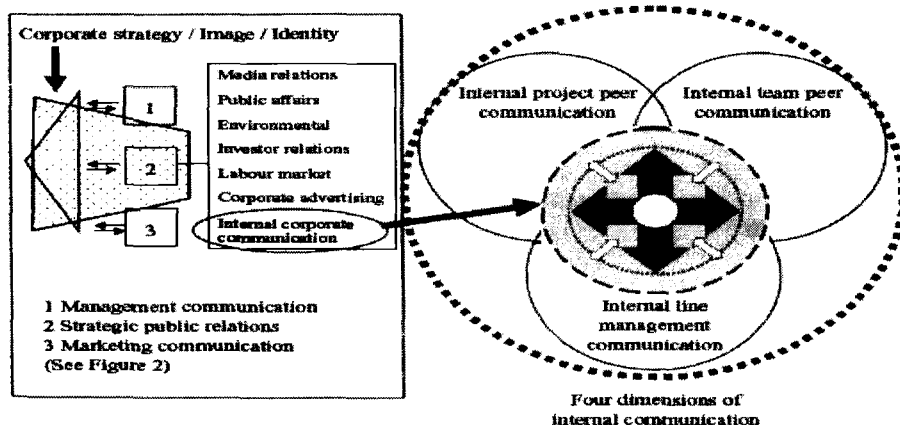


Figure 4.15: The position of internal corporate communication within integrated corporate communication (**Source:** Welch and Jackson, 2007: 192)

Welch and Jackson (2007) view internal communication from a stakeholder approach and suggest the function of internal communications through Internal Communication Matrix which has four dimensions: (1) internal line management, (2) internal team peer communication, (3) internal project peer communication and (4) internal corporate communication.

These four dimensions highlight the two-way relationship between employees and managers at all levels of the organization and the importance of internal communication to organizational success (Asif & Sargeant, 2000; Hargie, Tourish, & Wilson, 2002; Quirke, 2000; Tourish & Hargie, 2000; Zetterquist & Quirke, 2007) with effective internal communication leading to improved productivity, reduced absenteeism, increased levels of innovation, higher quality of services and products and reduced costs (Argenti, 2007; Clampitt & Downs, 1993).

Under the Employee Communication Forum (ECF) Airtel provides a platform called ‘the quarterly Talk Time and Town Hall’ for its management to share business achievements and plans. Several mechanisms are used, including Skip Level meetings, informal coffee sessions and floor walks with senior leadership, facilitating more personal interactions (Airtel Sustainability Report, 2012). Interactive electronic forums in Airtel include intranet communities, periodic intranet surveys, voice and intranet blogs and regular communication mailers. This forum has a sustained top management commitment. For example, on the voice blog, the CEO frequently leaves a blog for the employees on diverse topics (*ibid*).

4.5.2.9.5 Performance based Pay

There is a strong tie or link between employee compensation/reward and service delivery performance (Parasuraman, 1987; Bamford and Xystouri, 2005; Lytle and Timmermann, 2006). Rewards are not only important in incentivizing employees to deliver high quality services, they are also important in motivating them when dealing with customer complaints (Bowen and Johnston, 1999; Yavas et al., 2003).

Incentives and reward systems have to be appropriate and fair because they can affect an employee’s level of job satisfaction and his or her retention (Arnett et al., 2002). Kale (2007) also advises that rewards should be geared to sustaining employee commitment.

Most studies often define job satisfaction in terms of extrinsic and intrinsic types of rewards (Prothero et al., 1999). Extrinsic factors contain external reward (McCormick & Illgen, 1985), which includes the payoff, such as money, that a person receives from others for performing a particular task. Such payoff comes from pleasing others (Kinicki & Williams, 2003: 379). It is also considered as ‘investments’ that organizations use to help strengthen the ties between their employees and the organizations (Behn, 1995). According to Romzek (1990), these investments include salary, performance bonuses, opportunities for career development and other fringe benefits as vacation, sick leave, medical plan and retirement benefits.

Pay plan are typically used to energize, direct, or control employee behavior. Most employees compare their own pay with that of others, especially those in the same job. (Noe, Hollenbeck, Gerhart, & Wright, 2006). Rewarding employees based on their performance enhances firm’s performance (Lawler, 2003). Higher pay is a way of communicating the value of employees to the organization. This way, “higher-than-industry-average salaries and

pay partially contingent on performance will be positively associated with job satisfaction, loyalty to the firm, and trust in management (Bansal et al., 2001, p. 69).

A number of studies indicated that if pay is tied to performance, the employee produces a higher quality and quantity of work (Lawler, 2000). Evidence indicates that incentives work (Banker, Lee, Potter, and Srinivasan, 1996). A quantitative review of 39 studies containing 47 relationships revealed that financial incentives were not related to performance quality, but were related fairly strongly to performance quantity (Jenkins, Mitra, Gupta and Shaw, 1998).

Early evidence linking pay and performance is found in the code of Hammurabi, written in the 18th century B. C., which documents the use of minimum wage, a fixed wage, and incentive rewards (Peach and Wren, 1992). However during the Middle Ages it was “Common knowledge” that workers would be productive only as long as they needed to be, perhaps working three days a week and spending the other four celebrating (Ivancevich, 2007).

The dawn of industrialization found capitalist seeking a way to use rewards to encourage productivity; the incentive wage. Incentive wages were supported by early economists on the basis of the “hungry man” theory. Adam Smith, (1776) modified this to develop the ‘economic man’ theory (Adam Smith, 1776). Instead of physiological needs, money becomes the motivator for work. Frederick W. Taylor built on this theory, urging managers to learn to design jobs properly and then link pay directly to measurable productivity (Taylor, 1903).

Avery (1997) attributes much of the growth in HR salaries over recent years to the use of incentive pay.

It is also worth noting Romano’s (1998) description of the American Compensation Association’s attempts to develop the “perfect” incentive program. They proposed achieving this through acknowledging quantitative and qualitative indicators of performance, comparing with other organizations, determining specific incentive pay, developing caps, rewarding employees who come close and rewarding everyone equally.

A study of 84 subjects by Stone and Ziebart (1995) suggested that performance based incentives led to changes in information processing behavior and improvements in decision making.

Rubino (1995) discussed 10 strategies identified by Ernst & Young for the development of effective incentive pay programs. They suggest that a successful plan should fit the environment, be fair to all employees and the company, set total cash compensation, yield financial rewards to the workers and the company, involve workers and supervisors, use internal and external data, set clear performance goals, and achieve clarity through communication.

There are two basic types of “pay-for-performance” plans; individual incentive plans and group incentive plans (Luthans, 2005).

Under an individual incentive pay plan, for example, a salesperson earns 10 percent commission on all sales (Hodgetts, 1997) while in another case an individual can take money and then repay it out of commissions (Luthans, 2005). Other individual incentives are; use of bonus and the use of stock options.

Some studies found that organizations are increasingly aware that teams and teamwork can lead to higher productivity and better quality than do individuals working on their own. As a result, group incentive pay plans have become increasingly popular (Honeywell – Johnson and Dickinson, 1999). One of the most common forms of group pay is gain sharing plans (Collins 1998). In a group incentive arrangement in which all members are highly productive, the personnel will maximize their earnings but in groups where some individuals are poor performers, everyone in the group ends up being punished (Luthans, 2005). Wilson (1990) points out that firms utilize group incentive strategy is an attempt to increase teamwork and promote flexibility, while also boosting productivity. He refers to a group incentive plan as any variable pay program where compensation is awarded based on the unit or group to which an individual belongs. This could include team- or project-based incentives. It could also include gain-sharing programs.

According to Billikopf's (1992) incentive pay, also known as *pay for performance* is generally given for specific performance results rather than simply for time worked. Billikopf (1992) also mentioned incentives work well — they help motivating high worker performance.

4.5.2.9.6 Recognition and Appreciation

Intrinsic reward is provided to the employees as the experience of a sense of competence (McCormick & Illgen, 1985). In Herzberg's (1968) study, he contemplated that intrinsic rewards or job satisfiers in his own term, were those aspects of work that were intrinsic to the employee and tended to promote feelings of happiness in the worker. Intrinsic factors include work itself, recognition, achievement, responsibilities, growth and advancement (Herzberg et al., 1959). In some other studies, intrinsic values include status, a sense of achievement, the ability to interact with others, self-worth, self esteem, accumulation of knowledge/skills and the ability to utilize, express creativity, etc. (Herzberg et al., 1959; Prothero et al., 1999; Spector, 1997).

In rewarding employees, multiple means of acknowledging performance need to be utilized. These include financial rewards, non-financial recognition, and career advancement. Berry and Parasuraman (1992) caution that rewards should be geared to sustained commitment of Employees.

Agarwal and Ferratt (1999) found that high-performance organizations persistently sought to recognize and reinforce valuable contributions made by employees. Deeprouse (1994) is of the view that good managers recognize people by doing things that acknowledge their accomplishments and they reward people by giving them something tangible. He also argued that the motivation of employees and their productivity can be enhanced by providing them effective recognition which ultimately results in improved performance of organizations.

Recognition as a system is an essential tool to integrate individual efforts with strategic business objectives by encouraging employees to do the right things (Schuler and MacMillan, 2006).

Previous research on the topic (Md et al., 2013; Danisha and Usman, 2010; Manjunath and Rajesh, 2012; Harrison, 2005) concluded that the most shared problem in organizations today is that they miss the important component of recognition of employee performance, which is the low-cost, high-return ingredient to a well-balanced reward system. The central principle of recognition of employee performance is to make employees feel appreciated and valued (Sarvadi, 2005).

Harrison (2005) defined recognition of employee performance as appropriate acknowledgement of a resulting individual's effort and output in fulfilling the organization's goals and values beyond normal expectations.

Grote (2006) states that recognition of employee performance can come in such simple forms as "Good work, Thank you, Well done, or I really appreciate it." Roshan, (2005) supports this notion by adding that employee performance and job satisfaction increases when they feel that their work is being valued, thus they are motivated to perform to their best. Stringer, Didham, & Theivananthampillai, (2011) also adds that recognition of employee performance creates an emotional bond between staff and the institution.

Effective recognition of performance results to increased employee performance as a resultant of enhanced satisfaction as seen in their commitment and perseverance (Lawler, 1981).

Recognition of performance is the acknowledgement of an employee's achievement and effort towards organizational goals (Petrescu and Simon, 2008). It includes attention to employee actions, efforts, Behavior or performance, which can be either physical or psychological or both. Recognition of performance is one way of motivating staff in an institution of higher learning thus, making them feel more valued and improving the overall attraction and employee retention (Nyakundi et al, 2012).

Tertiary institutions can offer recognition of performance in various ways ranging from the provision of certificates, shopping vouchers, praise, trophies, and opportunity, appreciating their ideas and respect where it deserves (Nolan, 2012).

Appreciation enhances an employee's pride in the job which has a direct impact on positive employee behavior (Arnett, Laverie & McLane, 2002).

Through recognition when employees and their work are valued, their satisfaction and productivity rises, and they are motivated to maintain or improve their good work (Roshan L.R, 2005). Everyone feels the need to be recognized as an individual or member of a group and to feel a sense of achievement for work well done or even for a valiant effort. Everyone wants a 'pat on the back' to make them feel good (Kim H, 2004).

To make sure that Airtel awards enable to motivate employees - to walk the talk when it comes to fulfilling the corporate vision of the customer experience and matches its organization's values - Airtel reworked its reward framework. Apart from the planned awards for completed projects or outcomes which have positively impacted its vision, Airtel developed 'instant recognition' to increase the coverage and also enable peer recognitions. These awards range from within-the-function to inter-function recognitions (Airtel Sustainability Report, 2012).

4.5.2.9.7 Promotion and Career Growth

Appropriate and fair reward system will have positive influence on employees' job satisfaction and retention (Arnett, Laverie & McLane, 2002). Ali and Ahmed (2009) verified that there is a statistically significant relationship between reward, promotions and satisfaction. Besides giving raises in salary, rewards should also include non-financial rewards such as a positive organizational culture, and opportunities for promotion (Lin, 2006).

According to Michael Driver & Brousseau (1980), not everyone is suited to navigating careers oriented toward power and wealth. They also identified four different paths that people's careers generally take and these are: first, Linear career path: employee rise in an organization until they reach the pinnacle of hierarchy. Second, steady state experts: these employees are motivated to achieve a high level of expertise in a particular area. Third, spirals: employees that are motivated by learning and personal growth. Finally, transitorizes: these are motivated by variety and novelty. Companies must undertake strategies that ensure their employees concepts and how they view their career path can be achieved by considering the kinds of strategies that, if successful, logically could be expected to create organizational conditions supportive of each career concept (Driver & Brousseau, 1997).

Employees generally prefer promotion to be assessed based on their experience and individual job performance rather than on seniority or favoritism (Partlow, 1996).

Research studies conducted by Seymour and Busherhof (1991), Carr and Kazanowski (1994) and DeSantis and Durst (1996) demonstrate that employees generally want stable employment, opportunities for promotion and satisfactory compensation.

4.5.2.9.8 Good Workplace

It is not easy to create a healthy working environment, organizations evaluate the current situation of the environment and try to change the required aspects such as: stop smoking in the internal offices and departments, keep the dangerous materials away from the employees, create awareness about the safety requirements and programs and keep the places clean (DeCenzo/Robbins, 10th edition).

Providing a productive, flexible and lively work environment can be a critical asset in attracting and retaining valuable employees. In order to build up an effective retention plan for today's employment market, it is crucial to apprehend the varying needs and prospect. If the retention strategies are not accurately entrenched in the business processes, the all effort since recruitment will eventually proves useless (Earle, 2003).

4.5.2.9.8.1 Job Autonomy/Freedom of Work is an important determining factor of a good workplace. In marketing internally job satisfaction acts as an important predictor of employees' overall well-being (Argyle 1989; Clark 1997; Sousa-Poza and Sousa-Poza 2000; van Praag *et al.* 2003). Previous studies have explained job satisfaction as dependent on job autonomy. Bhuian *et al.* (1996) focus on the influence of job autonomy on the job satisfaction of ex-patriots in Saudi-Arabia while Landerweerd and Bousmans focus on the influence of job autonomy on the job satisfaction of nurses.

Gellatly and Irving (2001), Langfred and Moye (2004) found the positive effects of job autonomy on job performance. Job autonomy enhances performance because employees with high job autonomy will perceive that he/she trusted to perform the task. This perception positively effects their intrinsic motivation and the effectiveness in working.

Several researches found positive association between job autonomy and job satisfaction (DeCarlo and Agarwal, 1999; Finn, 2001; Liu *et al.*, 2005; Nguyen *et al.*, 2003; Thompson and Prottas, 2005).

Gellatly and Irving (2001) found positive effect of perceived autonomy on contextual performance. Managers who report greater autonomy in their work have a better performance

than managers who report lower autonomy. Claessens et al., (2004) found that perceived autonomy in time was positively related to job performance and job satisfaction and negatively to work strain. According to Langfred and Moye (2004), job autonomy enhances job performance because they perceive themselves capable and more resourceful in performing the task.

Morrison et al. (2005) and Finn (2001) explain that job autonomy became an important factor in enhancing employees' intrinsic motivation and job satisfaction. Cuyper and Witte (2006) also support this finding by stating that job autonomy significantly affects job satisfaction of both permanent and temporary employment. A cross cultural study by DeCarlo and Agarwal (1999) examines the effects of job autonomy on salesperson's job satisfaction.

Research also indicates that high job autonomy enhances employee feelings that job outcomes are a result of his/her efforts (Wang and Netemeyer, 2002; DeCarlo and Agarwal, 1999). In addition, the feeling of job personal responsibility leads employees to develop favorable and effective behavioral reactions to their job thereby increasing job satisfaction.

4.5.2.9.8.2 Less stress is another important determining factor of a good workplace. Stress is generally defined as an environmental situation in which a person is required to perform the tasks that threatens to exceed the person's ability and resources for meeting it, under conditions where he or she expects a large difference in the rewards from meeting the demand versus not meeting it (Mc Grath, 1976). In work life extreme stress is so aversive to employees that they will try to avoid it by withdrawing either psychologically (disinterest or lack of involvement in the job etc.), physically (frequent late coming, absenteeism, laziness etc.) or by leaving the job entirely (Beehr and Newman, 1978).

The previous studies suggest that higher level of job stress causes less job satisfaction (K. Chandraiah et al, 2003).

Amongst some important factors causing stress one is role conflict. It has a significant negative impact on job satisfaction. (David Yong Gun Fie et al, 2009). Workload and professional uncertainty affects employee job satisfaction negatively. (Laura McCann et al, 2009).

Role conflict may start when two or more concurrent and unsuited expectations exist in such a way that in agreement with a given role compromises fulfilling other roles (Drury, 1984; Thompson & Powers, 1983). Role conflict decreases job satisfaction among both men and women (Coverman 1989). Work role conflict has a greater impact on job satisfaction in those workers who have a high centrality of the family role (Carlson and Kacmar, 2000). Role conflict involves contradiction in expectations of an employee sales position. This may occur when a sales person is given a variety of contrary orders or is given a range of responsibilities that cannot be completed all together (Brashear et al., 2003, p. 973).

A study of naval personnel of Malaysia examined the relationship between stress and job satisfaction. Results revealed that occupational stress was negatively associated with eight job satisfaction (Nor Liyana Mohd Bakti and Mansor Abu Talib, 2009).

Occupational stress has a direct negative effect on job satisfaction (Noordin Yahaya et al, 2010). In general, job stress has been viewed as a predecessor of job satisfaction, and the two constructs have been treated as related yet distinct (Stanton, Bachiochi, Robie, Perez, &

Smith, 2002). The lack of satisfaction can be a source of stress, while high satisfaction can lighten the effects of stress it means that both of job stress and job satisfaction are interrelated (Fletcher & Payne 1980).

So, understanding job stress is a major concern of internal marketing research because it has been shown to play a role in a number of key job related attitudes (organizational commitment, job satisfaction) and behavior, such as turnover (Sager, 1994). Moreover, stress can lead to physical illness and chronic diseases such as heart disease, mental ill-health, depression or other problems such as alcoholism (Eckles, 1987 in Moncrief et al. 1997).

4.5.2.9.8.3 Great Workplace to work: With a Gallup employee engagement score of 84th percentile, Airtel leads in the telecommunication industry category in the Great Place to Work® Institute's Study, and is ranked 5th in the 25 AON Hewitt Best Employers of 2011 study (Airtel Sustainability Report, 2012).

4.5.2.9.8.4 Entrepreneurial culture: At Airtel, entrepreneurship is the most important competence an employee has to exhibit in his work. The Airtel entrepreneurial policy supports employees who want to pursue their own entrepreneurial journey, by assisting eligible employees at various levels through Mentoring by Airtel senior leadership, financial assistance, branding support, managerial and Organizational guidance, as well as preferred vendor access and assured purchases, to embark on their own ventures. This policy is governed and monitored by an independent cross-functional committee of senior management, the Airtel Entrepreneur Board, which rigorously evaluates all proposals based on the policy criteria. So far, 6 employees have benefited from this initiative and have successfully embarked on their entrepreneurial journey, setting themselves up as examples for others to emulate (Airtel Sustainability Report, 2012).

4.5.2.9.8.5 Ethical work culture: The Airtel Code of Conduct helps ensure that it continues to build a workplace culture that fully reflects the Airtel values of trust, mutual respect and personal growth for all. The code of conduct encompasses a wide array of issues pertaining to workplace conduct, dealing with outside parties, protecting company assets, and community responsibility. Regular training programs are conducted across locations to explain and reiterate the importance of adherence to the code. Employees have to annually reaffirm their compliance to the code of conduct. Airtel Ombudsperson Policy outlines the method and process for stakeholders to voice concerns about any unethical conduct. The Ombudsperson administers a formal process to review and investigate all concerns and undertakes all appropriate actions required to resolve the reported matter. Instances of serious misconduct dealt with by the Ombudsperson are reported to the audit committee. All the employees of the company as well as partners and any person who has a grievance with respect to the company has full access to the Ombudsperson. In addition to this, Airtel has a 'Consequence Management policy' to deal with violations of the Code of Conduct, company policies and guidelines, financial impropriety including bribery or corruption and misreporting or non-reporting of critical information (Airtel Sustainability Report, 2012).

4.5.2.9.9 Work/Life Balance

A high quality of work life is essential for organizations to continue, to attract and retain employees (Sandrick, 2003). According to Wilson (1996), employees want to have the best quality of life possible for themselves and their families.

According to Kirchmeyer's research study (Kirchmeyer, 2000), a 'positively balanced life' is achieved through two components namely i) personal resources (i.e., inputs) that are applied to each role — work and family — with an equally high level of attention, time, involvement, or commitment and ii) equally high level of satisfaction with work and family roles (i.e., outcomes). In addition, Kirchmeyer further associated balanced satisfaction across work and family roles with a high quality of life.

Kirchmeyer research study exhibits that highly satisfied individuals with both work and family roles often greatly achieve their valued goals than those who are less satisfied with one role than the other. Thus, individual well-being is ensured through such goal achievement.

According to the research study of Greenhaus and Powell (2006), work-family enrichment is promoted primarily through two different paths: instrumental (direct) and affective (indirect). Under the instrumental pathway, it is believed that family involvement prepares the employees with resources necessary to handle co-workers or that these resources increase their ability to perform on the job and under the affective path, it is assumed that as individuals gain greater resources through ongoing participation in one role (i.e., work or family), their mood or emotional state in that role increase. This can aid their performance in the other role. Thus, quality of life is improved.

Greenhaus and Powell (2006) research study find that work and family positively enrich each other through their consistent interaction with the positive psychology that often benefits an organization through positive organizational behavior. The resources gained in one role either directly (instrumental such as skills, self efficacy, etc.) or indirectly through the influence on positive affect (affective such as positive moods, attitudes, emotions, etc.) improve performance in the other role.

In order to ensure a balanced work/life, Airtel initiated '*Family friendly work options and facilities*' for all employees including flexible work timings, work from home, remote locations and part-time for a specified period. This option has been exercised by many employees, particularly by those with young children or aged parents or during childbirth. As part of this program, a six month sabbatical leave policy is applicable in case of personal exigencies, or a year in case of opting for further education (Airtel Sustainability Report, 2012).

4.5.2.9.10 Recreation facilities

King (2001) stresses that keeping up morale takes a lot of work and a lot of time, and when a company has started to plan events etc., they need to continue. Hermansson (2003) of the event bureau Wettergren & Co states, that according to her experience the most common reasons for companies to hold events are to motivate employees, form a binding spirit between new employees, find new arenas for all employees in which they can validate themselves, present a new boss or manager, or simply to have great fun. There are companies which sponsor social events such as bowling sports, holiday parties, picnics, employee lunches, game day, corporate retreats, etc. In such occasions employees are given casual dress like polo's wind shirts, hats, jackets, etc (<http://www.marinc.com/employees.html>). For example, annual cultural and sports functions and picnic as a part of motivation and interest of employees by Jamuna Apparels Limited (<http://www.speedwell.com.bd>). As part of its corporate culture, Astex Pharmaceuticals organize corporate events for its employees like summer employee & family picnics, holiday luncheons & events, birthday celebrations, ice

cream socials, yoga classes, theatre trips and sporting events, annual summer and winter parties (<http://astx.com/about/careers/>).

Corporate events designed for employees have previously been referred to as corporate special events (Sadiq and Åkerlind, 2003). Getz describes corporate events as having obligatory attendance for the employees, where the budget is fixed and the program and theme of the event should reflect the corporate culture (Getz, 2005,a). Arguably, this definition can be linked to the description of internal corporate events, since they are arranged for the employees of a corporation. Behrer and Larsson (1998) mention some purposes of internal events, such as to create corporate image, to bring attention, and to generate product knowledge among the employees.

O'Toole and Mikolaitis (2002) explain that corporations, and arguably organizations, use corporate events to communicate corporate messages, through, for example, sales performance, product developments, and rewards, to their employees. Arguably, corporate events may furthermore be viewed as excellent opportunities to connect employees to corporate beliefs and internal operational views.

For recreation, there is availability of amenities and conveniences at Airtel Centre like day-care centre (supporting working parents), grocery shopping, gymnasium and spa (promoting fitness), travel desk and concierge, food court and cafeteria etc., (Airtel Sustainability Report, 2012).

4.5.2.9.11 Equal Employment Opportunity

“Equal employment opportunities” (EEO) is an employment practice that has been developed in recent decades and is well defined. Relevant literature (Deeks and Rasmussen, 2002, ch 14; Macky and Johnson, 2003, ch 13; Rudman, 2002, ch 23), suggests that although there is debate about the definition, EEO is concerned with the removal of discrimination in all aspects of employment (including pay, leave and other conditions, and opportunities for progression and promotion) on such grounds as gender, race, age, sexual orientation, and religious or political belief. EEO is concerned with ensuring that people are employed on the basis of merit and ability to perform work, and that all employees can participate fully in any workplace without facing barriers.

As a result, it may lead to higher employees' engagement in terms of job satisfaction and job commitment (Harris and Fink, 1994; William and Dreher, 1992).

4.5.2.9.12 Job Description

Duties and responsibilities of employees are needed to be well defined by the management. Such duties and responsibilities are termed as job description. For example, for internal marketing activities or responsibilities of internal communications are many, such as: planning and executing effective internal communications (e.g. measuring employee view and acting on such feedback, sharing information more widely and ensuring senior management visibility); protecting and championing the desired corporate culture; ensuring a continuing supportive role by the HR department; empowering employees (e.g. encouraging self-managed teams, monitoring and continuously improving measurement assessment, reward and recognition systems); and enhancing internal relationships and learning (e.g. establishing internal support networks, encouraging employees to talk to managers and recognizing examples of successful practice) (Dalton & Croft, 2003).

4.5.2.9.13 Participative Management

Previous researchers have found that if employees perceive that their manager values them and provides them with appropriate control and authority over their work, then they will feel and act more positively about their jobs (Anastassova and Purcell, 1995; Chow et al., 2006; Lashley, 1995, 1996; Yoon and Suh, 2003). For instance, Lashley (1995) found that employees who are delegated decision making authority can provide more responsive service and deal with complaints more quickly, thus resulting in more repeat business (Berlowitz et al, 2003). When employees are more active in decision making not only in practice and unit management, they feel more engaged which leads to higher satisfaction and lower turnover rates (Relf, 1995).

4.5.2.9.14 Logistic Support

Job resources refer to a set of enduring policies, practices, procedures and tools that diminish the demands of the job and/or assist employees to achieve their work goals and stimulate their personal growth (Bakker et al., 2004; Halbesleben and Buckley, 2004; Lytle et al., 1998). In some studies it was found that job resources particularly relevant to frontline service jobs (Babakus et al., 2003; Lytle et al., 1998) are supportive management, and service technology support (Lytle et al., 1998; Singh, 2000) where supportive management refers to the willingness of the managers to go to bat for their subordinates (Babin and Boles, 1996; Bell et al., 2004) and service technology support encompasses sophisticated and integrated tools provided by management to employees to free them from routine tasks so that they can devote more time to customers (Lytle et al., 1998).

4.5.2.9.15 Interpersonal Relationship

Wieseke et al. (2009) conducted two multinational studies that looked at relationships between employees and their senior managers in relation to influencing marketing oriented Behavior by looking at an employees' 'organization identification'.

Daley (1986) and Emmert an Taher (1992) showed that superior-subordinate relationship has an effect on employees' satisfaction levels. Deshpande (1996) found that a "caring" organizational climate is associated with high level of satisfaction with supervisors, and that instrumental and authoritarian and task oriented climate types have negative influence on overall job satisfaction as well as satisfaction with promotion, coworkers, and supervisors.

Employees also need to have good role models who display Behavior that is consistent with internal marketing and being marketing oriented (Lam, et al., 2010). Senior managers, middle managers and employees' expert peers all influence employee behavior (Lam, et al., 2010; Wieseke, et al., 2009).

A study by Kilburn (2009) also found that the greater the commitment of senior managers in being internal customer oriented, the greater the commitment of their employees in being internal customer oriented. The study found that the impact that a manager has on their employees, through demonstrating customer-oriented behaviors, has the most significant impact on employee behavior than other factors (Kilburn, 2009).

In order to improve interpersonal relationship among the employees, Axiata emphasizes on 'Talent Diversity' through which it recruits highly skilled, talented professionals and specialists to drive high business growth. Axiata has already embarked on a campaign to attract returning Malaysians, with specialist expertise and global experience, to add to the diverse mix of talent within the Group (Axiata Sustainability Report, 2012).

To nurture workforce diversity, with a particular focus on gender, Airtel has implemented practices and support systems that specifically address the requirements of its women employees. Airtel's Diversity Council comprises of seven cross-functional senior women leaders who provide strategic direction and also monitor diversity practices centrally. Apart from this committee, group and regional level committees have also been set up to prevent sexual harassment and abuse at the workplace (Airtel Sustainability Report, 2012). To drive its diversity focus and commitment, Airtel undertook various initiatives in 2011-'12 some of which are: i) 'Celebration of womanhood' as a social and well-being initiative focusing on women's interests in the areas of health awareness, community service, self-defense and parenting workshops, fun and festival events, etc., ii) 'Women's Mentoring Program' which aimed at high potential, middle management women employees, it has catapulted 24 women to the senior management level already (*ibid*).

4.3.3 Integrated Marketing

Integrated marketing is relatively a new concept of strategic solution (Moore, 2000). It has grown primarily from marketing models advocated by Dr. Philip Kotler in the mid-1970s and has been tested and expanded upon by various researchers in the past 25 years. In 1998, *Currents* magazine published a running debate on the value of integrated marketing (Arbeiter, 1998; Lauer, 1998). However, integrated marketing's deepest roots are in traditional marketing (Silva, 1998).

Foxall (1981) spent a chapter of his book describing integrated marketing management, focused primarily on the business setting. He described the importance of market intelligence and the need for careful, informed marketing planning and marketing control.

Dollar (1984) used the term 'integrated marketing' in proposing a five dimensional marketing approach including: marketing philosophy, information system, organization system, planning and control system, and activities based on their level of marketing orientation. Each stage represented an increasingly integrated approach to marketing. His position paper analyzed how marketing planning and control were conducted, how marketing information was gathered, and how marketing personnel and activities were organized and coordinated.

4.3.3.1 Conceptual Aspects of Integrated Marketing

Kotler defined integrated marketing as part of his marketing orientation model. According to him, integrated marketing means that various departments in the organization recognize that the actions they take, and not just the actions of the sales and marketing people, have a profound effect on the organization's ability to create, retain and satisfy customers. Some means must be developed to coordinate the customer impacts of all the departments.

The integration theory mentions that firms attempt to combine knowledge and marketing tools together to integrate between marketing and other departments to bring business success (Rosenberg, 1988). The effectiveness of marketing integration is an ability of cross-function depending on effective communication and shared information between divisions (Song, Neeley, and Zhao, 1996). Hence, the integrated marketing strategy as the key success of firm to improving marketing capability and flexibility perform in conjunction with other units in the firm to respond to various circumstances that lead to profitability (Kahn and Mentzer, 1998). The integration perspective focuses on overview than separate division which creates relationship in various levels by communication, collaboration, and coordination of marketing in each division (Leenders and Wierenga, 2002). In the marketing literature,

marketing integration means the management of holistic consumer experience (Tsai, 2005). Moreover, integration approach is viewed as the boundary of the activities carried out by the two functions that encourage each other (Guenzi and Troilo, 2006). Organization's sustainable competitive advantage via integration of marketing relies on dynamic capability that increases firm effectiveness rapidly (Ali et al., 2010). Accordingly, an organization needs more collaboration and integration for higher business performance (Paiva, 2010).

Integrated marketing deals with the strategic issues of product, price, and place, and the tactical issue of promotion; these issues also are described as customer, cost, convenience, and communication (Schultz, Tannenbaum, & Lauterborn, 1994).

Integrated marketing helps in attracting and creating more satisfied customers, building a stronger image, increasing support from various funding sources, and leveraging marketing dollars (Sevier & Johnson, 1999). According to Green, L. (2005), integrated marketing has a role in the optimal recruitment and retention of not only customers but also of employees and shareholders. Likewise, the business of third parties deemed as marketing integration includes: partners, suppliers, and customers that play a successful role in the intermediated facilitation in marketing and supply chain (Ivens, Pardo, and Tunisini, 2009).

Griffin and Hauser (1996) describe that an organization is able to make research and development (R&D) jointly with marketing integration to help understand what is relevant to cooperate so as to decrease barriers of different attitudes, cultural thoughts, languages, and firm responsibility and in turn increase utilization across functions. Indeed, an organization having integration between marketing and research and development (R&D) can reflect to analyze marketing for improved new products performance and facilitation in job rotation, the use of information, and communication (Leenders and Wierenga, 2002).

Sevier (1997) reminded marketers that Kotler had described marketing accurately in 1975: "Marketing is the analysis, planning, implementation, and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives (p. 5).

"Kotler noted, quite correctly, that marketing is a research-based, policy directed activity designed to meet the self-needs of both the institution and target audiences through the advancement of the 4Ps: product, price, place, and promotion," wrote Sevier (1997).

Sevier's study explored ways in which the organizations were assessing and evaluating integrated marketing. Sevier also stressed the importance of top-down commitment to integrated marketing (1998).

4.3.3.1.1 Sevier's research findings on Integrated Marketing

Although Kotler's concepts seem to be the foundation for most of Sevier's work, the newer Strategic Integration Marketing Model (Sevier, 1999) and the related "iceberg" model of integration appear to most closely match the modern definition of integrated marketing. Therefore, these two related models served as the primary guides for the initial development of the literature of Integrated Marketing.

Through his 'Iceberg Model' Dr. **Robert A. Sevier** described six key elements of integrated marketing: an outward focus; desire to address strategic problems strategically rather than

tactically; strategic, organizational and message integration (Figure given below); active listening to the customer; database dependence; and coordination of messages (1999).

When Sevier discusses integrated marketing, he often converts the 4Ps to the 4Cs (Table). The 4Cs-consumer, cost, convenience, and communication (4Cs)-are frequently associated with Schultz (1994). The 4Cs are important because of the customer-focused orientation of integrated marketing (Sevier, 1999). Sevier wrote that the 4Cs "are cast from the perspective of the customer or target audience, rather than the institution. A true marketing orientation must be just that is oriented towards the market. Integrated marketing as evidenced by the 4Cs has that orientation (1999).

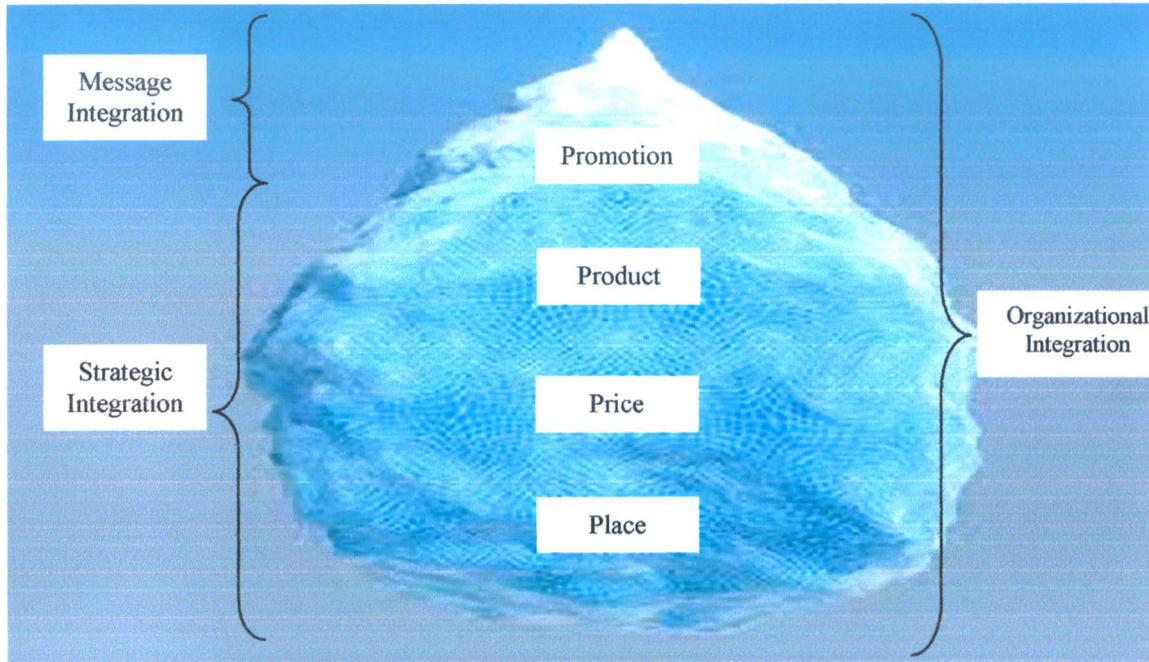


Figure 4.16: Integrated Marketing Iceberg Model
(Source: Adapted from Sevier, 1999, pp. 2, 13)

Although Sevier and others espouse the movement from the 4Ps to the 4Cs, both descriptions of the marketing mix continue to be used, and the 4Ps are most familiar to most marketing staff and administrators (Sevier, 1999). Integrated marketing includes the 4Ps of product, price, place, and promotion, and requires strategic, organizational, and message integration (Sevier, 1999).

Table 4.5: 4Ps and 4Cs of Marketing

THE 4Ps OF TRADITIONAL MARKETING	THE 4Cs OF INTEGRATED MARKETING
Product	Customer or Consumer
Price	Cost
Place	Convenience
Promotion	Communication

Source: Literature Survey (Adapted from Sevier, 1999, p. 5)

Integrated marketing requires that strategic decisions are based on realistic assessment of problems and opportunities. Sevier (1999) said integrated marketing takes into account the

institutional strategic plan, ties the integrated marketing plan directly to the institution's objectives, and integrates resources organizationally to achieve integrated marketing goals.

Sevier believes integrated marketing helps organizations deal with strategic challenges because it: a) forces marketing issues up to the strategic level, b) is built on realistic assessments, and c) operationalizes the strategic plan and stresses accountability and ongoing evaluation (1999).

Integrated marketing must, by definition, have three levels of integration: strategic, organizational, and message (Sevier, 1999).

4.3.3.1.1.1 Strategic integration is concerned with how competitive battles are planned and executed across markets (Jayachandran, Gimeno and Varadarajan, 1999; Zou and Cavusgil, 2002). A key to marketing strategy success is participation in all major markets to gain competitive leverage and effective integration of the firm's competitive campaigns across these markets (Birkinshaw, Morrison and Hulland, 1995; Yip, 1989, 2003; Zou and Cavusgil, 1996, 2002). Companies may manage their markets and operations in different markets independently or interdependently. Some companies fight their competitors at a time in separate contests, even though it may face another company in many of the same countries (Yip, 2003). However, when markets and operations are perceived as interdependent, a company could subsidize operations in some markets with resources generated in others (Bartlett, Ghoshal and Birkinshaw, 2004; Birkinshaw, Morrison, and Hulland, 1995; Hamel and Prahalad, 1985) and respond to competitive attacks in one market by counterattacking in others (Jayachandran, Gimeno and Varadarajan, 1999; Yip, 1989, 2003). It is, therefore, important to integrate the firm's competitive moves across the major markets (Bartlett, Ghoshal and Birkinshaw, 2004; Birkinshaw, Morrison, and Hulland, 1995; Zou and Cavusgil, 2002). The same type of move may be made in different markets at the same time or in some systematic sequence (Douglas and Craig, 1989), or a competitor may be attacked in one market in order to drain its resources for another market, or a competitive attack in one market could be countered in a different market (Jayachandran, Gimeno and Varadarajan, 1999). Perhaps, the best example is the counterattack in a competitor's market as a parry to an attack on one's own home market (Yip, 2004).

4.3.3.1.1.2 Organizational integration, said Sevier (1999), allows or encourages complete strategic and message integration, with the institution working as one system. Ideally, Sevier believes this type of integration would occur by placing all marketing and communication functions under one vice president. He would include several key areas under the broad marketing umbrella: Marketing (public relations, publications, advertising). Such a structure would be a dramatic change for many institutions, and Sevier and Johnson (1999) noted that organizational integration is accomplished through cross-functional marketing teams instead of major structural changes.

4.3.3.1.1.3 Message integration, according to Sevier (1999), means messages are consistent, coordinated, and driven by strategic decisions. Although the messages may be targeted to particular audiences, they have a common look, sound, and feel across various mediums and over time.

Sevier defined integrated marketing as a listening-first, database-dependent approach to marketing that includes both a willingness to segment and coordinate such strategic assets as

product/customer, price/cost and place/convenience and to develop effective promotion/communication strategies for key target audiences (2000). This definition is reflected in Sevier's Strategic Integration Marketing Model (Figure 4.17).

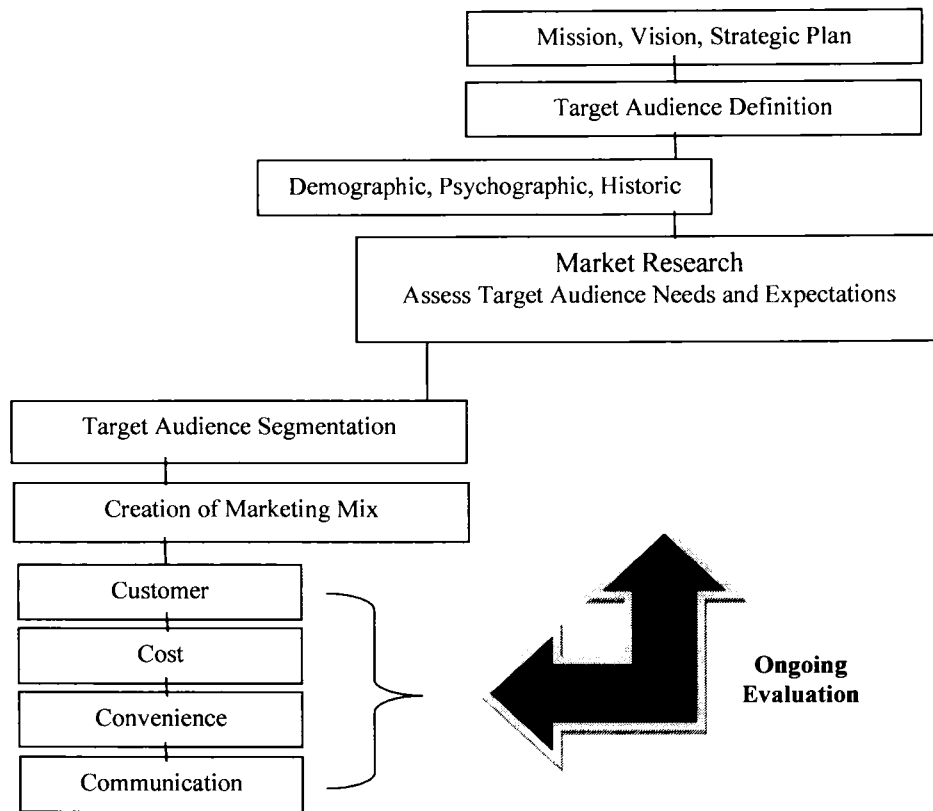


Figure 4.17: Strategic Integration Marketing Model
(Source: Adapted from Sevier, 1999, p. 4)

4.3.3.1.2 Jenkinson’s research findings on Integrated Marketing

Jenkinson, A. (2000) developed an operational model of Integrated Marketing, based on a causal model of factors that drive profits and are therefore of importance to leaders. The model is displayed through the following Figure which has three stages: 1) Profit and equity outcomes as a dependent factor, 2) Customer experience factors that help determine this and 3) Performance characteristics or competencies of the firm or brand organization that help to determine customer experience.

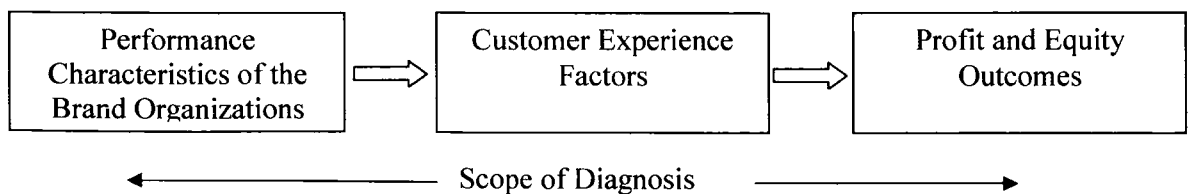


Figure 4.18: Integrated Marketing Causal Model (Source: Jenkinson, A. 2000)

Integrated Marketing is about an entire organization presenting itself through whatever channel to whatever customer in a way that is entirely relevant to that customer. It involves Organization-wide synergies developing congruent, sustainable and high-value,

differentiated brand experience for all stakeholders, as in the Jenkinson and Sain definition (Jenkinson, A. and Sain, B., 2004).

According to Jenkinson *et al.* (Jenkinson, A., Sain, B. and Bishop, K., 2005), successful integrated marketing requires management of three business drivers: 1) identity, which is seen as the core strategic element of differentiated value, 2) mobilization of all employees behind identity and value, with lean, value-focused processes and good resources and 3) integrated contact management (integrated communications, creating valuable experiences for customers).

Integrated marketing represents a developmental fusion of two important marketing developments (Jenkinson, A. and Mathews B., 2006), customer relationship marketing or customer management (CRM) and integrated marketing communications (IMC), as well as other organization development initiatives. In some cases, the term integrated marketing is used to denote the fusion of CRM and IMC at a communication level (Jenkinson, A. and Sain, B., 2005 and Iacobucci, D. and Calder, B., 2003).

By conducting a survey with the following 28 questions on 200 UK brands, Jenkinson, A. and Mathews B. (2006), outlines current UK performance in integrated marketing and provides a statistical foundation supported by qualitative research for a model of integrated marketing, including five (5) critical customer experiences and twenty three (23) significant business performance competencies.

Integrated Marketing survey questionnaire

Customer experience factors

1. Customers feel that all their brand experiences come from one identity
2. Customers trust the brand's promises (and pass them on through word of mouth)
3. The brand treats different kinds of customers in ways appropriate to them
4. Whenever appropriate, the brand recognizes individual customers wherever they interact or do business
5. Customers are happy with the brand experience

Performance competencies

6. There is a service-oriented ideal that encourages aligned commitment across the organization
7. Everyone nurtures what the brand means to committed customers
8. Future vision is consistent with core truths of the brand
9. The values we experience in our company culture support the values we express in the brand
10. The brand organization is excellent at realizing high-value propositions from idea to implementation
11. Quality is understood as that which is good for the customer, employee(s) and company
12. All business objectives are coherent with our [brand/company's] competence
13. There are no silos (across the organization)
14. Practices ensure shared learning across the organization
15. The organization works in effective partnership with the members of its value stream
16. The culture encourages people to release their creative potential
17. All business processes are actively aligned to the brand value position

18. Quality customer information is available in a timely way at every point of need
19. Leaders promote what they practice
20. The Marketing function is organized primarily around customer groups with their different needs and opportunities, not marketing disciplines
21. Senior marketing people are skilled in multiple communication disciplines
22. Customer management focuses on the value of customers over their lifetime
23. All communication to all constituencies at all touchpoints uses the same planning and evaluation framework
24. The company and agencies all work together in partnership
25. Communication is creatively aligned through 'ig media neutral ideas'
26. Evaluation is managed as a learning discipline across the participants
27. The key evaluation processes are primarily designed to increase knowledge about what most efficiently creates value for customers
28. Local and international marketing management collaborate effectively

The result of the survey through the above questionnaire of Jenkinson, A. and Mathews B. (2006) suggests the application of integrated marketing and its implications for personalized customer marketing strategies.

In their study, Jenkinson, A. and Mathews B. (2006) identified four integrated marketing competency factors, each of which is individually correlated at the 99 per cent level with Customer Excellence. The four factors are:

- i. *Living the Brand*, which includes employee mobilization, an aligned value stream and culture-brand congruence
- ii. *Customer knowledge management*, which involves capturing distribution of information about customers. This factor is directly relevant to CRM and direct marketing and tested lowest of all the factors
- iii. *Marketing organization*, which concerns skills, structures and processes within the marketing function
- iv. *Communications optimization*, which involves deeper understanding of customer groups, managing customers on a lifetime basis and a universal communication and planning framework

An acronym BECAUSE developed by Jenkinson, A. and Mathews B. (2006) with the first letter of six variables of Customer Excellence which seems fitting as a name for the following set of variables that are most influential in creating Integrated Marketing best practice.

- (B) business processes aligned to brand
- (E) effective partnership with value stream
- (C) company and (A) agencies work in partnership
- (U) universal planning and evaluation framework
- (S) service-oriented ideal
- (E) excellent at realizing high value propositions

These six factors together draw on a cross-section of the leading business development areas:

1. Process improvement conjoined to brand value management
2. Supply chain capability
3. Partnering
4. New integrated communication methods
5. Organizational motivation and coherence
6. Innovation and value design.

Finally, based on the four competency factors and six variables, the entire model of integrated marketing developed by Jenkinson, A., (2006) is shown in the Figure 4.19.



Figure 4.19: Integrated Marketing Model (Source: Jenkinson, A., 2006)

4.3.3.2 Sustainable Development through Integrated Marketing

Fida Muhammad (2002) identified integrated marketing services as an approach to sustainable development through a set of inter-related activities such as credit and group development, effective management, marketing development and support, market systems analysis, economic analysis and enterprise development.

4.3.3.3 Integrated Marketing Factors that Affect Sustainable Development of the Mobile Telecom Industry

4.3.3.3.1 Functional Integration through Cross-Functional Team

There are interdependencies between different functional departments (Song, Thieme, and Xie, 1998). Accordingly, various studies have found a positive effect for cross-functional integration (e.g., Gupta, Raj, and Wilemon, 1987; Olson, Walker, Ruckert, and Bonner, 2001). Cross-functional integration involves various functional departments (Urban and Hauser, 1993) and their personnel are involved in many interdependent tasks. For example, marketing and manufacturing are dependent on R&D to understand the technological potential of a product. Moreover, marketing's interpretation of customer preferences leads to a bundle of desired product features that R&D has to consider during product development, which will then determine the required manufacturing capabilities. Such interdependencies call for high levels of interaction as well as information and resource sharing across these three functions to ensure a cost- and time-efficient process that leads to effective results (Song and Swink, 2002).

In the literature, a generally accepted definition of cross-functional integration is yet to emerge (Olson et al., 2001). Operational definitions range from unidimensional measures of the frequency of interactions between departments to multidimensional constructs of interaction and collaboration (Kahn, 1996).

Cross-functional integration offers several advantages. The improvement of horizontal linkages allows for information and resource sharing among functional departments (Moenaert and Souder, 1990).

Much of the existing research examines only bi-functional cooperation, in most cases focusing exclusively on the relationship between marketing and R&D (Gupta, Raj, and Wilemon, 1985; Song and Parry, 1992). Service firms often use formalized cross-functional teams as a tool for coordinating actors and knowledge in the service innovation process (Hull, 2003; Fay et al., 2006).

4.3.3.3.2 Integrated Services/Products

Current improvements in mobile technology resulted in widespread usage and different functions of mobiles to directly communicate anytime, anywhere (Haghirian et. al., 2008). As a powerful marketing channel mobile telecommunication allowed businesses to set up electronic presence alongside with their consumers without time and place boundaries (Toker et al., 2010). This medium has also provided people with new approaches to accessing web contents, emails, instant messaging, and commerce services in a convenient and flexible fashion which fully takes the advantages of mobility and timeliness of mobile communication technologies (Guo et al., 2010). Latest advances in mobile technology let mobile phones to have big memories, convenient internet connections and faster processors (Liu et al., 2010). For example, interactive voice response is providing an option to send or receive voice calls with people and communicating with them without any live person is involved on the other side of the communication (Becker et al., 2010).

Today, people use mobiles to substitute for travel, to start and open businesses, and to keep in touch with friends and family (Samuel, Shah, and Hadingham 2005). Many of the studies make clear, people working under economic constraint also adopt and use mobiles in different ways such as ‘missed-calling’, an adaptation and appropriation of the mobile’s functionality (Donner 2007; Sey 2007). Cartier, Castells, and Qiu (2005) extend further, illustrating how a whole class of ICTs (phone cards, SMS, internet cafes, and limited-mobility little smart phones have emerged to serve users information needs. It is found that younger people are faster than older people about adoption of new technology (Leek et al., 2009). Consequently highest usage of mobile phone is the 18- 29 years old age group (ibid). Researches indicate that mobile phone is the most common way of communication among young people who uses email more than traditional voice calls (Okazaki, 2009). As technology behind mobile phones improves more and increase their capacity to download and store video and music content, they are going to become more popular for young people (Grant et al., 2007).

Due to the above reasons, apart from the basic voice communication services, mobile telecom companies also offer value-added services (VAS) as non-core services. Mobile value added services (MVAS) are those services that are not part of the basic voice offer and are availed separately by the end user. Some services such as e-mailing and voice are more business oriented while on the other hand, various freetime oriented services are provided in new smart phones, such as imaging and music playback (Verkasalo, 2008). May (2001)

proposed that MVAS can be classified in three primary categories, namely-base service platforms (e-mail and messaging, web access, voice, location finding and digital content products), services for customers (travel, ticketing, banking, stock trading, news and sports, gambling, games and shopping), and services for business (mobile markets and the independent professional, mobile collaboration in action and mobile commerce closes the management loop).

As part of integrated marketing, mobile telecom companies follow a number of product/service strategies. For example, bundling of core products and/or services is a well-known phenomenon in the telecommunication industry. Bundling can be defined as selling of two or more products in a package for a special price. Packages in which telephony services are combined with wireless and internet services are common. Bundling of mobile services with ‘an almost for free’ handset is common practice. Since the objectives of telecom service providers are very well defined, i.e., increasing revenue, lower churn-rates and improve margins (Bouwman et al., 2005), bundling of VAS offers an exciting strategy to achieve all the objectives.

Carlton and Waldman (2002) investigated how the tying of complementary products can be used to preserve and create monopoly positions. Offering two goods both separately and as a bundle (at a price other than the sum of the components’ prices) is known as bundling (Salinger, 1995; Venkatesh and Mahajan, 1993). Under such bundling strategies mobile telephony and commerce services are provided.

Mobile telephony is emerging as the need to integrate mobile telephony services and computer network services. The integration between information services (e.g. databases), notification services (e.g. E-mail, alarm systems) and telecommunications infrastructure (e.g. GSM, Fax, etc.) is one of the strategic issues to satisfy mobility needs (Messerschmitt, D.G., 1996). According to Grant *et al.* (2007), improvements in mobile technology, and integration of data, video and audio context in one mobile device absolutely increased the usage of mobile devices. Flexibility in communication and information sharing became possible with improvements in mobile technology and integration of internet and computing into mobile medium (Siau *et al.*, 2005). The possibility of reaching the information anytime and anywhere triggered the improvements of mobile devices lately (Deans, 2005).

Thus, the increased growth in the area of mobile commerce gives new dimensions to interactive marketing (Okazaki, 2009). Direct interaction with consumers is possible via mobile marketing without time and place boundaries (Dickinger et al., 2005). Personal nature of the mobile phones provide an opportunity to understand buying habits and trends of individual consumers which is impossible in PC environment, that’s why marketers should see mobile internet as a powerful medium (Keefe, 2008).

4.3.3.3 Integrated Pricing

Baker and Crompton, (2000) identified that there is a positive relation between service quality and willingness to pay higher prices. Service centre manager should constantly obtain updated information in regard of the customer costs to the service centre which are competitive relative to other forms of service (Kirkup and Rafiq, 1999).

The study of Elliot & Shatto (1996) found most customers place a higher value on lower prices than they do on personalized service, and they are willing to accept lower service levels in exchange for price breaks (Elliot & Shatto, 1996). On the other hand, according to

Reeves & Bednar (1996) customer service may be more important than price.

A number of research studies (ITU, 2005; Rouvinen, 2006) found that because of the variability of mobile services and thus their pricing, mobile operators adopt per minute local call peak charge to measure the cost of mobile services in each country. Previous studies have used the local call peak charge per minute (or per month) measure to indicate the relative level of prices for residential mobile voice services. Regarding the factor of non-voice mobile applications, the cost of short message services (SMS) is employed as the price proxy for mobile broadband relevant applications. SMS is a feature available in many new digital phones that lets users receive and send short text messages. Fixed-broadband price is measured by broadband monthly charge. The studies also included telecommunication infrastructure investment in the empirical model which is measured by annual telecommunication investment (*ibid*).

4.3.3.3.4 Integrated Marketing Communication (IMC)

According to Alexander and Muhlebach (1992), “promotion” represents the marketing communication of the product with the goal of generating a positive customer response. It aims to improve the image of the company in general for establishing a unique brand in the minds of customers (Yuen, 2005). LeHew and Fairhurst (2000), quoted by Parsons (2003), also point out that the promotional activities of the service providers are being used increasingly to differentiate themselves through image communication, increase patronage, and stimulate purchases under the competitive atmosphere. Kirkup and Rafiq (1999) and Yavas (2003) illustrate that the service centre should engage in integrated communications campaigns including advertisements in the local media, publicity featuring testimonials from visitors and news stories in the local newspapers and TV stations to countervail the negative perceptions. Advertising through common media e.g. local press, TV, radio, posters, mail shots and cinema can directly pass the messages to the customers.

Different studies found that like other service providers mobile telecom companies also conduct their campaign through mobile advertising, mobile apps, SMS marketing, etc.

4.3.3.3.4.1 Mobile Advertising: Mobile phones have become a new advertising tool to target customers with discount coupons, to conduct surveys or offer free samples (Funk 2004). The study of Robins (2003) found that users want the message’s content to be tailored to their interests and Milne and Gordon (1993) mentioned that users prefer to get messages that are relevant for them. Thus, the latest improvements in communication technology opened the way for mobile advertising to be crucial component of marketing mix (Leppäniemi et al. 2004). Developments in mobile screen technology also increased the resolution and provided an opportunity for advertisers to implement higher quality images and banners on mobile devices (Mobile Marketing Association, 2007). Consequently advertisers can produce more efficient advertisements with higher quality, richer and bigger (*ibid*).

4.3.3.3.4.2 Mobile Apps: Computer programs known as mobile applications which are installed on mobile devices like Ipad or smartphones are also used by the mobile service providers for branding and advertising purposes (Becker et al., 2010, Ho et al., 2010).

4.3.3.3.4.3 Quick Response (QR) codes: A matrix code (or two-dimensional bar code) known as Quick Response (QR) codes are also used by the mobile service providers to enable the users to locate the nearest service centers (Hirakawa et al., 2009).

4.3.3.3.4 SMS Marketing: Advertising through short messaging service (SMS) is likely to reach millions of wireless consumers' devices (Binay, 2001, cited in Maneesoonthorn & Fortin, 2004). SMS turns out to be a technological buzzword in passing on Business to consumers (B2C) messages to mobile phones (Quah & Lim, 2002). Suleyman (2008) stated that SMS and multimedia messaging service (MMS) advertising are predicted to attain higher response rates than that of television or e-mail since all advertisements can be sent personally. SMS marketing can provide advantages like lower cost than other media channels, since the main expense is buying mobile phone numbers (Dickinger et al., 2004). According to Dickinger et al., (2004) there are several different types of text messaging applications exists which are; information services, mobile couponing, mobile CRM (customer relationship management), branding, entertainment and product launches. Barwise and Strong (2002) recognize six ways of using SMS for advertising: brand building, special offers, timely media, competitions, voting, products, services and information requests.

4.3.3.3.5 Integrated Distribution through Forward Integration

The literatures always emphasize that location is the major and significant element causing the success of business service centre development. Dawson (1983), as quoted by Kirkup and Rafiq (1999), explains that location is probably the single most important determinant of success for a service centre. According to Ghosh and McLafferty (1987), the business or service centres located at good locations can attract large numbers of customers and enhance potential sales.

A business located close to the public transportation can enjoy a benefit of bigger catchment population and draw more people to the service centre (Seah, 2003, quoted by Wee and Tong, 2005). Good customer interchange among various service centres within the trade area is a sign of a well chosen location that different stores can generate business for each other and customers can traffic throughout the area smoothly (Institute of Real Estate Management, 1990). Easy accessibility can minimize the searching time and psychological costs of consumers including stress and frustration (Levy and Weitz, 1998, quoted by Sit et al., 2003), and attract people coming back again for visiting and transactions.

Location based services are tried to be produced by many marketers; the main value proposition is the location (Becker et al., 2010). However, location is not the main goal, instead it is an instrument that empowers services like mapping, advertising and search to be more valuable (Dickinger et al., 2004). By tracking technical address of mobile devices it is possible to detect local position of the user in the environment of mobile commerce (Lee et al., 2007). As an example Telia (Swedish company), one of the biggest telecommunication company in Europe, applied real-time SMS game by using mobile devices position to allow users to interact with each other while playing (Dickinger et al., 2005).

Contextual marketing is also possible with location based marketing. Example for contextual marketing, information or coupon about a specific product can be sent to consumer via mobile device while consumer is in the department store to buy specific product (Lee et al., 2007).

4.3.3.3.6 Integrated Teamwork (People)

Results from many studies on mobile telecom operators showed that using performance scores alone rather than expectations minus perceptions, resulted in better reliability and validity (Carman, 1990; Cronin & Taylor, 1994; Martínez & Martínez, 2010). This is because

people always tend to give high expectation ratings while their perception scores rarely exceed their expectations (Babakus & Boller, 1992).

This element is referred to all “participants” with whom the customers come into contact during service delivery. These participants include customer service staffs, operational staffs, cleaners, security officers, branch or service centre staffs and other customers, who can affect the customer perception of the service. Conte (2008) sees the customer segment as a group of people addressed by the service offerings. Again Kirkup and Rafiq (1999) found that a friendly and consistent service of the operation staffs can build good image of the service centre. He stated that the quality and visibility of security staffs can provide symbols of reassurance. Yuen (2005) mentions that knowledgeable, efficient, effective management personnel and services can add significant value to the total service and establish customer loyalty as well as encourage repeat visits. This factor can make a good impression on the customers and encourage them to come back to the service centre.

4.3.3.3.7 Integrated Process

In a number of research studies, various aspects of the service delivery process have been identified as the central tenets of the service related criterion., such as ease of handling queries, delivering on services as promised, and the length of waiting time (Aregbeyen, 2011; Beckett & Hower, 2000).

M. K. Kim et al. (2004) emphasized on the provisions of maintaining variety of customer support systems, speed of complaint processing and ease of reporting complaint as the important criterion of delivering excellent customer service to the mobile users.

Gronroos (1983) conceptualized functional quality as process quality which refers to the quality of how it is provided. According to him, functional quality or process quality refers to the impact of the interaction process or how the service production and delivery process itself is perceived (Grönroos, 1984). Its elements include items such as courtesy, confidence and attentiveness. While Lim et al. (2006) emphasized process quality as a broad range of service delivery items, such as perceptions of a firm’s customer care and the manner of service personnel. These form the basis of the customer’s evaluation of the service provided and provider. Process quality becomes more imperative in determining the overall perception of the service (Gronroos , 1983).

The element of customer service plays an important role to the customer retention of the service centre. According to Lichfield (1990), quoted by Kirkup and Rafiq (1999), the customer service can be distinguished to “relief” and “distraction” services. Both of them can enhance the service process significantly. Relief service is referred to lighting, visual features, seating, toilets, and telephones, which can make service encounter less tired and enjoyable. Distraction can be defined as a higher level of relief through creches, and entertainment.

4.3.3.3.8 Integrated Physical Evidence

Choosing to use a service can be perceived as risky because it is intangible. Helping potential customers to see what they are buying can reduce this uncertainty (Bitner and Zeithaml, 2010). In the absence of a tangible good, the physical surroundings and other visible and ambient cues can have a vital effect on customer’s perceptions and perceived risk of the service quality (Lovelock, Patterson & Walker, 2001). Physical evidence includes all aspects of the organization’s physical facility including exterior and interior attributes as well as

other forms of tangible communication and refers to the experience of using a product or service.

4.3.3.3.8.1 External design includes high visibility, and appropriate signage and cladding to convey the status of the centre and the type of consumers targeted (Guy, 1994 quoted by Kirkup and Rafiq, 1999). It can remind the customers the location of the service centre even when they have no immediate need to business (Alexander and Muhlebach, 1992). Thus, the key function of this element is to attract more customers when the service centre can differentiate itself from the other companies centres through exterior design (Yuen, 2005).

4.3.3.3.8.2 Interior design, according to Kirkup and Rafiq (1999), can create a particular atmosphere, quality and personality to the service centre by the decorative features, lighting, air-conditioning and floor finishes, which can enrich the atmosphere and enhance differentiation. Moreover, this environment can be further achieved through careful location of the tenants, the leisure facilities and movement facilitators such as lifts, escalators, ramps between levels and signage.

Yuen (2005) highlights that the front design and displays also impact the service centre image and environment that customers do not like to stay in the mall with poor layout and circulation, dead-end corridors and confusing signage. In addition, the service centre can be integrated with leisure attractions e.g. cinema, ice rinks and large food courts to act as marketing differentiators, which can retain the customers and attract them to re-visit the centre (Kirkup and Rafiq, 1999). Sit et al. (2003) raises out the point that “entertainment can be a means of image differentiation for service centres”, which is one of the critical determinants in consumer patronage decisions.

4.3.3.3.9 Inter-operator relationship through Horizontal Integration

Little and Little (2009) propose the ‘Home Team Approach’ of implementing a cross-functional team across human resources, operations and marketing functions. This approach would utilize existing company human resource (people) and requires support and authority from senior management, including authority for implementing improvements that they think will improve quality for customers (Little & Little, 2009). If members of each department are actively working together in this way, they are more likely to take shared ownership and responsibility for internal marketing activities (Little & Little, 2009). Further, serendipitous opportunities may also arise as they ‘benefit from the sharing of tacit knowledge that can occur in cross-functional teaming’, as Little and Little (2009) say, in reference to the findings of Mohamed, et al., (2004). Inter-operator relationship through shared network, infrastructure and interconnection are such forms of horizontal integration in the mobile telecom industry.

Shared Network of the mobile operators plays an important role in increasing access to information and communication technologies (ICTs), generating economic growth, improving quality of life and helping developing and developed countries to meet the objectives established by the World Summit on the Information Society (WSIS) and the Millennium Development Goals established by the United Nations (G. Hasbani et. al., 2007). Mobile infrastructure sharing may also stimulate the migration to new technologies and the deployment of mobile broadband, which is increasingly seen as a viable means of making broadband services accessible for a larger part of the population (C.B. Lefevre, 2008). Infrastructure sharing is the most cost-efficient design principle for any new roll-out in emerging markets and the best approach for technology migration and consolidation (O. Wymann, 2007). Frisanco provides a three dimensional categorization of Infrastructure

sharing. According to this view, the dimensions are: i) the technical dimension, which is related to the proportion of the 3G network that is shared, ii) business model, which defines the legal and financial roles of the sharing operators and iii) geographic dimension, which defines the sharing of which parts of the operators networks will be effective.

Interconnection agreements between mobile operators are treated as strategies for compatibility (Economides, 1996). For an operator, its interconnection choices have an overwhelming influence on the diversity of its services, quality, and price. They also condition its profitability, hence its survival in the market. An interconnection agreement reflects an integrated relationship, whereby an operator needs the other for its own service provision. Meanwhile it is in the owner's interest to provide end user services himself (Economides and Woroch, 1992). This integration strategy may even be favorable for consumers, since the price of the end user service may decline. This result holds from the elimination of the double margin when the supply of the service is integrated, a classical result shown by Cournot (Economides and Salop, 1992; Economides, 1999). Laffont, Rey and Tirole (1998a) show that when the operators choose interconnection tariffs non cooperatively, the result is non optimal, with too high tariffs, since operators do not internalize the adverse effects upon the utility and the demand of users. The authors then study the case of a collective determination of interconnection charges. The cooperative choice may reduce competition and increase the retail prices of calls, reflecting a possible collusion among operators. These effects are strengthened when the regulator imposes a non discrimination principle between incoming and outgoing calls, as well as a reciprocity of access charge (the same charge for incoming calls of all networks) (Economides, Lopomo and Worock, 1996). If these regulatory constraints are upheld, a cooperative determination of access charges leads to less collusion (Laffont, Rey and Tirole (1997, 1998b)).

In 2010, Celcom entered into a long-term network and infrastructure collaboration with DiGi Telecommunications Sdn Bhd, a Telenor company, in Malaysia. The collaboration focuses on three areas, namely operations and maintenance, transmission and site sharing, and radio access network. The infrastructure sharing model is geared towards generating significant operational efficiencies for both operators. As of end 2012, the two companies jointly shared 150 sites. 250 more sites are planned for 2013 (Axiata Sustainability Report, 2012:32).

Within the Group, a similar agreement has also been entered into in Bangladesh between Axiata and Telenor Asia, through their respective operating companies, Robi and Grameenphone. The move signals Axiata's commitment to explore initiatives regarding network resources collaboration in Asia that could bring long-term significance in cost savings and environmental benefits (*ibid*).

4.3.3.3.10 Integrated Supply through Backward Integration

Suppliers can impact on profitability and competitiveness of the enterprises by price and quality of unit value they supplied (Porter, 1979). In their study, Wang Zhao and Yang Jinwei found that the suppliers of telecom industry mainly include network software suppliers and network hardware suppliers. Network software suppliers refer to those network software producers such as on-line game suppliers, interphone suppliers and some other suppliers such as network software-downloading sites.

Wilde and de Haan (2006) discussed that mobile phone suppliers get into arrangements with mobile network/service operator (MNO), who are, in a sense, large-scale consumers (and resellers) of mobile handsets. As a result, though only a fraction of their revenues comes from

handset sales, network operators often see handset manufacturers as their most important suppliers. Mobile telecommunications equipment manufacturers offer network operation services not only to customers with their own hard- and software products, but also to those who use equipment from rival suppliers or multi-vendor networks (Friedrich et al., 2009). Specialized external suppliers can offer network operation services at lower cost than internal departments at operators (Hecker and Kretschmer, 2010). Orascom Telecom has followed the strategy of backward integration and so its subsidiaries have no danger or uncertainty from suppliers (the NEWS, 2007).

In order to develop a Collaborative Supply Chain, Celcom (i.e., the mobile telecom company of Axiata in Malaysia) follows a four-pronged approach through i) supplier segmentation, ii) relationship building efforts, iii) rationalization initiatives, and iv) supplier development efforts. Celcom was recognised with the International Institute for Advanced Purchasing and Supply (IIAPS) Asian Supply Chain Excellence Awards 2012 under the Collaborative Supply Chain Special Award (Axiata Sustainability Report, 2012:32).

4.3.4 Performance Marketing

In order to ensure effective holistic marketing performance market-driven organization like mobile telecom operators apart from their regular marketing activities and programs also need to address broader concerns and their legal, ethical, social, and environmental effects. Therefore, marketers must carefully consider their role in broader terms, and the ethical, environmental, legal, and social context of their activities (Rajendra Sisodia, et al. 2007).

4.3.4.1 Sustainable Development through Performance Marketing

Sustainable Development through Performance Marketing usually refers to the long-term maintenance of systems according to environmental, economic and social considerations (Crane and Matten, 2004).

Marketing has been identified as a way to integrate social responsibility into business organizations, to promote more sustainable lifestyles as well as developed and diffuse sustainability innovations (Maignan and Ferrell 2004; Maignan et al. 2005; UNEP 2005).

4.3.4.2 Performance Marketing Factors that Affect Sustainable Development of Mobile Telecom Industry

4.3.4.2.1 Political (P)

Political factors have direct as well as indirect influence on mobile penetration and the degree and types of mobile phones. As governments have opened the mobile market for competition and made investment in mobile projects, the availability of mobile phones to different sections of the society has increased dramatically with consequent decreases in price. European governments, for instance, experienced a financial windfall by auctioning off 3G mobile licenses. The experience of developing countries that have opened their mobile markets, such as Korea and Sri Lanka, indicates that competition among operators leads to lower prices (UNDP 2001). Other developing countries can learn from such experiences and open the market for competition to balance the power of state run monopolies. India, for instance, opened its telecom market for competition and is experiencing a rapid growth rate in mobile penetration (Rai 2001). However, many governments still view mobile phones as luxury items appropriate only for business executives and rich people; and this has become a major obstacle in bringing mobile communications to the least developed areas (Lopez, 2000).

4.3.4.2.1.1 Digital gap minimization

Kshetri and Dholakia (2001) found that political factors are playing an important role in the diffusion of digital signatures in Asian countries. While, one of the important challenges for policy makers involved in bridging the digital divide is to break the “hierarchical pattern” (Gatignon and Robertson 1985, p. 858) of technology diffusion, which favors developed countries.

Until a few years ago, mobile phones diffused more rapidly in high-income countries and widened the digital divide between the developed and developing countries (UNDP, 2001). In recent years, due to political agenda to reduce digital divide, mobile communications are experiencing higher growth rates in low-income countries. For instance, during 1995-98, mobile subscribers in low income countries registered an annual percentage growth rate of 117% compared to a rate of 47% for high-income countries during the same period (ITU, 1999a). As a result, from 1990 to 1999 the developing countries’ share in the world mobile market increased from 5 per cent to 20 per cent and that of the Asia-Pacific region rose from 15 to 20 per cent (Wai, 2001). More importantly, a large proportion of the newly added mobile phones in developing countries are getting into the hands of relatively poor people (Economist, 1999).

M-Governance: There are a good number of arenas that aim at minimizing digital divide. Mobile phones have been used in e-government and civic participation as well. During the 2000 elections in Senegal, for instance, FM radio reporters used mobile phones to improve their coverage (Lopez, 2000).

M-Commerce: Mobile phones have positively contributed to efficiency and competitiveness of small business owners. Ken Hyers, observes, people in Asia are more “comfortable with a lot of different, small electronic devices and appear to be more comfortable with wireless phones” (Wilson 2001). For instance, mobile phones have made taxis in Kampala, the Ugandan capital, more efficient. Similarly, tradesmen traveling on bicycles in Jamaica use mobile phones to communicate with their suppliers and customers (The World Bank, 2000). Mobile phones have lowered the risk of the profit margins of farmers and small business owners in developing countries being squeezed by larger firms or the firms from developed countries (Economist.com, 2000). Farmers in developing countries are using mobile phones to eliminate or reduce the role of intermediaries in the value chain. For example, mobile phones have enabled Bangladeshi farmers to find the proper prices of rice and vegetables. Similarly, groups of small farmers in remote areas of Cote d’Ivoire share mobile telephones so they can follow hourly fluctuations in coffee and cocoa prices. Thanks to mobile phones, they can now choose the time to sell their crops when world prices are in their favor. A few years ago, the only way to find out about the market trends was to go to the capital city and most of the times, the deal making was based on often-unreliable information from buyers (Lopez, 2000). Likewise, fishermen in India use mobile phones to get information about the price of fish at various neighboring ports before making decisions about where to land their catch (Rai, 2001).

M-banking: The use of mobile banking has made basic financial services more accessible to low-income people, minimizing time and distance to the nearest retail bank branches (CGAP, 2006). The outstanding growth of mobile sector worldwide has created a unique opportunity to provide social and financial services over the mobile network. With over 4 billion mobile cellular subscriptions worldwide, mobile network has the ability to immediately offer mobile banking to 61% of the world population (Sultana, 2009).

Mobile banking is an application of m-commerce which enables customers to access bank accounts through mobile devices to conduct and complete bank-related transactions such as balancing cheques, checking account statuses, transferring money and selling stocks (Kim et al., 2009). Luo et.al (2010) defined mobile banking as an innovative method for accessing banking services via a channel whereby the customer interacts with a bank using a mobile device.

Scholars suggest that for developing countries, m-banking can reduce ‘walking many kilometres for the banking’ (Medhi et al, 2009). However, the most popular topic in m-banking research is the customer perspective that concentrates on adoption, acceptance and usage of m-banking (Brown et al., 2003).

Though many argue that internet and other technology based transaction is not safe, not practical and would lead to fraud, a lot of people think mobile banking safer, flexible in time and can be done anywhere and anytime (Chowdhury and Ahmmad 2011).

Using Vodafone M-Pesa, the number of global customers almost doubled in 2010/11 to around 20 million, who collectively transfer over US\$500 million a month (Vodafone Sustainability Report, 2010-11).

Huda, Momen and Ahmed (2004) commented that the banking sector in Bangladesh is clearly recognizing the importance of information technology to their continued success (Ali, 2010). Shamsuddoha (2008) argued that Bangladeshi banking industry has matured to a great extent than earlier period. It has developed superb image in their various activities including electronic banking (Ali, 2010).

M-shopping: Recently, mobile devices offer opportunities combining information search, use and exchange while shopping in-store or experiencing a product. A mobile device is a constant companion to the consumer, a gateway to a relationship between the consumer and the retailer, making it an ideal supplementary channel for distance selling and physical retailing (Shankar, Venkatesh, Hofacker et al, 2010). An industry study showed half of US mobile consumers being mobile shoppers, 10 percent heavy and 40 percent light users (Leo Burnett & Arc Worldwide, 2011).

Distance learning and telemedicine: Mobile phones are delivering and have the potential to deliver a number of other social benefits. They can help families and friends stay in touch, improve education and medical benefits to rural and remote areas through distance learning and telemedicine (Hammond, 2001), etc. For example, people in rural Bangladesh, who had virtually no phones until a few years ago, are using mobile phones to call their family members staying abroad or in other parts of the country, call doctors or the police for emergencies, etc. (Schwartz 2001). Also mobile data networks are being used for such purposes. In Uganda, despite limited bandwidth, GSM telecommunications are being used to provide Internet access and even high frequency radio is used to provide email connectivity (Ernberg, 1998).

4.3.4.2.2 Economic (E)

There is a plethora of evidence in both the empirical and theoretical literature on the relationship between telecommunications infrastructure and economic growth. Saunders, et al. (1994) cited by Ding and Haynes (2004) provide a positive relationship between telecommunications and economic growth. Intensive review based on the works of Canning,

1998; Cronin et al., 1991,1993; Nadiri and Nandi, 1997; Wang, 1999; Schreyer, 2000; Yilmaz et al., 2001; International Telecommunications Union (ITU), 2003; Datta and Agarwal 2004; Lam and Shiu, 2010 show a positive and significant causal link between telecommunications infrastructure and economic growth.

4.3.4.2.2.1 Investment on technology

Alleman et al. (1997) examined the relationship between investment in telecommunications infrastructural investment and economic growth with respect to the Southern African countries and concluded that investment in telecommunications will take one period to manifest this impact. This is supported by Jain and Sridhar (2003) in the study of the non-OECD countries: Algeria, Argentina, Brazil, Chile, Costa Rica, Egypt, India, Indonesia, Korea, Malaysia, Mauritius, Mexico, Morocco and Tunisia. Ding and Haynes (2004) empirical investigation of a sample of 29 regions in China covering 1986 to 2002, confirms that fixed investment has a positive effect on economic growth and that telecommunications is both statistically significant and positively correlated to regional economic growth in real GDP per capita growth in China. The study of Tella et al. (2007) on telecommunications infrastructure in Nigeria show that main landline and cell phone penetration had significant effects on economic growth, after controlling for the effects of capital and labour.

4.3.4.2.2.2 Taxes and Duties

Hassett and Hubbard (2002) provide a good review of the literature on the effectiveness of tax policy (in general) and tax incentives (in particular) in promoting investment. Though Hassett and Hubbard (2002) find that tax policy has little effect on investment when macroeconomic data are used, there is evidence that taxes affect the volume and location of Foreign Direct Investment (FDI). Extensive research indicates that FDI is sensitive to taxation in host countries (Hines, 1997).

In a study of FDI in 47 countries—including developing countries—drawing on the bureau's data, Grubert and Mutti (2000) study why investors decide to locate in certain countries. They find that investments oriented toward domestic markets are less sensitive to changes in tax incentives, while export-oriented investments are more sensitive. It has also been found that tax holidays had a small effect on FDI, they concluded that tax holidays and import duty exemptions were unlikely to attract FDI if no nontax factors were favorable (*ibid*).

Morisset and Pirnia (2001) support this conclusion, stating that “incentives will generally neither make up for serious deficiencies in the investment environment nor generate the desired externalities.

4.3.4.2.3 Socio-Cultural (S)

Social responsibility marketing (Greider, 2003) carefully considers the role that the firm plays in terms of social welfare. Surveys reveal a great number of customers who either reward or intend to reward companies which are proactive regarding social or environmental issues in their business and marketing practices (Carlson et al., 1993). The research findings of Brown and Dacin (1997) regarding the effects of the company's perceived social responsibility on product responses show that what consumers know about a company can influence their reactions to its products. Negative corporate social responsibility associations can have a detrimental effect on overall product evaluation, whereas positive ones can improve the product evaluations.

McDaniel and Rylander (1993), for instance, recommend social responsibility as a strategic device by incorporating environmental concerns into strategic marketing planning. Kopperi (1999) points out that the people who work in business should consider how their economical decisions affect other people, the environment and society.

The principal reasons behind the involvement of cell phone telecommunication companies in corporate social responsibility (CSR) activities are stiff competition between the companies for a strong customer base, various new issues that arise from customer services and satisfaction and the fact that the companies operation is largely based on customers' needs and technological demands (Kissel & Beauvais, 1994). Furthermore, such involvement shows what the company has done to fulfill its corporate duty to ensure the firm is not only good in providing the service but also plays its roles by contributing something to the community (Tilt, 1994).

Therefore, it has become inevitable for such a company to view philanthropy-related expenses as no different from budget allocations for advertising, human resources, raw materials and other traditional expenditures (McAlister and Ferrell, 2002) and most of them are emphasizing societal issues in their values, marketing strategies, structures and functions (Karna et al. 2003). Hence, it is now a necessity for such a member of service industry to go beyond corporate image to effectively sustain a competitive position, which is also applicable to positioning involving social issues (Ellson, 2004).

CSR is the concept that modern businesses have responsibilities to society that extend beyond their obligations to the stockholders or investors in the firm (Carroll, 2007). From a different point of view, Mohr et al. (2001) define CSR as a company's commitment to minimizing or eliminating any harmful effect and maximizing its long-run beneficial impact on society.

Carroll (1991) indicated that CSR embraces for social responsibilities which are economic, legal, ethical and philanthropic. The economic aspect is responsibility to profit; the legal component deals with the society's expectation from companies to comply with the laws and regulations of the land; ethical deals with society's expectation from companies to embrace value and norms; philanthropic responsibilities entail companies being good corporate citizens.

Helg (2007) noted that CSR has the potential to make positive contributions to the development of society and businesses.

Elizaveta (2010) claimed that CSR business attracts the best workers and bring more customers to any organization. She went further to add that companies without CSR most often fail sooner or later and that big organizations appear to understand this, thereby they set up strategies to assure stakeholders of being socially responsible. Companies with CSR policies get the best workers, shareholders, customers and a happier community and society. The economy and the capital market also recognize that sustainable companies are businesses of the future.

The implementation tool of CSR is corporate social initiatives, which are the "activities undertaken by a corporation to support social causes and to fulfill commitments to corporate social responsibility" (Kotler & Lee, 2005). The domains of CSR are diverse (Sen and Bhattacharya, 2001). Generally, the dimensions in past studies and business practice include environment protection, personnel and employee support, community support, equal

opportunity, products, corporate philanthropy, disclosure of social information, representation of women, and representation of minorities (Carroll, 1999; Owen and Scherer, 1993; Sen and Bhattacharya, 2001).

A number of research studies revealed that CSR has proved to generate numerous benefits for those firms that engage in socially responsible actions. Such benefits, from a marketing perspective, include consumers' positive product and brand evaluations, enhancement in brand image and personality, store attractiveness, brand choice, brand loyalty and commitment, brand identification, identity attractiveness, brand recommendations, advocacy behaviors and firm value market (Creyer & Ross, 1997; Brown & Dacin, 1997; Drumwright, 1994; Handelman & Arnold, 1999; Osterhus, 1997; Sen & Bhattacharya, 2001; Mohr & Webb, 2005; Oppewal et al., 2005; Sen et al., 2006; Du et al., 2007; Marin & Ruiz, 2007; Madrigal & Boush, 2008; Wigley, 2008; Gupta & Pirsch, 2008).

One of the major research questions examined by researchers is the will of consumers to pay more for a socially responsible product or willingness to change their buying preferences for more socially responsible companies. Thus, according to Auger et al. (2003) consumers express willingness to pay more for products made ethically (e.g., soap with no animal testing) a result which is in accordance with Creyer and Ross's (1997) research. In the same vein, in Cone (2004) research the 86% of Americans state that they are likely to switch their brand choices for brands associated with causes if they have the same price and quality.

Moreover, Sen and Bhattacharya (2001, 2003) suggest that consumers are more likely to be loyal to those companies, promote them to others, and be resilient to negative publicity about them when they identify with them.

Although researchers conclude that a positive relationship exists between CSR actions and consumer attitudes towards a company (Sen & Bhattacharya, 2001; Du et al., 2007, Wigley, 2008), consumers are found to be more sensitive to negative CSR information. This negativity bias exists when consumers react more strongly towards corporate irresponsibility than towards corporate responsibility (Folkes & Kamins, 1999; Creyer & Ross, 1997; Sen & Bhattacharya, 2001; Mohr & Webb, 2005). Therefore, it is more likely that consumers want to punish irresponsible companies than to support the socially responsible companies with their purchase choices (Creyer & Ross, 1996; Bhattacharya & Sen, 2004). In support of this, a Cone (2004) research found the 90% of consumers in USA stating that they will change brands if they are informed that a company conducts socially irresponsible actions and 81% will speak negatively for the company to their friends and families. In this vein, Wanger et al. (2008) examined the consumers' perception of corporate social irresponsibility in the retailing sector.

According to Chen & Wang (2011), the concept of corporate social responsibility (CSR) was first mentioned by Shelton in 1924 but as Carroll (1999) notes, the modern era of CSR began in the 1950s with Bowen's (1953) publication of *Social Responsibilities of the Businessman* in which the author set forth an initial definition of the social responsibilities of businessmen as: —It refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society (cited in Carroll, 1999).

The Business Impact (2000) lists social expectations as to treat employees fairly and equitably; operate ethically and with integrity; respect basic human rights; sustain the environment for future generations; and be a caring neighbour in their communities.

As Meehan et al (2006) observe: —When organization-wide commitment to robust ethical standards is deficient, due to a consistent focus on short-term profits across the value network, corporate legitimacy will likely decline.

Carroll (1979) argued that among the four types of social responsibility of businesses which he identified as economic, legal, ethical, and philanthropic; the economic responsibility was the prominent one upon which all the other responsibilities depend.

Carroll's pyramid of CSR depicted the economic category as the base (the foundation upon which all others rest), and then built upward through legal, ethical, and philanthropic categories arguing that without economic responsibility, it would be impossible to take other responsibilities. Carroll (1999) insists that economic viability is something business does for society as well, although we seldom look at it in this way and for CSR to be accepted by the conscientious business person, it should be framed in such a way that the entire range of business responsibilities is embraced. As Lord Sieff, the former chairman of Marks & Spencer plc rightly pointed out: —Business only contributes fully to a society if it is efficient, profitable and socially responsible (cited in Moir, 2001).

The modern view of the firm ascribes to the idea that it is in the enlightened self-interest of business to undertake various forms of CSR. In this view, CSR is thus seen as a strategic management and marketing tool. The idea here is that business benefits from being more socially responsible and that this can help to build sales, the workforce and trust in the company as a whole. The objective is to build sustainable growth for business in a responsible manner (Moir, 2001). CSR is said to improve the company's profitability and financial performance (Van der Laan et al., 2008; Ruff et al., 2001), create customer loyalty (Mandhachitara & Poolthong, 2011), and enhance firm reputation (Chen and Wang, 2011) and contribute to the continuing health and growth of business (CCPA, 2000).

Galbreath (2008: 116) explored how corporate social responsibility (CSR) can be effectively built into firm strategy. The author observes that in crafting its strategy, strategic managers must endeavor to build CSR into the six key areas of strategy – the firm's mission, strategic issues, markets, customer needs, resources, and competitive advantage.

According to the stakeholder theory (Gibson, 2000), just as business owes a duty to its shareholders to make profit, it also owes a duty of care to other stakeholders like employees and their families.

The following issues need to be given careful strategic considerations by the telecom companies if they are truly serious about contributing to the development of this country: (1) Improvement of service delivery; (2) Reasonable pricing of services; (3) Doing business in an ethical manner by taking the health implications of their telephone masts into account when siting such devices; (4) Treating employees and other stakeholders in an ethical manner; (5) Demonstrate consistency in their CSR activities; (6) Engaging in CSR activities that have real impact on people's lives rather than those meant for mere publicity; (7) Weaving CSR into the strategy making function of the firm considering the six key areas of strategy (Galbreath, 2008).

Carroll Archie B. (2000) developed a four-part conceptualization of CSR, which according to them summarizes the unified and simultaneous fulfillment of the organization's social responsibility: its economic, legal, ethical and philanthropic responsibilities.

The main motive for the integration of CSR standards by companies is firm's survival, economic performance and competitive advantage (Mitchell et al., 1997; Werther and Chandler, 2005). Frankental (2001) mentions CSR as a vague and intangible term which can mean anything to anybody, and therefore is effective without meaning.

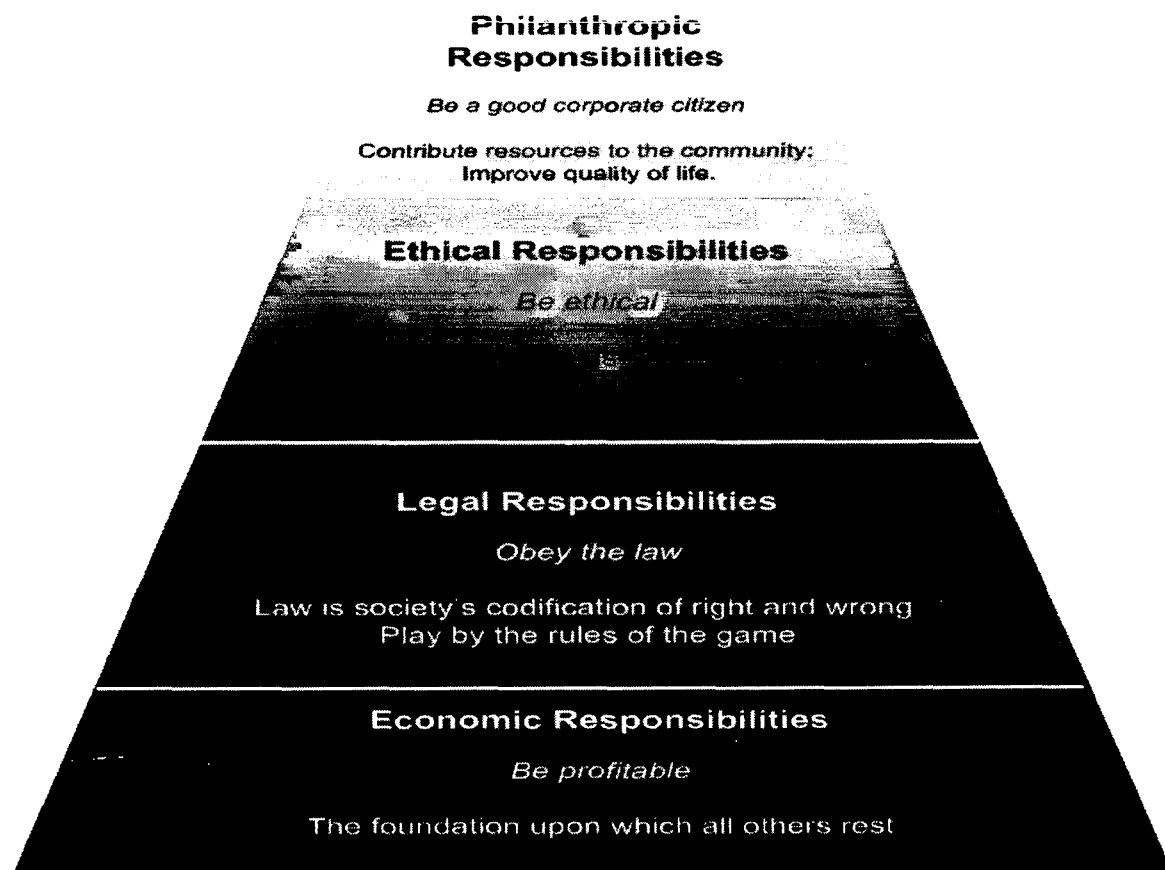


Figure 4.20: Pyramid of CSR (Source: Carroll and Buchholtz, 2000)

Socio-cultural factors influence the propensity to share mobile phones in the community. In some African countries, for example, although a mobile phone nominally belongs to a person, it is regarded as the property of the community, because of the culture of sharing the tools of communication (Lopez 2000). Such factors also influence the types of uses of mobile phones. Mobile phones have minimized the perceived insecurities and danger for females in several developing countries. For instance, Lopez (2000) reports a Venezuelan saying: "My daughter never goes out at night without her mobile. I can call her every hour or less to see if she's OK".

In a review of literature on the impact of cultural factors on mobile technology adoption, Kshetri and Cheung (2001) found that cultural factors influence how fast a potential adopter moves from one stage to the next, the usage pattern of the product, discontinuance after trial, and delay in the adoption process. Thus, people in different societies are likely to have

varying levels of preference for mobile phones and are likely to use them for different purposes.

4.3.4.2.3.1 Age and gender-wise packages and facilities

Although considerable research had been done in the advanced countries to study the perception of mobile phone usage (J. Abascal and A. Civit, 2001; S. Kurniawan, M. Mahmud and Y. Nugroho, 2006; S. Kurniawan, 2007, Y. S. Lee, 2007; Y.S. Lee, 2008), there are scarce information and limited studies done on the perception and usage of mobile phones and services among the senior citizens in developing nations. In Malaysia's National Policy for the Elderly by Ministry of Women, Family and Community Development (2009), the government is committed to develop a caring and considerate society with a social system that emphasizes on universal needs, that is to enhance and strengthen continually the welfare of the senior citizens to center on a strong and established family system.

Again the youth market is a unique segment that needs its own tailored marketing approach. Mobile telecom service providers wishing to connect with this youth audience and tap this market need to understand that the youth culture is far from homogeneous; hence, marketers need to try new approaches or risk losing the attention and money of this fickle audience (Reuters, 2005). An important aspect of selling to this market segment is that customers will carry brand loyalties through into adulthood (Cant et al., 2005:107) which enables acquisition and retention of customers in their youth as crucial to maximizing customer lifetime value.

Iraqi mobile operator Asiacell, part of Qtel Group, performed consumer insights research on the needs of women, who at the time in 2011 comprised 20% of its subscriber base. The result was the Almas line of products, including tariffs suiting women's off-peak usage of the network and a free service blocking potential harassers from calling. Today women comprise 40% of Asiacell's subscriber base and 1.8 million women in Iraq have been connected to friends and family and have the tools to become more socially and financially independent. Similarly, Indosat in Indonesia, also part of Qtel Group, used consumer insights to design Hebat Keluarga, featuring an affordable friends-and-family tariff, an application to locate family members and an extended SIM card validity period. One year after launch, the package has attracted 2 million female customers to the brand (The Mobile Economy, 2013).

In order to support the goals of enabling women's access to mobile products and drive the creation of service offerings that could change the lives of millions of women in low and middle income markets, the GSMA has developed the GSMA mWomen Program, launched by the then U.S. Secretary of State Hillary Clinton in October 2010 in partnership with USAID, AusAID, the GSMA and Visa Inc. The program aims to highlight underserved women as a market segment in which the industry should invest through knowledge sharing, seminars and research on the needs of women in emerging markets. It is a good example of how by working together mobile operators, non-governmental organizations, governments and other industries can deliver improvements that could improve the lives and future prospects of millions (GSMA, January 2013).

4.3.4.2.3.2 Socio-cultural service packages

Compatibility is a vital feature of innovation as conformance with user's lifestyle can propel a rapid rate of adoption [Rogers 2003]. Research has shown that compatibility is a significant antecedent in determining consumers' attitude towards internet banking adoption in Malaysia [Ndubisi & Sinti 2006]. Compatibility has further been found influential in the adoption of virtual store [Chen et al. 2004], m-payment [Chen 2008], and mobile banking [Koenig-Lewis

2010; Lin 2011]. Al-Gahtani [2003] found that compatibility had significant correlation with mobile adoption and use in Saudi Arabia. Thus, it is also likely that the relation between compatibility and adoption will hold in the context of mobile banking.

The consumers of both rural and urban areas, from college - going students to mature elders, of almost all income groups have started using mobile telecom services (The World Factbook, 2008). Consumers are now looking into the compatibility of the new services to their self-image and life style (Saaksjarvi, 2003).

4.3.4.2.3.3 Societal Welfare

Some companies give employees loans or special leave, make donations to the community or charity, give scholarships for employees' children and sponsoring sports clubs or sporting events (Turyakire, Venter and Smith, 2012:110). Examples include the CSR Report 2001-2 of Vodafone exhibits that the voluntary donations of the company to communities are amounting to £11.8 million. While Airtel Zambia donates Solar Equipment worth over \$2000 for the children of Moono School in Mumbwa district. In this connection, Airtel has also donated 60 computers to 25 different learning institutions as well as the fully connected android phones to government in the Office of the Vice President. In addition, 470 under-privileged schools in the country benefitted from their donations for various learning materials such as books, computers, payphones, school bags, soccer balls/jerseys, infrastructure and boreholes construction.

Dialog's Nenasa Program is a television channel that broadcasts educational content to school children in Sri Lanka, enabling access to quality education for all. Nenasa provides an opportunity for students to engage in interactive learning with experienced and skilled teachers. The channel's current focus is to provide educational content dedicated towards students in Ordinary Level and Advance Level classes. The program was launched in 2009, in collaboration with the Government of Sri Lanka. It is managed and operated by the Sri Lankan Ministry of Education along with the Sri Lankan National Institute of Education. In return, Nenasa is broadcast over a dedicated channel on Dialog Television for free. Dialog also provides the necessary infrastructure and the interactive online learning management system free of charge to schools around the country to access the program. Nenasa now reaches 672 schools and 17 teacher training colleges. Dialog's goal is for the program to reach out to 1000 more schools over the next two years (Axiata Sustainability Report, 2012).

Over in Bangladesh, Robi has been working with the Bangladesh Ministry of Education to promote English language at secondary schools. Robi's 'English in Schools' program has been implemented in 1000 schools in Bangladesh (*ibid*).

Sponsored by Axiata and XL, two new learning centres - the Xperiential Lounge and the Xpressive Lounge were designed and built based on the dreams and imaginations of two boys from the SOS Children's Village in Jakarta. Since November 2012, these centres have allowed the village's 138 children to explore, express and embark on an exciting, new educational journey that has never been accessible to them before. At the *Xperiential Lounge*, the children are able to discover subjects of interest on the Internet with 12 brand new computers and free broadband access, books from a well-stocked reading library as well as the latest interactive learning and educational models. The *Xpressive Lounge* is a room fitted out with ample art supplies, musical instruments, DVDs teaching traditional dances and other exciting learning tools, where the children are now able to express their artistic talents. The project was the result of a collaboration between Axiata and the AXN Asia channel (AXN)

on a program called Voices of Asia. The program allowed the voices of children from across Asia to be heard, sharing their hopes for the communities they are in. Voices of Asia was an opportunity for Axiata to give back to the communities we serve, beyond its anchor corporate responsibility programs. With this in mind, Axiata and AXN spoke to over 300 children across 7 countries. After several rounds of difficult judging, 2 boys from the SOS Children's Village in Jakarta were chosen, 12 year old Adit and his 10 year old friend Benny. Adit's dream was to build a health clinic for everyone to get the medical care they required. Benny, a keen artist, hoped for a painting room to share with all his friends in the village. With its interactive facilities, it is Axiata's hope that the lounges would allow the children in the village to learn new things that will help them realize their dreams (Axiata Sustainability Report, 2012).

4.3.4.2.4 (T) Technological

4.3.4.2.4.1 Latest technologies

Now-a-days mobile telecom operators offer latest technologies such as 3G with higher bandwidth, packet-based transmission of text, voice, video, and multimedia needed to support data-intensive applications (Lim and Siau, 2003). The latest developments in mobile technologies can be listed as customized infotainment, multimedia message service mobile intranet/extranet access, mobile internet access, location-based services, simple voice and rich voice services (UMTS, 2000). Customized infotainment provides device independent access to personalized content. Multimedia messaging services include communications by text, graphics, images, audio and video. Mobile intranet/extranet access are business services that allow secure access to Local Area Networks (LAN) and Virtual Private Networks (VPN). Mobile internet access provides full access to the Internet, including file transferring, e-mailing, etc. Location based services allow users to identify their location and find other users by making use of terminals and vehicles. Rich voice service facilitates advanced voice capabilities, for example, Voiceover IP (VoIP), Web initiated phone calls, etc. (UMTS, 2000).

These advances have substantially increased the number of people using mobile services (Tang, 2008). The growing number of mobile users and the decline in conventional voice service tariffs have gradually reduced average revenue per user (ARPU), thus decreasing the service providers profits (Kuo and Yen, 2009). Gazis et al.(2001) claim that in a 3G market, the major revenue source for telecommunications operators will originate from packet-based value-added services provided by independent value-added service providers, rather than traditional voice telephony. Thus, imposing the mobile service providers to introduce various 3G mobile value added services, such as Mp3 ring tone download service, MMS, video news, photo download, mobile Java-based games, mobile TV, etc., which have become new opportunities for providers to create revenue. However, ARPU could be substantially elevated when consumers are willing to use 3G mobile value-added services and utilize them (Kuo and Yen, 2009).

In Macedonia, 3G is considered to have a great potential, as it is still at its early stage of adoption and the penetration of 3G users is growing. Although the importance of 3G services in providing faster communication services and improving the productivity and effectiveness to individuals, it is surprising that Macedonia's society show little interest towards 3G services (AEC, 2009). Thus, consumer's behavioral intention to use 3G mobile value-added services must be investigated. Behavioral intention is an individual's subjective probability of performing a specified behavior, and is the major determinant of actual usage behavior

(Ajzen, 1985, Fishbein and Ajzen, 1975, Yi et al., 2006). In addition, investigating the users' behavioral intention to adopt information technology has always been important to information management (Davis, 1989, Kuo and Yen, 2009, Taylor and Todd, 1995, Legris et al., 2003, Wu and Wang, 2005, Yi et al., 2006).

One problem with the current standard 3G is that although it can handle high speeds, it cannot handle a huge number of devices connected on to it, it has a problem of cell breathing (cell shrinking), posing a problem for capacity (Sambandaraksa, 2012).

Matt Maier (2010) said "In mobile, a new generation has appeared every 10th year and since 3G appeared in 2001, we should be seeing 4G networks coming up to supersede the current 3G and 2G networks". He mentions that in most networks data traffic already exceeds that of voice traffic and so operators are pressured to upgrade their infrastructure in order to meet those demands and 4G should be that as it will be capable of bring super-fast internet to mobile devices and lead to growth in applications like IP telephony, IP multimedia, gaming services, mobile TV in High definition as well as videoconferencing.

It is, therefore, the very latest technology offered by the mobile telecom operators is the 4G which is expected to be an all Internet Protocol (IP) packet switched network, it provides gigabit speed access (ultra broadband), it will tackle problem of capacity exhaustion by supporting more users per cell (Meier, 2010).

4.3.4.2.4.2 Customers' Information Security

Consumer acceptance of a technology is influenced by how consumers view the importance of their information security (Hossain and Prybutok, 2008). According to Vrechopoukis et al. (2002), the security issue of customers' information influences the adoption of M-commerce among customers. This issue was supported by various previous studies such as Jillbert and Ahmad (2003), Haque (2004), Mariga (2003), and Huei (2004).

Dahlberg et al. (2007), Kreyer et al. (2003) and Lee et al. (2004) discussed information security as one among many factors in the adoption of mobile commerce, mobile payment or mobile transactions. In this regard, a variety of technological measures have been invented, such as message encryption, digital certificates and the authentication of transaction devices. A few have been deployed, and a very few are even used, but most are ineffective in practice (Clarke, 2001).

It is worthy to mention that mobile payments security has been the focus of discussions of network technologies by Schwiderski and Knospe (2002), and Me (2003). Lawrence and Lawrence (2004) reviewed the impact of attacks on the wireless communication systems in a legal and security context with a view to formulating technical and legal policy suggestions.

In Lubumbashi, Southeastern Democratic Republic of Congo, maize farmers give mobile phones to their security guards, which has been an effective measure against robbery and increased the yields significantly (Lopez, 2000).

ITU (1999b) documents how the driver and his colleagues of a van laden with readymade garments that met an accident in Chittagong, Bangladesh used a mobile phone to avoid the risk of their consignments being looted.

4.3.4.2.4.3 Transaction updates

Many development projects are currently underway to bring information services via mobile phone to emerging societies (Development Gateway, 2005). According to Abunyang (2007), SMS technology is used by the mobile service providers to their corporate clients in delivering mobile banking (m-banking) services. So, m-banking today can be performed through SMS (Nasikye, 2009). M-Banking is being deployed using mobile applications developed on SMS (Short Messaging Service) [www.Infogile.com/]. SMS banking uses text messaging and works in either a push or a pull mode. In pull mode, the bank sends a one-way text message to alert a mobile subscriber of a certain account situation or to promote a new bank service. In push mode, the mobile subscriber sends a text message with a predefined request code to specific number. The bank then responds with a reply SMS containing the specific information (Dr Lennart, Soderberg, 2008). Currently in Uganda the SMS banking service is being used and it offers clients the ability to access inquiry services like bank balance and mini statements using their mobile phone SMS (Abunyang, 2007).

SMS based information with technology support of the mobile service providers is another effective tool in establishing m-governance through four core modes: m-services, m-communication, m-administration and m-democracy in the public sectors (Zalesak, 2003). According to Zalesak (2003), m-services refer to SMS enabled mobile devices which enable transactions between government and citizen such as m-payments and m-transactions. While for m-governance, Tozsa and Budai (2005) asserts that governments can send information to the intended recipient and recipients can respond via SMS technology. In such case, collaborative type of interactive transactions may be conducted with instant responses using mobile technology via SMS or MMS technologies.

Similarly, other m-transactions such as remittances and payments are also delivered via mobile networks and are performed on a mobile phone through SMS (Dr Lennart, Soderberg, 2008).

4.3.4.2.4.4 Faster Communication

Fleishman (2010) wrote an article in which he states that the reason why many operators around the world are developing their networks is to increase their capacities and avoid congestion; this is because there more and more bandwidth hungry devices connecting onto those networks and so there is a need to upgrade in order to not be overwhelmed.

The new generation latest technologies have become widespread more and more around the globe owing to the various applications it brings to the mobile phones. Such technology offers faster communication service through higher bandwidth, packet-based transmission of text, voice, video, and multimedia needed to support data-intensive applications (Lim and Siau, 2003).

4.3.4.2.5 Environment (E)

The issues that currently appear to concern the telecommunications industry include material usage efficiency, energy efficiency (direct and indirect), emissions and wastes, product takeback, disposal and reuse and recycling of their products (Environmental Report: Ericsson, 1998, 1999; Environmental Report: NOKIA, 1998; Environmental Report: British Telecom, 1995/1996, 1999; Environmental Report: AT&T, 1998-1999).

4.3.4.2.5.1 Recycling program

The Australian mobile industry has undertaken a transparent, viable and sustainable mobile phone recycling campaign with the objective of preventing used mobile phones, accessories and batteries end up in landfill and as a result minimize environmental burden (AMTA, 2006). With increasing handset replacement rates (Informa, 2005a & 2005b), mobile phone recycling campaign is initiated to start a bandwagon effect amongst all stakeholders.

The M-Waste Recycling Program implemented in Sri Lanka by Dialog (i.e., the mobile telecom company of the Axiata Group in Sri Lanka), is an innovative and responsible initiative that illustrates how Axiata operating countries are refining their sustainability practices. Unused mobile phones batteries and battery chargers, as well as industrial base station batteries, are brought to the company's 125 collection points. The collection is then sent to China for recycling. Over 3000 units of M-Waste were collected in 2012. Approximately 2.1 tonnes of M-Waste has already been exported to China for recycling by Dialog (Axiata Sustainability Report, 2012).

The Central Environmental Authority (CEA) recognized this initiative with an E-waste Award in 2010. Dialog has also partnered with 13 other companies operating in Sri Lanka and the CEA to launch a National E-Waste Management Program that will monitor the disposal of hazardous E-Waste in Sri Lanka (*ibid*).

Dialog has also planned to take this initiative one step further by increasing public awareness on effective waste management practices. Through this awareness campaign, Dialog hopes to encourage more people to dispose of their mobile phones and batteries in an environmentally friendly manner. Dialog targets to have 350 collection points by 2014 (*ibid*).

In November 2010, Telenor partnered with Trade Wings to launch a Reuse, Resale, and Recycling Programme with the objective of minimising the waste associated with network equipment upgrades. Over the last two years, Telenor has replaced 9,500 base stations at 6,500 sites across Norway and has generated a strong return on investment (Telenor Sustainability Report, 2012).

4.3.4.2.5.2 Environment friendly services

There has been increased attention lately to the potential for environmental pollution reduction due to telecommuting and teleconferencing, alternatives to work-related travel, i.e., commuter and business travel.

The environmental effects of transportation are large and well-studied, and there is consensus that they need to be reduced (Arnfolk, P., 1999; Schneider, A., 1999; Niles, J., 1994). Teleconferencing involves the visual communication of parties around the world, and offers the possibility of reducing business travel.

Without the limitation of geographical distance, it enables people to meet for exchanging of thoughts, ideas and knowledge through the combination of video and audio contact and full interactivity. Studies have shown that environmental impacts associated with teleconferencing are lower than the ones generated by travel, and that teleconferencing substitutes more travel than it generates (Arnfolk, P., 1999; Schneider, A., 1999); Niles, J., 1994). Savings tend to be a result of reduced business travel, primarily by air. On the other hand, teleconferencing does have environmental impacts through the provision and use of video and audio equipment, studios, phone lines, etc. While a case for comprehensive LCA

involving the supply chain is needed to contrast the environmental benefits and costs of teleconferencing and other telework options, there are several efforts in development such as the Environmental Workplace Assessment which provides a personal, web-based approximation of such life-cycle impacts (Environmental Workplace Assessment, 1999). Nonetheless, efforts to provide additional data regarding the extent of the telecommunications industry and the relevant impacts and benefits from its use (e.g., Internet) are sought.

Electronic Trading: The telecommunications industry could facilitate the support of electronic trading with the different suppliers, as well as between the various units of the company. Electronic trading may reduce the amount of paperwork that is generated among the interested parties. It can also reduce business travel. Further, electronic trading may help centralize documentation and thus assist companies in keeping track of all issues related to the environment, e.g., procurement, recycling, and product takeback (Environmental Report: Ericsson, 1998, 1999; Environmental Report: NOKIA, 1998; Environmental Report: British Telecom, 1995/1996, 1999; Environmental Report: AT&T, 1998-1999).

Energy Management Systems: The installation of computer-based energy management systems for telecom would allow site by site monitoring of energy consumption (e.g., for lighting, heating, air-conditioning) (Environmental Report: Ericsson, 1998, 1999; Environmental Report: NOKIA, 1998; Environmental Report: British Telecom, 1995/1996, 1999; Environmental Report: AT&T, 1998-1999).

Keeping to its focus of operating responsibly, being environmentally cognisant and establishing a long term sustainable business, Axiata strives to strike a balance between its carbon footprint and services reach. Since 2009, Axiata's green technology programs are aimed at exploring technologies, products and solutions that brings greater efficiencies and at the same time, help reduce the environmental impact of its business (Axiata Sustainability Report, 2012).

The Group embarked on a large scale cross-operating countries exercise to manage energy efficiency for the Group. The initiative targets to reduce 30% of total carbon emission across all operating countries by 2015. (*ibid*)

Green Technology initiatives

Axiata Green Technology initiatives (*ibid*) include:

- Deployment of Green and hybrid sites using solar, wind and biodiesel across operating countries networks
- Phasing out of old generation power, and implementation of capacity shut down functions
- Reducing diesel consumption by cutting down the number of diesel generators (DGs) used at sites
- Adopting fuel efficient DGs and use of batteries as prime back up
- Use of power efficient air conditioners and reducing air conditioner usage
- Using new generation batteries and new technology with higher temperature settings for battery cooling, and discharge of batteries
- Long-term infrastructure sharing strategies

In 2012, based on the above green technology initiatives, a technical assessment was done using Total Cost of Ownership (TCO) analysis. TCO reduction of up to USD22 million was attained along with energy and diesel savings of up to 215 megawatt. Carbon footprint was also down by 142 ktCO₂e.

Carbon (CO₂) emissions of Vodafone in mature markets have decreased by 9% from the 2006/07 baseline. The company has also set a target to reduce CO₂ per network node³ in our emerging markets by 20% from the 2010/11 baseline by March 2015 (Vodafone Sustainability Report, 2010-11).

Waste Management Systems: Computer systems could also be used for matching companies in waste exchange schemes (Rosen, C., J. Bercovitz, and S. Beckman, 1999). The waste of one company can be an input of another one (concept of industrial ecology). Moreover, simulating transportation systems for the distribution of goods and waste, and structuring the flow with the suppliers can significantly reduce the commercial fleet, help avoid collection-related transport and reduce transportation-related environmental effects. (*ibid*)

Telecommunications services have environmental effects in the form of equipment manufacturing and operation, supply chain pollution, etc. However, a simple account of current environmental impacts may ignore the possibilities that telecommunications services may provide in substituting for more polluting activities (Graedel, T. E., and B. R. Allenby, 1995).

4.3.4.2.5.3 Publicity on environment friendly telecom infrastructure

Seitz et al. (2005) conclude in their studies on mobile phone radiation and health-related quality of life. In 2011, International Agency for Research on Cancer (IARC) classified mobile phone radiation as Group 2B - possibly carcinogenic. That means that there "could be some risk" of carcinogenicity, so additional research into the long-term, heavy use of mobile phones needs to be conducted (IARC, 2011). The WHO added that "to date, no adverse health effects have been established as being caused by mobile phone use (www.who.int)." However, the INTERPHONE study group from Japan published the results of a study of brain tumour risk and mobile phone use. They used a new approach: determining the SAR inside a tumour by calculating the radio frequency field absorption in the exact tumour location. Cases examined included glioma, meningioma, and pituitary adenoma. They reported that the overall odds ratio (OR) was not increased and that there was no significant trend towards an increasing OR in relation to exposure, as measured by SAR (Takebayashi et al., 2008).

In 2007, Dr. Lennart Hardell, from Örebro University in Sweden, reviewed published epidemiological papers (2 cohort studies and 16 case-control studies) and found that (Hardell et al., 2007):

- Cell phone users had an increased risk of malignant gliomas.
- Link between cell phone use and a higher rate of acoustic neuromas.
- Tumors are more likely to occur on the side of the head that the cell handset is used.

A publication titled "Public health implications of wireless technologies" cites that Lennart Hardell found age is a significant factor. The report repeated the finding that the use of cell phones before age 20 increased the risk of brain tumors by 5.2, compared to 1.4 for all ages (Sage, 2009). A review concluded that current mobile phones are not safe for long-term exposure (Hardell, et al. 2009).

Some users of mobile handsets have reported feeling several unspecific symptoms during and after its use; ranging from burning and tingling sensations in the skin of the head and extremities, fatigue, sleep disturbances, dizziness, loss of mental attention, reaction times and memory retentiveness, headaches, malaise, tachycardia (heart palpitations), to disturbances of

the digestive system. Reports have noted that all of these symptoms can also be attributed to stress and that current research cannot separate the symptoms from placebo effects (Martin, 2008).

Several surveys have found a variety of self-reported symptoms for people who live close to base stations (Santini et al, 2003; Navarro et al, 2003; Abdel et al, 2007; Bortkiewicz et al, 2004; Hutter et al, 2006). However, there are significant challenges in conducting studies of populations near base stations, especially in assessment of individual exposure (Hardell, 2009). Self-report studies can also be vulnerable to the placebo effect.

From the Sustainability Report (2012) of the Axiata Group it has been found that Robi strives to conduct its operations in a manner that is safe for the environment and conserves natural resources. Robi always requests for information from its suppliers about specific environmental and energy efficiency features of products/services with detailed specifications. Robi also checks to ensure that its suppliers' policies and procedures are compliant with international environmental standards.

4.3.4.2.5.4 Publicity on harmful effects

Though there is no evidence that mobile phones are detrimental to health, the UK NRPB (2004) endorsed the recommendation of the Stewart report (IEGMP, 2000) that the use of mobile phones by children be limited. In the Netherlands, however, the Health Council saw no reason to recommend that mobile phone use by children over the age of two be restricted (HCN, 2002; 2005). The question of whether living in the proximity of mobile base station is associated with an increased risk of developing an illness concerns many of the people who find themselves in this situation. However, considering the very low exposure levels and the scientific evidence available to date, it appears highly unlikely that the weak signals people are exposed to from base stations could cause cancer or any other adverse health effects (WHO, 2006). Again driving while using a mobile phone is a proven cause of traffic accidents, the use of a hands-free kit does not significantly reduce the risk (IEGMP, 2000).

On a global scale, climate change poses the biggest challenge to societies and businesses. Beyond the mainframe of Axiata's network energy efficiencies and adoption of renewable technologies, Axiata and its operating countries are doing their part in creating awareness of climate change within their Organizations and communities in order to in limit environmental damage. Green Committees have been established at Axiata and its operating countries. These committees are tasked with raising awareness among the employees on better utilization of energy, water and paper resources (Axiata Sustainability Report, 2012).

4.3.4.2.6 Legal & Ethical (L)

Being steadily increased over the years, **legislation** in many countries has become an influencing factor on the marketing programs leading the businesses to practice fair trade, competitive behavior, product standards (i.e., product safety and liability), etc. (Samar Farah, 2005).

Robi (i.e., the mobile telecom company of the Axiata Group in Bangladesh), expects all its suppliers to comply with all applicable laws and regulations in all locations where they conduct their business (Axiata Sustainability Report, 2012).

While Sargent (1999) recommends that a firm should promote an **ethical behavior** in managers to nurture them with an ethical environment. In a number of research studies it has

been found that there is a positive correlation between social involvement and profitability of a business organization (Aupperle, Can-oil and Hatfield, 1985).

Ethics are principles that serve as guidelines for both individuals and organizations (Clow K. E, and Baack D., 2004). In other words, ethics are moral principles and value that govern the actions and decisions of an individual or group (Berkowitz E.N., 1992).

Dyer G. (1982) has defined ethics as a theory of morality which attempts to systematize moral judgments and establish and defend basic moral principles.

According to Connock and Johns (1995), ethics is about fairness, and deciding what is right or wrong, about defining the practices and rules which underpin responsible conduct between individuals and groups.

According to Spinello (1995) the purpose of ethics is to help us behave honorably and attain those basic goods that make us more fully human.

The Axiata Group also strongly focused on transparent business ethics to maintain high standards across its operations. Good governance, with a strong focus on corporate ethics, is essential to doing business responsibly and enhancing investor confidence, as well as to ensure value creation for the Group, its employees, shareholders and society as a whole. This includes the policies, directives, guidelines and business processes that frame how it does business every day (Axiata Sustainability Report, 2012). Throughout 2012, Axiata continued to enhance its processes and operations in its efforts to ensure a sustainable and responsible approach (*ibid*).

4.3.4.2.6.1 Fair Acquisition of License

Corruption could simply represent a transfer from the government to corrupt officials/firms and have no impact on economic activity; for example, bribery in the process for allocating licenses or permits may be efficient since the most efficient firms can pay the highest bribes (Lui, 1985).

The Telecommunication sector is one of most distressed industries with incidents of bribery (EIRIS, 2005). For example, the telecommunication sector in China is considered to be one of most corrupt sectors in the Chinese economy (<http://www.china.org.cn/business>). Similarly, in India the second most corrupt sector is telecommunications (based on survey carried by KPMG, 2011). The significance of telecommunications is explained in part by the high level of public procurement or public licensing which lends itself to bribery demands is from corrupt public officials or politicians (OECD, 2009).

Stakeholders of the Nigerian mobile telecom industry regarded recent GSM license auctions as fair, transparent, and uninfluenced by political cronyism. In 2012, the Ministry of Communication Technology set up a presidential committee tasked with the development of a National Broadband Plan that seeks to increase Nigeria's broadband penetration five-fold by 2018 (Nigeria's National Broadband Plan 2013-2018). In February 2010, New Generation Telecoms, a consortium that includes China Unicom, won a controversial bid to purchase the company (Camillus Eboh, 2010). The president initiated an investigation in response to allegations of corruption surrounding the purchase, but the findings have not yet been published (Camillus Eboh, 2010).

Local government authorities such as the Bangladesh Telecommunication and Regulation Commission (BTRC), monitors industry issues and investigates complaints against the industry (BTRC, 2002). The BTRC was reformed as a result of community concern over the bribery scandals in the Bangladesh telecommunication sector, such as the Siemens bribery scandal in 2008 (<http://www.btrc.gov.bd>).

4.3.4.2.6.2 Information Transparency

Improvements in transparency are on-going and the mobile telecom industry endeavors to ensure consumers are informed about telecom services and prices. For instance, GSMA announced in June 2012 the launch of an initiative that will provide consumers greater visibility of their roaming charges and usage of mobile data services when travelling abroad. This initiative signals the commitment being made by operators to promoting and ensuring transparency of roaming services to consumers. Regulators from around the world have expressed concern about the transparency of international roaming prices, bill-shock, and high prices. It is important to understand the factors that might influence roaming prices as it indicates where to start looking for an explanation (ibid)

4.3.4.2.6.3 Registered SIM Users

Unlawful or socially harmful activities, including kidnapping, drug trafficking, terrorism, etc., have been increased alarmingly in many countries. It is because in markets in which SIM cards need not be registered with personally identifiable information, users have the opportunity to communicate without attribution and are thus outside the immediate reach of the police.

In the backdrop of this situation, one of the key modalities of emerging mobile-centric surveillance society is the rise of SIM registration requirements. These regulations require mobile phone users to provide personal identification details in order to purchase and use a SIM card (Donovan, K.P., 2012). However, the Center for Policy, Research on Science and Technology Registration (Center for Policy Research on Science and Technology [CPRST], 2006) surveyed such policies in the OECD in 2006. It reports that, at the time of the survey, 16 of 25 responding nations did not have mandatory registration policies in place including Austria, Canada, Denmark and the United Kingdom. Other countries introduced registration relatively recently: One example is Greece, which introduced the policy in late 2009 ((Wood, 2010).

In East Africa, for example, the East African Communications Organization (EACO) has been a major proponent of SIM registration, encouraging national governments in the region to adopt relevant laws and regulations or to support voluntary initiatives (Jentzsch, 2012).

In 2006, the Australian Communications and Media Authority (ACMA) renewed its commitment to a mandatory registration regime by holding a public consultation process with the aim of closing loopholes in its identity verification procedure (ACMA, 2005, 2006). The regime dates back to 1997, when Australia first imposed regulatory controls on the sale and use of prepaid mobile phones, requiring all service providers to collect identification information from their customers prior to activation of the number (Australian Communications Authority, 1997, 2000).

Lettice (2003) claims that mandatory registration is ineffectual in those cases for which it is claimed it is most needed. Lettice's comments in *The Register* (2003) suggest that although

registration requirements may be in force in some countries, they are not necessarily enforced at the retail point of sale.

But it is well known that registration of SIM cards is helpful in some successful police investigations and electronic money transfers, the settling of bills and other monetary transactions of customers (Smillie, 2012). The International Telecommunication Union in 2007 recommended SIM registration to improve statistical accuracy on the mobile market as well as to reduce access to grey market phones (Telegeography, 2013). Providers may also use registration data to market new services and products to customers (Sunday, 2011), given that it enables “operators to have a predictable profile about the users of their network” (Hemeson, 2012).

However, the mandatory provision of SIM card registration has witnessed some unavoidable limitations as well. For example, in Nigeria, consumers have complained about SIM registration, because they were being charged to do so, apparently illicitly by agents, leading the mobile service providers to struggle to curtail the practice (Adaramola, 2011). While in Ghana, where identity documents are often handwritten, mobile telecommunications service providers have blamed the country’s weak national identification infrastructure for the failing national initiative to register SIM cards (Dowuona 2012). In this regard, it was reported in the African media that this required registration negatively affected mobile subscriber growth rates (AfricaNews.com, 2010). All SIM cards registration exercises in African countries have translated into a temporary decrease in the number of mobile subscribers (Southwood, 2011). In Zimbabwe, the two leading operators lost more than two million subscribers from a previous total of 4.4 million, dropping mobile penetration 14 percent, to 53.5 percent of Zimbabweans (*ibid*). In South Africa, MTN’s subscriber base fell from 17.2 to 16.4 million following SIM registration, and the policy was expected to slow down subscriber acquisition by operators as the vast majority of the population either does not have formal identification or proof of address (Esselaar, Gillwald, Moyo & Naidoo, 2010). MTN’s competitor Cell C also reported a 70 percent drop in gross activations as a result (de Koker, 2010). The founding assumption of registering a SIM card to one person does not reflect the dynamic of shared access which characterizes African mobile use (Burrell, 2010).

4.3.4.2.6.4 Support in Legal Proceedings

Mobile telecom operators often protect their customers or the affected party or victim(s) in case of customer’s request or police and legal investigation against any criminal offence by providing necessary information and extending technical support as well. For example, due to terrorism and terrorist use of mobile technology the British House of Commons Home Affairs conducted an inquiry on the use of evidence from mobile phone devices, prompting leading mobile telephone forensic specialists to identify forensic techniques available in this area (The Committee Office, 2011). In the UK in 2000, it was claimed that recordings of mobile phone conversations made on the day of the Omagh bombing were crucial to the police investigation. In particular, calls made on two mobile phones which were tracked from south of the Irish border to Omagh and back on the day of the bombing, were considered of vital importance (BBC News, 2000). Further example of criminal investigations using mobile phones is the initial location and ultimate identification of the terrorists of the 2004 Madrid train bombings. In the attacks, mobile phones had been used to detonate the bombs. However, one of the bombs failed to detonate, and the SIM card in the corresponding mobile phone gave the first serious lead about the terrorists to investigators. By tracking the whereabouts of the SIM card and correlating other mobile phones that had been registered in those areas, police were able to locate the terrorists (Nokia-n98.org, 2011).

According to mobilementalism.com (2007), in Japan, mobile phone companies provide immediate notification of earthquakes and other natural disasters to their customers free of charge.

4.3.4.2.6.5 Privacy of Customer Information

Privacy can be defined as an individual condition of life characterized by exclusion from publicity (Neetling et al., 1996). It refers to the entirety of facts and information which is applicable to a person in a state of isolation. The concept follows from the right to be left alone (Stair, 1992, Shank, 1986). Shank (1986) states that such a perception of privacy set the course for passing of privacy laws in the United States for the ninety years that followed. As such privacy could be regarded as a natural right which provides the foundation for the legal right. The right to privacy is therefore protected under private law.

The findings of Hsu and Hsu (2008), Vlachos and Vrechopoulos (2008), and Parasuraman, Zeithaml, and Malhotra (2005) studies reveal that the privacy factor is an important dimension of service quality in the context of the electronic service environment (e.g. mobile internet services).

Parasuraman et al. (2005) suggest that privacy deals with a sense of feeling safe when a customers personal information is shared with their service provider. In addition, Milne and Rohm (2000) note that marketers continue to build extensive databases and use this information to target and profile consumers, often trading and renting consumer lists to other organizations. Customers tend to be dissatisfied when their privacy is violated (Riel, Liljander, and Jurriëns, 2001). The best companies have detailed codes of ethics which inform employees how the company expects them to act (Ian W. Jones and Michael G. Pollitt, 1995).

During 1994, Australia also accepted a Privacy Charter containing 18 privacy principles which describe the right of a citizen concerning personal privacy as affected by handling of information by the state (Collier, 1994). The Organization for Economic and Coordination and Development (OECD) also accepted in 1980 the Guidelines for the Protection of Privacy and Transborder Flow of Personal Data (Collier, 1994).

A major threat to privacy is the raise of so called hackers and crackers which break into computer systems like telecom (Benjamin, 1991). In this connection, Rosenberg (1994) research on the impact of technology on the privacy of the individual, concluded that: "Technology continuous to be viewed as a threat to privacy rather than a possible solution". A survey that was conducted in 1990 by Equifax (one of the three biggest credit bureau companies in the USA) on the use of technology and the threat to the privacy of people, found that 79% of the respondents indicated that they were weary of the use of technology for the processing of their personal information (Frocht & Thomas, 1994).

A person's information must be handled with the necessary confidentiality. This implies security and control of access to the information, of the right to use it, as well as the right to change or add any information (Fouty, 1993). Regarding the confidential treatment of private information, Froehlich (1994), Smith (1994) and Shaver et al. (1985), stated that the main ethical problems are personal details, obtained from the reference, may be used for purposes other than for that which it was specifically gathered. The merging of personal and other private information of an individual into a different database than the one for which it was originally collected must be done with the necessary caution (Schattuck, 1995).

To resolve such problems, personal and other private information that is no longer necessary for the function for which it was collected must be destroyed (Branscomb, 1995) based on the norms of freedom and human rights. Again, the information professional must notify the client explicitly of the intended purposes of the use of all personal and private information. This implies the client's permission. Different avenues exist for seeking such permission. Spinello (1995) prefers the method of implicit informed consent. According to this principle, companies (information professionals) that have collected information about a person must diligently inform that person about the various uses of the information. Clients must then be given an opportunity to consent to these uses or to withhold their consent. The burden is on the client to respond, and a lack of response implies consent. However, the client must be granted the opportunity to withdraw consent (Amidon, 1992) based on the norms of freedom and human rights.

4.3.4.2.6.6 Customer permitted campaign

It is obvious that privacy concerns of the consumer is crucial and must be taken into account (Taylor et al., 2008). Permission for personal information can be gathered but in some situations this information may be gathered without consumers will (Wei et al., 2010).

In some countries sending SMS advertising without the receiver's permission is considered as an illegal work (Easton, 2002). Consumers attitude toward mobile advertising is found out to be negative, however, it turns to be positive if permission is obtained (Tsang et al., 2004). As Bamba and Barnes (2006) argue that "the consumer is not always asked for his or her permission before receiving SMS advertisements. Permission could be seen as the ability for the consumer to specify-before receiving it-whether or not he or she is interested in a message". Thus, permission marketing refers to the inquiring of the mobile users' permission to receive advertising messages while giving the individual an opportunity to stop receiving them at any time (Tezinde et al., 2002). Permission issue is important for the reason that unwelcome advertisements may lead to consumers frustration (Barnes & Scornavacca, 2003).

By relying on the permission of the consumers it will help reduce the irritation; thus, permission has a positive effect on consumers' attitude toward SMS advertising, and the attitude is positively related to consumer' intention to receive SMS advertising (Tsang et al., 2004). According to Milne and Gordon (1993, cited in Trabelsi and Rached, 2010) that the permission is a means to create rights protecting the private lives of consumers (privacy): by giving its permission for sharing of personal information with the marketers, the individual must be protected against the phenomenon of spam. As Shimp (2007) stated that a successful advertisers must gain the consumers' permission on receiving an advertisement via their mobile phones. The study of Waldt et al., (2009) claims that having prior permission before sending SMS advertisements to customers is an important element for the success of SMS advertising.

Tasng et al., (2004) suggests that permission-based advertising may turn out to be a major mechanism in the mobile telecom industry in the near future. Furthermore, the study shows that entertainment, informativeness and credibility are positively correlated to attitude in general. However, entertainment found to be the major factor affecting consumers attitudes, followed by credibility and irritation.

RESEARCH METHODOLOGY

CHAPTER 5

RESEARCH METHODOLOGY

This chapter presents the methodological concerns used in conducting this research study and provides a justification for each step taken. It involves the perspectives of marketing research process including 5.2.1) Problem Définition, 5.2.2) Development of an Approach to the Problem, 5.2.3) Research Design Formulation, 5.2.4) Fieldwork or Data Collection from secondary and primary sources through judgment sampling and structured self-administered questionnaire, 5.2.5) Data Preparation and Analysis and 5.2.6) Report preparation and Presentation.

5.1. Introduction

Marketing research is the systematic and objective identification, collection, analysis and dissemination of data to ultimately assist management in decision making related to the identification and solution of problems and opportunities in marketing (Roberts-Lombard, 2002:2). In other words, marketing research is the function that links the consumer, customer, and public to the marketer through information – information used to identify and define marketing opportunities and problems; generate, refine and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. It specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implications (AMA, 2005). Alan Wilson (2006) defines marketing research as the collection, analysis and communication of information undertaken to assist decision-making in marketing. While marketing research is the collection and analysis of data from a sample of individuals or organizations relating to their characteristics, behavior, attitudes, opinions or possessions (MRS, 2008). It includes all forms of marketing and social research such as consumer and industrial surveys, psychological investigations, observational and panel studies. The CIM (2008) defines marketing research as the gathering and analysis of data relating to market places or customers; any research which leads to more market knowledge and better informed decision-making. So, marketing research is the systematic and objective identification, collection, analysis, dissemination, and use of information for the purpose of improving decision making related to the identification and solution of problems and opportunities in marketing (Malhotra and Dhas, 2011:6). It removes some of the uncertainty and improves the quality of decision-making in a highly complex environment (Malhotra, 2002:15). Like any form of scientific enquiry, marketing research involves a sequence of interrelated activities (Zikmund *et al.*, 2007:58), referred to as the marketing research process.

5.2 The Marketing Research Process

The process consists of a six steps systematic and planned approach to the research study, which has been depicted in the following figure:

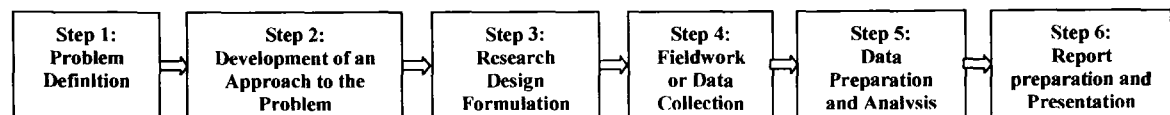


Figure 5.1: Marketing Research Process
(Source: Malhotra and Dhas, 2011, 6th Edition)

5.2.1 Problem Definition

Since the research methodology depends on the research problem and objectives (Mouton, 1996:38), the marketing research process commences with the definition of the research problem. A marketing problem refers to the situations that might embody actual problems to a marketing decision-maker as well as those situations that might be called opportunities (Churchill & Iacobucci, 2002:61). Defining the problem incorrectly will cause the research process to be misdirected (Zikmund *et al.*, 2007:194). All the effort, time, and money spent on this point will be wasted if the problem is misunderstood or ill defined (Sheth and Sisodia, 2002). Thus, for research to be valuable and appropriate, it is vital that the problem is accurately defined (Kumar, Aaker & Day, 2002: 48). In defining the problem, the purpose of the study, the relevant background information, the information needed, and how it will be used in decision making, etc., are taken care of. The tasks involved in formulating the marketing research problem involve discussion with the decision makers, interviews with industry experts, analysis of secondary data, and qualitative research such as focus groups (Malhotra and Dhas, 2011:9). According to Malhotra, these tasks lead to an understanding of the micro and macro environmental context of the problem including past information and forecasts about the industry and the firm, objectives of the decision makers, buyer behavior, suppliers, existing competitors, new entrants, resources and constraints of the firm and the political, economic, socio-cultural, technological, environmental and legal (PESTEL) factors the analysis of which assists in the identification of the management decision problem (i.e., what the decision makers need to do) which is then translated into marketing research problem (i.e., what information is needed and how it can be obtained effectively and efficiently). However, it should be taken into consideration that the marketing research problem is defined neither too broadly nor too narrowly. So, an appropriate way of defining the marketing research problem is to make a broad statement of the problem and then identify its specific components.

In the present study, the above process and tasks of defining marketing research problem has/have been strictly followed, the findings of which are as follows:

Research Problem of the Present Study

With the advent of mobile telecom services, each of the mobile operators has brought both pre-paid and post-paid service packages to offer varied services, facilities and denominations to customers or users. As a result, the subscribers now have various alternatives to choose according to their convenience. They now can very easily communicate through audio-video call, do banking, complete commercial transactions, shopping, internet browsing, etc., at ever increasing speeds from their own handheld mobile device. All such facilities together with aggressive market oriented business strategy have fuelled the growth rate of mobile telecom in terms of higher sales revenue, profitability, market share, wellbeing and living standards of the society's people by reducing risks and avoiding waste in one hand and by facilitating new innovative devices and services than the other industries on the other hand (Yousuf *et al.*, 2006). As a result, competition is also becoming sharper (Ranaweera & Prabhu, 2003) and many challenges are emerging as threats to each company.

It is, therefore, to maintain the current position, improve in future and above all sustain in such fiercely and acutely competitive environment, each of the mobile operator as individual entity and the industry as a whole require(s) to adopt such marketing approach that may ensure a holistic trade-off or balance among the stakeholders and factors of internal and external environment with special reference to micro and macro environmental influences. With this end in view, the present study is an endeavor to examine how holistic marketing

through its four components namely internal marketing, relationship marketing, integrated marketing and performance marketing can ensure sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh.

But research in this context is of recent origin having started mainly as a reaction to the on-going reforms and acute competitiveness in the sector. Moreover, the studies which were conducted relating to this arena are mostly of developed and developing countries and there are very few studies available for Bangladesh. So, it is clearly evident that there is a research gap and to mitigate this gap a rigorous research is yet to be systematically attempted.

5.2.2 Development of an Approach to the Problem

Developing an approach to the problem is the second step in the marketing research process. In this study, the deductive approach has been followed where existing theories have been used to come up with a hypothesis (Saunders et al., 2009, p. 117-121).

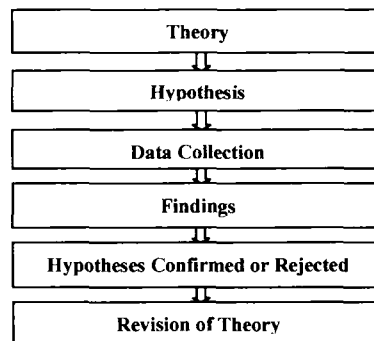


Figure 5.2: The Process of Deduction (Source: Bryman, 2008, p. 10)

Research Approach of the Present Study

In this study, deductive approach has been followed. However, since the components of a research approach consist of an objective/theoretical framework, analytical models, research questions, hypotheses, and specification of information needed (Malhotra and Dhas, 2011:59), the following section(s) focuse(s) on them.

5.2.2.1 Objective/Theoretical framework: It is necessary that the approach developed be based on objective evidence and supported by theory. Objective evidence is gathered by compiling relevant empirical findings from secondary sources such as review of academic literature contained in books, journals and monographs (Malhotra and Dhas, 2011:50). While a theory is a conceptual scheme based on foundational statements called *axioms*, which are assumed to be true. A good research relies on theory to determine which variables should be investigated (Malhotra and Dhas, 2011:50). Furthermore, theoretical considerations provide information on how the variables should be operationalized and measured, as well as how the research design and sample should be selected. A theory also serves as a foundation on which findings can be organized and interpreted (Dholakia, 2008). “Nothing is so practical as a good theory” (Gary L. Lilien, 2002).

Theoretical framework of the Present Study

From the findings of the identified problem it can be stated that sustainable development of the mobile telecom industry of Bangladesh depends on the excellence of the relationship, internal, integrated and performance marketing activities of the companies operating in this arena. This is because “holistic marketing” has been chosen as the theoretical framework of the present study.



Figure 5.3: Holistic Marketing As Theoretical Framework (Source: Kotler, 2010)

5.2.2.2 Analytical Model: An analytical model is a set of variables and their interrelationships designed to represent in whole or in part, some real system or process (Malhotra and Dhas, 2011:50). In other words, the relevant variables and their interrelationships may be neatly summarized via an analytical model. The most common kinds of model structures are verbal, graphical, and mathematical (Malhotra and Dhas, 2011:59). These models can be used as guides for formulating the research design and have the advantage of being amenable to manipulation (Smith, 2008, Callingham and Baker, 2002, Malhotra and Lan Wu, 2001 and Leeflang, 2000).

Analytical Model of the Present Study

“In the present study, the theoretical framework of “holistic marketing” has acted as a foundation of developing an appropriate analytical model with four sub-components namely: internal marketing, relationship marketing, integrated marketing and performance marketing. From the light of the extensive literature review the Figure 5.5 has been developed for the present study to exhibit the analytical (i.e., graphical) model of the sustainable development through holistic marketing.

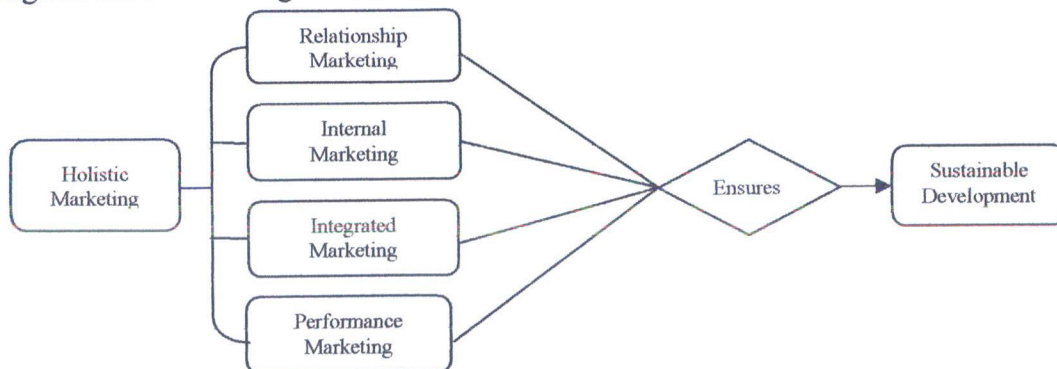


Figure 5.4: Research Model of Sustainable Development through Holistic Marketing

5.2.2.3 Research Question (RQ): The research questions are refined statements of the specific components of the problem. Although the components of the problem define the problem in specific terms, further detail may be needed to develop an approach. It is, therefore, each component of the problem may have to be broken down into subcomponents or research questions (Malhotra and Dhas, 2011:51).

Research Question of the Present Study

The present study investigates the principal research question: **“Can holistic marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”**

Since **“holistic marketing”** has four dimensions namely: relationship marketing, internal marketing, integrated marketing and performance marketing; it is necessary to investigate them with four separate research questions having one for each of them to find the answers to the principal research question.

Research Questions of Holistic Marketing Dimensions:

- 1. Relationship marketing:** “Can relationship marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”
- 2. Internal marketing:** “Can internal marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”
- 3. Integrated marketing:** “Can integrated marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”
- 4. Performance marketing:** “Can performance marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”

5.2.2.4 Research Hypothesis: At this stage, the hypotheses need to be derived from the research questions (Zikmund *et al.*, 2003:524). Hypotheses are formal statements about the relationship between two or more variables, which are formulated in a manner suitable for empirical testing (Coldwell & Herbst, 2004:86). In other words, it may be a tentative statement about relationships between two or more variables as stipulated by the theoretical framework or the analytical model. So, hypothesis is a testable proposition about the relationship between two or more events or concepts (Saunders *et al.*, 2009 p. 599). There are two statements of a hypothesis: the statement that the parameter takes a particular value, which is stated as ‘Null Hypothesis (Ho)’; and the statement that the parameter fails in some alternative, which is stated as ‘Alternative Hypothesis (Ha)’ (Agresti & Finlay, 2008, p. 144). The null hypothesis is mostly the statement which a research intends to reject and the alternative hypothesis is the statement we want to keep and it is the research hypothesis. It is, therefore, hypothesis is a possible answer to the research question (Malhotra and Dhas, 2011:52).

The hypotheses derived from the research questions of four dimensions of holistic marketing exhibit the appropriate answers to the principal research questions are as follows:

5.2.2.4.1)

H_{0a}: Relationship marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1a}: Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

5.2.2.4.2)

H_{0b}: Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh

H_{1b}: Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh

5.2.2.4.3)

H_{0c}: Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1c}: Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

5.2.2.4.4)

H_{0d}: Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1d}: Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

5.2.2.5 Research Objectives: The marketing research objectives are the goals to be accomplished by conducting research (Zikmund *et al.*, 2007:59). Achieving the objectives provides the information necessary to solve the marketing problem in question (Burns & Bush, 2006). The research objectives should be stated in terms of the precise information necessary to address the marketing research problem.

Research Objectives of the Present Study

The principal objective of the study is to examine the role of holistic marketing approach in the sustainable development of the mobile phone telecom industry of Bangladesh. The detailed objectives are as follows:

5.2.2.5.1) To examine relationship between relationship marketing and sustainable development of mobile telecommunication industry of Bangladesh

5.2.2.5.2) To examine relationship between internal marketing and sustainable development of mobile telecommunication industry of Bangladesh

5.2.2.5.3) To examine relationship between integrated marketing and sustainable development of mobile telecommunication industry of Bangladesh

5.2.2.5.4) To examine relationship between performance marketing and sustainable development of mobile telecommunication industry of Bangladesh

5.2.3 Research Design Formulation

Once the approach to the research problem is developed, a research design requires to be formulated. A research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information (Zikmund, 2003). A research design is the specification of methods and procedures for acquiring the information needed. It is the overall operational pattern or framework of the project that stipulates what information is to be collected from which sources by what procedures (Green *et al.*, 1970). In other words, a

research design is a framework or blueprint for conducting the marketing research project. It details the procedures necessary for obtaining the required information, and its purpose is to design a study that will test the hypotheses of interest, determine possible answers to the research questions, and provide the information needed for decision making (Malhotra and Dhas, 2011:9).

So, to conduct marketing research project effectively and efficiently, the formulation of the research design involves the following steps or components or tasks (Malhotra and Dhas, 2011:70).

According to purpose, research could be broadly designed as exploratory, descriptive and explanatory (Saunders *et al.*, 2000, 2007; Cooper and Schindler 2006).

Exploratory research is intended to develop initial ideas or insights and to provide direction for further research (M. Housden, 2008). In exploration researchers are more interested to get data from those sources that give in depth information (Emory & Cooper, 1991). According to them, in exploratory research, field of research is new or unclear that needs exploration to get some knowledge about problem. It is used to gather preliminary investigation which provides platform for further research (Emory & Cooper, 1991). In other words, the purpose of the exploratory research process is to progressively narrow the scope of the research topic and to transform discovered problems into defined ones, incorporating specific research objectives. So, research may be exploratory where a study is conducted to explore and find out what is happening or to seek new insights about a phenomenon in a new light” (Robson, 2002). Thus, by analyzing any existing studies on the subject, by talking with knowledgeable individuals, and by informally investigating the situation, the concepts can be progressively sharpen. After such exploration it is known exactly what to collect during the formal project and how the project will be conducted (Zikmund, 2003).

Descriptive research provides answers to the six Ws namely who, what, where, when, why and how of marketing research. It explains what is happening but not why (M. Housden, 2008). In order to develop snapshot of a particular situation, such research design is used (Mcnabb, 2002). So, a descriptive research is a study that seeks to “portray an accurate profile of persons, events or situations” (Robson 2002:59 in Saunders *et al.*, 2007). It involves large samples which are used to give description of an event or define attitude, opinions or behaviors that are measured or observed in a particular environment (Mcnabb, 2002). Focus of the descriptive research is to describe a particular situation i.e. giving answers to questions like what is happening or what has happened (Mcnabb, 2002).

Explanatory or Causal research is broader than that of descriptive research (Mcnabb, 2002). Such research is conducted to build theories that explain and predict natural and social events (Mcnabb, 2002). Typical objectives of this type of research include explaining why some phenomenon occurred, interpreting a cause-and-effect relationship between two or more variables, and explaining the differences in two or more group’s responses (Mcnabb, 2002). In other words, it aims at identifying how one variable affects the other; it seeks to provide an empirical explanation to the causality and causes and effects relationship between one or more variables (Saunders *et al.*, 2000, 2007; Malhotra & Birks, 2007; Cooper & Schindler 2006). So, this form of research is used to obtain evidence of cause-and-effect (causal) relationships. It is appropriate for the following purposes: a) to understand which variables are the causes (independent variables) and which variables are the effect (dependent variables) of phenomenon, b) to determine the nature of the relationship between the causal

variables and the effect to be predicted (Malhotra and Dhas, 2011:80). The main method of causal research is experimentation (Russell S. Winer, 1999).

Research Design Process

5.2.3.1 Secondary Data Collection

5.2.3.2 Primary Data Collection

5.2.3.3 Measurement and Scaling

5.2.3.4 Questionnaire Design

5.2.3.5 Sampling

5.2.3.1 Secondary Data Collection

Secondary data is defined as data that are already available as the data were collected for some purpose other than solving the problem at hand (Kumar *et al.*, 2002:74). Secondary data in shape of literature review are guidelines for data analysis, which is also useful in finding the answer of research question (Gorard, 2001). Internal secondary data are collected from within the organization (Churchill *et al.*, 2002:202) and typical sources include customer complaints. External secondary data are collected from outside sources such as the Internet, books, newspapers, journals or other organizations that produce information (Zikmund *et al.*, 2007:171). Exploratory research is conducted by exploiting secondary data to properly identify and formulate the problem because such data can be located more quickly and inexpensively than primary data (Malhotra, 2004:102).

To overcome the limitations, the quality of secondary data should be routinely checked based on the evaluation criteria through exploratory design consisting of specifications (i.e., methodology useful to collect the data), error determination (i.e., to check and ensure the accuracy of data), currency (i.e., to check the backdated or updated nature) data were collected, objectivity (i.e., the purpose for which the data were collected), nature (i.e., the content of the data) and dependability (i.e., how dependable the data are) (Malhotra and Dhas, 2011:99-102).

Secondary Data Collection Sources and Methods of the Present Study

The detailed review of literature in the present study is based on secondary data collection. So, it is referred to as “Exploratory Research”. The main sources of the secondary data for the study will be the recent M. Phil and PhD thesis papers, journals, survey reports, internship reports, annual reports and sustainability reports of the mobile operators, telecom web sites, newspapers, etc., which are relevant to the literature of the subject matter. The external secondary data sources utilized in this research are collated in the ‘Reference Section’ at the end of the study.

5.2.3.2 Primary Data Collection

Primary data is new data which is collected by the researcher to do a particular research to find out the answer of research question (Yin, 1994, Gorard, 2001). Primary research refers to data that are originated by the researcher for the purpose of the investigation at hand (Churchill, 1999:214). Such data can be classified as either qualitative or quantitative (Malhorta, 2004:102).

Qualitative primary research refers to research methods that permit the researcher to make elaborate interpretations of market phenomena without depending on numerical measurements (Zikmund *et al.*, 2007:681). This method basically focuses on specific situations or people and its base is on words rather than numbers (Maxwell, 1996). There are

two main sources to gather data the first is, in depth interviews and second one is group discussion. In qualitative approach purposive sampling is used, in which particular settings, persons or events are selected (Maxwell, 1996). In qualitative research data is gathered from small number of individuals or small samples rather than collecting data from large samples. Qualitative research has long been used by survey and experimental researchers who are interested in identifying unanticipated phenomena and influences (Maxwell, 1996).

Quantitative primary research is totally depending on numeric data. The aim of this method is to classify features, count them and explain the things which are observed during research in statistical models (Gorard, 2001, Malhotra, 2004:137). Quantitative methods, according to Neuman (1997, p. 63), have been described as “an organized method for combining deductive logic with precise empirical observations of individual Behavior in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity”. In this approach researchers are very clear about their objective of study. The study is designed before the data collection. This type of method involves some tools for data collection e.g. questionnaires or equipments (Gorard, 2001). The objective of quantitative research is to seek measurements and analysis of target concepts by using data collection instruments (Gorard, 2001). Amaratunga et al. (2002) maintain that applying quantitative research helps the researcher to establish statistical evidence on the strengths of relationships between both exogenous and endogenous constructs. They also Emphasize that the statistical results provide directions of relationships when combined with theory and literature. Cavana (2001) and Amaratunga et al. (2002) point out that it can verify the hypotheses and provide strong reliability and validity. The three basic methods for gathering quantitative primary data, are: i) survey research, ii) observational research, and iii) experimental research (Malhotra & Birks, 1999:207). Among these the first two are the forms of descriptive research and the latter is causal research in nature.

Survey research, is the method to collect quantitative data, involves using a structured interview to collect information from respondents (Cooper *et al.*, 2006:273). Survey tool requires questions and answers of these questions are being used for analysis, it is efficient, cost saving and also easy (Emory & Cooper, 1991). There are many mediums available for data collection and survey, which can be a telephone, email, surface mail or direct interaction with respondent (Emory & Cooper, 1991). These mediums need something to communicate, to gather required information. For this the researcher has two options namely interview or questionnaire. Survey research can be conducted by means of personal interviews, telephone interviews, mail surveys, location interviews and e-mail or web-based surveys (Kumar *et al.*, 2002:215). On the other hand, questionnaire can be comprised of open ended or closed questions depending upon research method (Emory & Cooper, 1991). Response rate is very low through telephone, email and surface mail, so direct interview or questionnaire is the best way to gather data.

Self administered survey methodology was found to be the most appropriate tool to collect the data for the following five reasons. First, it is designed to deal more directly with the nature of respondents' thoughts, opinions and feelings (Shaughnessy and Zechmeister, 1997) and collect information on belief, attitudes and motives (Burns, 2000). Second, it is an effective tool, especially when the investigator does not require, or has little control over behavioral events (Yin, 1994). Third, it provides accurate means of assessing information about the sample and enables the researcher to draw conclusions about generalizing the findings from a sample of responses to a population (Chisnall, 1992; Creswell, 1994). Fourth, it is more concerned about causal research situations (Hair et al., 2003). Finally, it is

considered useful because it is quick, inexpensive, efficient, and can be administered to a large sample (McClelland, 1994; Churchill, 1995; Sekaran, 2000; Zikmund, 2003). Hair et al. (2003) regards large samples (i.e., 200 or more respondents) as one of the main reasons for using a survey research method.

Observational research is a systematic process of recording the Behavioral patterns of people, objects or occurrences as they are witnessed (Zikmund *et al.*, 2007:237). One can distinguish among several types of observation, such as direct or indirect, disguised or undisguised, structured or unstructured, and human or mechanical observation (Burns & Bush, 2003:208). Observation is suitable for a special type of case study i.e. if the researcher wishes to study a specific site; he/she makes a visit and observes the things which are required for the research (Yin, 1994). Sometimes, it requires more than one visit to make better observation and it is used for qualitative studies (Yin, 1994).

Causal or, Explanatory, or, Experimental research permits the researcher to control the research situation in order that causal relationships among variables may be evaluated (Zikmund words, one variable is manipulated and its effect upon another variable is measured, while other variables that may confound the situation may be eliminated (Coldwell Experimental research can be conducted in a laboratory or in the field (Crimp & Wright, 1995:175).

Primary Data Collection Sources and Methods of the Present Study

The present study is a form of descriptive research since in this study survey has been conducted. This study is also a kind of experimental or causal research because it examines the causal relationship between/among the variables. Through two self-administered structured questionnaires survey on employees and customers of the mobile telecom operators in Bangladesh respectively have been conducted.

5.2.3.3 Measurement and Scaling

After the research method is finalized, the measuring instrument can be developed. Measurement means assigning numbers or other symbols to characteristics of objects according to certain pre-specified rules (D. J. Bortholomew, 2006). While a scale is any series of items that are arranged progressively according to value or magnitude, into which an item can be placed according to its quantification (B. B. Wolman, 1973).

5.2.3.3.1) Primary Scales of Measurement are: i) Nominal Scale (numerical e.g., gender: [1] Male [2] Female, etc.), ii) Ordinal Scale (rank order e.g., GP as Rank 1, Robi as Rank 2), iii) Interval Scale (equal distance between the various categories e.g., Overall Satisfaction: Very Dissatisfied 1 2 3 4 5 Very Satisfied) and iv) Ratio Scale (Equally appearing intervals for measuring physical quantities like - length, weight, etc.)

5.2.3.3.2) Scaling Techniques according to (Malhotra and Dhas (2011: 251-255, 266-271), are of two types: **i) Comparative Scales** such as a) Paired Comparison Scaling with two objects (e.g., GP and Robi), b) Rank Order Scaling with several objects to rank (e.g., telecom brands are ranked according to overall performance), c) Constant Sum Scaling to allocate a constant sum of units or points among a set of stimulus objects (e.g., 7Ps) and d) Q-Sort Scaling (a rank order procedure in which objects are sorted into piles based on similarity e.g., 11 piles ranging from “most highly agreed with” to “least highly agreed with”) and **ii) Non-Comparative Scales** include: a) Continuous/Graphic Rating Scale (in which the variables are set from one extreme of the criterion to another e.g., 0 = poor quality, 1 = bad quality, 5 =

neither good nor bad and 7 = good quality), b) Itemized Rating Scales (a number of brief descriptions associated with each category e.g., Likert 5 Scale where 5 = strongly agree and 1 = strongly disagree; Semantic Differential Scale or, two opposite streams e.g., 1 = unpleasant submissive to 7 = pleasant dominant; Stapel's 10 point Scale e.g., quality rank from +5 to -5).

Major Decisions when constructing Non-Comparative Itemized Scales

The number of scale categories to use: Two conflicting considerations are involved in deciding the number of scale categories (Malhotra and Dhas, 2011:272). Traditional guidelines suggest that the appropriate number of categories should be seven plus or minus two: between five and nine (J. Dawes, 2008). However, in situations, where several scale items are added together to produce a single score for each respondent, five categories are sufficient.

Balanced versus unbalanced scale: In a balanced scale, the number of favorable and unfavorable categories are equal; in an unbalanced scale, they are unequal (Bradford S. Jones, 2000).

Odd or Even number of categories: With an odd number of categories, the middle scale position is generally designed as neutral or impartial. The presence, position and labeling of a neutral category can have a significant influence on the response (Malhotra and Dhas, 2011:273). The Likert Scale is a balanced rating scale with an odd number of categories and a neutral point (Palmer Morrel-Samuels, 2002).

Forced versus Non-forced Scales: On forced scales, the respondents are forced to express an opinion, because a "no opinion" is not provided. In such case, respondents without an opinion may mark the middle scale position (Malhotra and Dhas, 2011:273). While in situations, where the respondents are expected to have no opinion as opposed to simply being reluctant to disclose it, the accuracy of data may be improved by a non-forced scale that includes a "no opinion" category (Roger Slavens, 2007).

Measurement Scales Used in the Present Study

In order to collect the descriptive data, both nominal and ordinal scales have been used. While, non-forced, balanced, and odd numbered non-comparative itemized Likert 5 rating scale of measurement ranging from (1= strongly disagree) to (5 = strongly agree), have also been used in the present study to know the perceptions of the respondents regarding sustainable development. The Likert-scales have been selected because they take less time, and are easy to answer (McClland, 1994; Churchill, 1995; Frazer and Lawley, 2000). In accordance with Nunnally (1978), Churchill (1979), Peter (1979), and Han (1991), multi-items for each construct were selected to provide a comprehensive evaluation and help the researcher to overcome the shortcoming of a single item measure. Multi item scales are considered necessary to achieve valid measurement of factorially complex constructs (Peter, 1979), while single-item scales have been criticized by Churchill (1979) as: 1) lacking sufficient correlation with the attribute being measured, 2) closely related to other attributes, 3) restricted variance of scale, and 4) unreliable responses.

5.2.3.4 Questionnaire Design

A questionnaire is a structured technique or formalized set of questions for collecting information from sample elements or respondents (Malhotra, 2004:280). Due to their effectiveness in gathering empirical data from large samples (McClland, 1994),

questionnaires are the most frequently used method of data collection (Clarke, 1999). The questionnaire is “a reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives” (Sekaran, 2000, p.233). It is an important instrument in a survey when the researcher is familiar with the variables that need to be measured (Bailey, 1994). Two types of questions are there for questionnaire depending upon qualitative or quantitative research (Gorard, 2001). If research is qualitative then open ended question are there in a questionnaire. Such types of questions need heavy information instead of yes or no, while closed questions are easy to answer which lead to yes and no format or lead to a brief reply (Gorard, 2001). Yin (1994), argues that a questionnaire contains questions approximately related to the theory discussed in literature review, so questions are almost allied to literature review in questionnaire.

Pre-Test: Reynolds and Diamantopoulos (1998) maintain that there is wide agreement among marketing scholars that pre-testing is an integral part of the questionnaire development process. As Hunt et al. (1982, p.270) pointed out, the researcher needs to ask: “Will the instrument provide data of sufficient quality and quantity to satisfy the objectives of the research?”(p.270). The benefits of a pre-test prior to conducting the main survey have been supported by numerous researchers (see Hunt et al., 1982; Blair and Presser, 1992; Churchill, 1995; Reynolds and Diamantopoulos, 1998; Zikmund, 2003). Pre-test is defined as “a trial run with a group of respondents used to screen out problems in the instructions or design of a questionnaire” (Zikmund, 2003, p.229).

Blair and Presser (1992) found real differences between pre-test methods. This was confirmed by Reynolds and Diamantopoulos (1998), who noted several disagreements among scholars about the best method for pre-test administration. Overall, the methodological literature has been found to distinguish between three types of pre-test methods (Hunt et al., 1982; Blair and Presser, 1992; Churchill, 1995; Reynolds and Diamantopoulos, 1998; Zikmund, 2003), including planned field survey, personal interviews (face-to-face), and expert panel. The first of these, **planned field survey**, employs a small sample referred to as ‘pre-testing’ (Zikmund, 2003). The second, **personal interview** is where the interviewer is required to identify any obstacles, difficulties, or incomprehensible questions blocking respondents’ ability to provide accurate answers. The third is when an **expert panel** is asked to judge the instrument and determine any problems it presents.

The above three methods are critically analyzed by Reynolds and Diamantopoulos (1998), who found that a planned survey is useful because it covers all aspects of the field survey, and is less likely to be affected by interaction between the respondents and interviewer. However, a problem with this method is that respondents who are not the targeted sample might complete the questionnaire. Therefore, they suggest that personal interview is the most effective means of conducting a pre-test, due to the accuracy and completeness of the information generated. Although this method is subject to errors resulting from interaction between the interviewer and participants (i.e., bias introduced by interviewers), expert panels (the last method) could be used to determine if there are problematic questionnaire items.

Pre-Test Sampling Frame: Hunt et al. (1982, p.269) posed two main questions in discussing the sampling frame for a pre-test. These questions were “who should be the subjects in the pre-test?” and “how large a sample is needed for the pre-test?”

For the first question, it was necessary to include subjects who were similar to those approached in the actual survey (Churchill, 1995; Tull and Hawkins, 1990). Hence, a small

number of respondents with certain characteristics were deemed to be more efficient in exploring errors in the survey instrument than respondents chosen randomly from the population of interest (Reynolds and Diamantopoulos, 1998).

In the case of pre-test sampling size (the second question), there is little agreement in the literature (Hunt et al., 1982). For example, Zatalman and Burger (1975) did not specify size, simply recommending a 'small' sample. Bowen and Shoemakers' (1998) suggested a sample of five (5) is appropriate. Fink (2003 in Saunders et al 2007) stated that the minimum of ten (10) members for pre-testing is adequate. Others such as Boyed et al. (1977) indicated that a sample of twenty (20) is adequate.

Questionnaires Used in the Present Study

In order to make the study effective the primary data regarding the "role and impact of internal, relationship, integrated and performance marketing activities on sustainable development of the mobile phone telecom industry of Bangladesh" have been collected through structured questionnaires based survey method from the users or customers and employees of the six mobile phone telecom operators in Bangladesh.

Pre-test

Based on the review of literature, a preliminary draft of the questionnaire has been specifically developed for this study and pre-tested to improve upon the clarity of the question items. In order to minimize any error or bias, all the three methods of pre-testing namely planned field survey, personal interviews (face-to-face), and expert panel have been used. In this regard, the suggestion of market researchers on pre-test sampling size twenty (20) personal interviews have been conducted of which ten (10) on customers and five (05) employees of mobile telecom companies through a planned field survey. The rest five (05) are the experts from academia and research practitioners.

Five (5) employees and ten (10) customers of mobile telecom companies have been interviewed after gaining approval from the respondents. The purpose of these interviews was to ask the respondents to identify any problems in regard to the questionnaire format, wording or design, and to address any comments or suggestions they had. As a result of this procedure, six (6) out of ten (10) customer respondents suggested to modify the wordings of some questions and provide examples with some questions would make the questionnaire easier to understand. The questionnaire for customers was then modified and refined. While three (3) out of five (5) employee respondents opined not to mention the figures of salaries and other monetary benefits in the questionnaire. They also suggested changing some direct questions regarding their relationship with the management due to which employees would not be interested to attempt those questions or bypass with a neutral answer because they already have restrictions from their employers in participating any such survey. Keeping this into consideration, the questionnaire for employees was also modified and refined.

As part of the last method, the draft of questionnaire was also presented to five (5) experts in the field to identify any potential problems. As a result, any ambiguity or unclear words should have been eliminated from the questionnaire. This procedure has also served to establish **validity and reliability** (Churchill, 1995; Frazer and Lawley, 2000). In addition to this, great care has been taken by the researcher to design the instrument attractively with easy to follow instructions, and to increase the response rate (Janes, 2001; Sanchez, 1992; Babbie, 1990), and minimize measurement errors (Sanchez, 1992).

Finalization of the questionnaires

Once the instrument has been finalized and its appropriateness has been confirmed after conducting the pre-test, the following procedures have been adopted to prepare the final questionnaire.

Self-completion questionnaires: In this regard, two self-completion questionnaires (Appendix) with closed questions have been developed because such questions are easy to follow and easy to answer. Furthermore, closed questions have some advantages as such questions enhance the comparability of answers, and make them easier to show the relationship between variables. It is better than open question for this research (Bryman and Bell, 2003).

The self-completion or, self-administered questionnaires have been found advantageous for this study because: 1) the population in this study includes a large number of respondents, and thus both the questionnaires have been used to survey quickly and economically compared with the other methods such as personal interview or telephone interview; 2) the respondents have been given minimum 10 days to maximum 40 days to complete the questionnaire so that they can complete them according to their convenient time; and 3) some respondents who are the residents in the districts other than Chittagong and Dhaka have also been covered through email, postal mail, and courier service. Thus, time, energy and monetary cost also have been minimized to some extent (Zikmund, 2003, Hair et al., 2003). Furthermore, studies relevant to this study (in the domain of holistic marketing) have utilized self-administered questionnaires (Morgan and Hunt, 1994; Shamdasani and Balakrishnan, 2000; Liang and Wang, 2005; Wong, 2004; Wang et al., 2006).

Cover page introduction: Respondents have been invited to participate in this survey through a cover page introduction letter enclosed on the first page of both the instruments (Appendix 1 to 4). The cover page introduction is important because it encourages respondents to complete and return the questionnaire (Lukas et al., 2004; Churchill, 1995). This page introduced the study and its aims and assured confidentiality and anonymity to the respondents.

Parts of the Questionnaires: In both the questionnaire, the Part 1 covers the aspects of demographic data of the respondents. But the Part 2, Part 3 and Part 4 of the questionnaire on customers respectively collect the opinions of customers on relationship, integrated and performance marketing activities of the mobile telecom operators in Bangladesh. Similarly, the Part 2, Part 3 and Part 4 of the questionnaire on employees respectively collect the opinions of customers on internal, integrated and performance marketing activities of the mobile telecom operators in Bangladesh.

In order to ensure successful data collection, the Relationship Marketing (Part 2 of the questionnaire on customers), Internal Marketing (Part 2 of the questionnaire on employees), Integrated Marketing (Part 3 of both the questionnaires) and Performance Marketing (Part 4 of both the questionnaires) have been prepared based on the relevant literatures which have been exhibited in the following tables (from Table 1 to Table 4). All of the items in each of these tables have been measured by using a 5-point Likert-type response scales, anchored at 5 strongly agree and 1 strongly disagree.

Table 5.1: Relationship Marketing Factors that Affect Sustainable Development

Items	Sources
This company shows sincere interest in solving customer problems (<i>Sincere Service</i>)	Boles, Barksdale, and Johnson (1996), Karlsen et al. (2008), Swan, Trawick, and Silva (1985), Prus (1989); Zaltman and Moorman (1988),
The billing system of this company is accurate and reliable (<i>Accurate Billing</i>)	Bamfo (2009), Lim et al. (2006); Hunter and Thiebaud (2003), TM Forum (2011), Hunter (2003), Lee et al. (2001), Pulkkinen (2006), Pezeshki, Mousavi, and Grant's (2009), Tornkvist and Schubert (2009),
This company strictly maintains safety, security and privacy of customer communications or transactions (<i>Customer Security</i>)	Agar (2003), Agar (2003), Alexander, et al., Ling (2004), Mechael (2006), T. Alhaiou (2000)
This company keeps its promises to consistently offer best and excellent quality telecom service standard through uninterrupted network and latest technology (<i>Quality Service</i>)	Accenture (2008), ACMA (2008), Akroush et al. (2011), Aydin & Özer (2005), Barnhoorn (2006), Brady and Robertson (2001), Boohene & Agyapong (2011), Boshoff and Gray (2004), Cap Gemini (2005), Caruana (2002), Consumer Reports (2005), Customer Satisfaction (2007), Customer Satisfaction Index (2009), DSTI (2007), Edward et al. (2010), Eshghi et al. (2008), ESPI (2006), Gunjan et al. (2011), Hoffman & Bateson (2001), J.D. Power and Associates Survey (2009), Kim et al. (2004), Lai et al. (2009), Leisen & Vance (2001), Liu et al. (2011), Lu et al. (2009), McKinsey Quarterly (2004), Mevvis and Janiszewski (2002), Mobile Phone Survey (2004), Negi (2009), Ozer & Aydin (2005), Parasuraman et al. (1985, 1988), Parasuraman, Zeithaml, and Berry (1988, 1990), Santouridis and Trivellas (2010), Shin & Kim (2008), Sigala (2006), Spreng and Machoy (1996), Stafford et al. (1998), Sukumar (2007), Sureschander et al. (2002), Survey (2008), Sutherland (2007), Souki and Filho (2008), Turban (2002), Tyran & Ross (2006), Van der Wal et al. (2002), Wang & Lo (2002), Wang et al. (2004), Ward and Mullee (1997), Zhao et al. (2012)
Employees of this company are always polite, courteous, friendly, nice, caring and willing to help customer (<i>Cooperative Employees</i>)	Hokanson (1995), Parasuraman et al. (1988), Soderlund & Rosengren (2008), Spreng and Mackoy (1996)
This company gives individual attention to understand customer or customer specific needs (<i>Attention to Customers</i>)	Ananth et al. (2011), Anderson and Sullivan (1993), Herrmann et al. (2007), Howard (1974), Kholi and Jaworski (1990), Michel and Meuter (2008), Minkiewicz et al. (2011), Narver and Slater (1990), Nimako et al. (2010), Parasuraman et al. (1985), Singh & Deshmukh (1999)
This company provides accurate, precise and timely information about its new services/products (<i>Informative Services</i>)	Balasubramanian et al. (2002), Barnes & Scornavacca (2004), Carroll et al. (2007), Cyber Dialogue (2001), Doherty (2007), Gordon and De Lima-Turner (1997), Haghirian et al. (2005), Merisavo and Kajalo (2007), Nasco and Bruner (2008), Pagnani (2004), Postma & Brokke (2002), Ranjan & Bhatnagar (2009), Siau and Shen (2003), Srinivasan, Anderson, & Ponnaolu (2002), Tsang et al. (2004), Varshney (2003), Wind & Rangaswamy (2001)
This company promptly responds to customer queries, and requests (<i>Responsiveness to Customers</i>)	Bitner, M. J., Zeithaml, V. A. (2003), Diaz & Ruiz (2002), Gilbert A. Churchill, Jr. & J. Paul Peter (1999), Glaveli et al. (2006), Griffith and Krampf (1998), Hayes (1998), Joseph et al. (2005), Jun & Cai (2001), Muhammad Asif Khan (2010), Parasuraman et al. (1988), Philip Kotler (1999), Rosen and Karwan (1994)

This company has adequate number of customer service centers/points (<i>Service Centers</i>)	Alexander and Colgate (2000), Anton (2000), Anton, Setting, and Gunderson (2004), Coviello and Brodie (1998), Datamonitor (2007), Dean (2004), de Ruyter and Wetzels (2000), Doney and Cannon (1997), Feinberg et al. (2000), Hennig-Thurau, Gwinner, and Gremler (2002), Holman, Batt, and Holtgrewe (2007), Miciak and Desmarais (2001), Morgan and Hunt (1994), Reuters (2001), Rust, Zahorik, and Keiningham (1995), Sharma and Patterson (1999), Spreng and Mackoy (1996), Whitt (1999), Cronin and Taylor (1992).
This company provides 24hours customer service through call center (<i>24 Hours Service</i>)	Acey, John (2002), Baljko (1998), Holman, David et al. (2007), Michell, P.J. (1998), Miciak, Alan and Desmanais, Mike (2001)
This company offers attractive rates and charges based on more usage (<i>Attractive Rates & Charges</i>)	Aker (2008, 2010), Blattman et al (2002), Crandall and Waverman (2000), De Melo cited in Forestier (2002), Garbacz and Thompson (2005), Jensen (2007), Klonner and Nolen (2008), Milne (2006), Navas-Sabater (2002), Requelme (2001), Rosston and Wimmer (2000), Wellenius (2000)
This company offers attractive loyalty/promotional rewards (<i>Attractive Rewards</i>)	Blatterger and Wisniewski (1989), Bonnier (2011), Drossos et al. (2007), Hanley, Martinsen & Pryor (2005, 2006), Iddris (2006), Jupiter Research (2008), Keller, et al. (2008), Kwok and Uncles (2005), Lee and Jun's (2007), Luk and Yip (2008), Mobile Marketing Association (2007), Pastore (2002), Pauwels, Hanssens and Siddarth (2002), Pietz & Storbacka (2007), Rettie et al. (2005), Tsang et al. (2004), Hanley et al. (2005), Hanley, Becker and Martinsen (2006), Varshney (2003), Raslomp (2001), Rettie et al. (2005).
This company (employees) uses personalized greetings in correspondence with customers and at service in person (<i>Greeting Customers</i>)	Bose (2002), Saviga Unhanandana and Teerayout Wattanasupachoke (2012)
This company (employees) provides useful suggestions and advice to customers (<i>Advising Customers</i>)	Saviga Unhanandana and Teerayout Wattanasupachoke (2012), Annual Report (2012-13) of the Department of Telecommunications, India, European Mobile Industry Observations (2011)
This company (employees) provides flexible and personalized services as per customer requirements (<i>Customized Services</i>)	Calif (1987), Pine II (1992)

Table 5.2: Sustainable Development through Relationship Marketing

Items	Sources
Implementation of the above Relationship Marketing activities can ensure sustainable development of this company by satisfying customer and increasing business volume, profitability and growth (<i>Sustainable Development</i>)	Roseland, Conelly (2005), Gummesson (1999), Mária Vágási et al (2012), Epstein and Roy (2003) Axiata Group's Sustainability Report, 2012 Telenor's Sustainability Report, 2012 Airtel's Sustainability Report, 2012

Table 5.3: Internal Marketing Factors that Affect Sustainable Development

Items	Sources
Management of this company is sincere for its employee welfare (<i>Employee welfare</i>)	Gronroos (2007), Kang (2001), Report of National Commission on Labour, Government of India (2002), Seithi (1981)
Management of this company treats its employees as valued resources (<i>Employees as Resources</i>)	Argenti (1998), Collins, Payne (1991), Dortok (2005), Dunne & Barnes (2000), Joseph (1996), Kotler (2008), Lings (2004), Little & Little (2009), Varey (2001)
Management of this company views training for employee knowledge and skills development as an investment rather than a cost (<i>Investment on Training</i>)	Bansal et al. (2001), Berry and Parasuraman (1992), Boshoff and Allen (2000), Bitner et al. (1990), Cooper and Cronin (2006), Gummerrsson (1991), Herrell and Fors (1992), Kale (2007), Kotler (2008), Little & Little (2009), Lytle and Timmermann (2006), Marketing Teacher LTD (2000), Rafiq and Ahmed (2000), Schlosser & McNaughton (2007), Varey (2001), Yavas et al. (2003)
Good communication exists at all levels of this company management (<i>Proactive Interpersonal Communication</i>)	Adair (2009), Case (2005), Ceas, Berens, & Dijkstra (2005), Deepröse (2003), Donaldson & Eyre (2000), Gronroos (2007), Holtz (2004), Quirke (2000), Johnston & Clark (2008), Kotler et al. (2009), Lovelock (1999), Palmer (2005), Roberts-Lombard (2010), Welch and Jackson (2007)
This company offers handsome salaries and other financial and non-financial employment benefits based on employee performance (<i>Performance Based Pay</i>)	Adam Smith (1776), Avery (1997), Banker, Lee, Potter and Srinivasan (1996), Bansal et al. (2001), Billikopf (1992), Collins (1998), Hodgetts (1997), Honeywell – Johnson and Dickinson (1999), Ivancevich (2007), Jenkins, Mitra, Gupta and Shaw (1998), Lawler (2003), Luthans (2005), Noe, Hollenbeck, Gerhart, & Wright (2006), Peach and Wren (1992), Romano (1998), Rubino (1995), Stone and Ziebart (1995), Taylor (1903), Wilson (1990)
Employees receive the right amount of recognition and appreciation from the management for their work, contribution and achievement (<i>Recognition & Appreciation</i>)	Agarwal and Ferratt (1999), Arnett, Laverie & McLane (2002), Danisha and Usman (2010), Deepröse (1994), Grote (2006), Harrison (2005), Kim H (2004), Lawler (1981), Manjunath and Rajesh (2012), Md et al. (2013), Nolan (2012), Nyakundi et al (2012), Petrescu and Simon (2008), Roshan (2005), Sarvadi (2005), Schuler and MacMillan (2006), Stringer, Didham, & Theivananthpillai, (2011)
Provisions for promotion & career growth in this company is excellent (<i>Promotion & Career Growth</i>)	Carr and Kazanowski (1994), DeSantis and Durst (1996), Driver & Brousseau (1997), Michael Driver & Brousseau (1980), Partlow (1996), Seymour and Busherhof (1991)
The company is a good place to work with safety and job security (<i>Good Workplace</i>)	Earle (2003)
There is good balance between work and personal life of employees (<i>Balanced Work/Life</i>)	Greenhaus and Powell (2006), Kirchmeyer (2000), Sandrick (2003), Wilson (1996)
Provisions for recreation facilities like annual sports, cultural program, picnic, tour/trip, etc., enhance employee capabilities and efficiencies (<i>Recreation Facilities</i>)	Behrer and Larsson (1998), Getz (2005), Hermansson (2003), King (2001), O'Toole and Mikolaitis (2002), Sadiq and Åkerlind (2003), www.marinc.com/employees , www.speedwell.com.bd , http://astx.com/about/careers
Equal Employment Opportunity exists for all with no discrimination (<i>Equal Employment Opportunity</i>)	Deeks and Rasmussen (2002), Harris and Fink (1994), Macky and Johnson (2003), Rudman (2002), William and Dreher (1992)

Employee job description is/are well defined by the management (<i>Well Defined Job Description</i>)	Dalton & Croft (2003)
Management of this company is dynamic and non-bureaucratic and so the employees enjoy participative decision making authority (<i>Participative Management</i>)	Anastassova and Purcell (1995), Berlowitz et al (2003), Chow et al. (2006), Lashley (1995, 1996), Relf (1995), Yoon and Suh (2003)
Employees of this company are well equipped with official accommodation, cell phone, PC/Laptop, internet connectivity, vehicle, etc. (<i>Logistic Support</i>)	Babin and Boles (1996), Babakus et al. (2003), Bakker et al. (2004), Bell et al. (2004), Halbesleben and Buckley (2004), Lytle et al (1998), Singh (2000)
There is excellent relationship among the superiors, subordinates and colleagues at all levels and departments within this company (<i>Positive Interpersonal Relationship</i>)	Daley (1986), Deshpande (1996), Emmert an Taher (1992), Kilburn (2009), Lam, et al. (2010), Wieseke et al. (2009)

Table 5.4: Sustainable Development through Internal Marketing

Items	Sources
Implementation of the above Internal Marketing activities can ensure sustainable development of this company by satisfying employees and increasing business volume, profitability and growth (<i>Sustainable Development</i>)	Bhattacharya, Sen, Korschun, 2007; Dumitrescu et al, 2012; Hitt et al., 2006; Polonsky and Ottman 1998; Berry, 1981; Axiata Group's Sustainability Report, 2012 Telenor's Sustainability Report, 2012 Airtel's Sustainability Report, 2012

Table 5.5: Integrated Marketing Factors that Affect Sustainable Development

Items	Sources
This company provides best customer service through cross-functional employee teams including specialists from its various departments (<i>Functional Integration</i>)	Fay et al. (2006), Gupta, Raj, and Wilemon (1985, 1987), Hull (2003), Kahn (1996), Moenaert and Souder (1990), Olson, Walker, Ruckert, and Bonner (2001), Song and Parry (1992), Song and Swink (2002), Song, Thieme, and Xie (1998), Urban and Hauser (1993)
This company maintains a balanced combination of SIM, handsets, basic telephony, mobile commerce, mobile banking, mobile internet, etc., as part of its varied service packages (<i>Integrated Service/Product</i>)	Becker et al. (2010), Bouwman et al. (2005), Carlton and Waldman (2002), Cartier, Castells, and Qiu (2005), Deans (2005), Dickinger et al. (2005), Donner (2007), Grant et al. (2007), Guo et al. (2010), Haghirian et. al. (2008), Keefe (2008), Leek et al. (2009), Liu et al. (2010), May (2001), Messerschmitt, D.G. (1996), Okazaki (2009), Salinger (1995), Samuel, Shah, and Hadingham (2005), Sey (2007), Siau et al. (2005), Toker et al. (2010), Venkatesh and Mahajan (1993), Verkasalo (2008)
This company maintains integrated and competitive call rates and charges for all of its service packages like mobile telephony, mobile internet, etc. (<i>Integrated Pricing</i>)	Baker and Crompton (2000), Elliot & Shatto (1996), Kirkup and Rafiq (1999), Reeves & Bednar (1996), Rouvinen (2006), ITU (2005)

This company undertakes promotional campaigns through the use of integrated marketing communication channels like traditional broadcast & electronic media with modern online, & social networks (<i>IMC</i>)	Alexander and Muhlebach (1992), Barwise and Strong (2002), Becker et al. (2010), Binay (2001), Dickinger et al. (2004), Funk (2004), Hirakawa et al. (2009), Ho et al. (2010), Kirkup and Rafiq (1999), LeHew and Fairhurst (2000), Leppäniemi et al (2004), Maneesoonthorn & Fortin (2004), Milne and Gordon (1993), Mobile Marketing Association (2007), Parsons (2003), Quah & Lim (2002), Robins (2003), Suleyman (2008), Yavas (2003), Yuen (2005)
This company serves customers with an integrated management of the conveniently located service centres and channel members (<i>Forward Integration</i>)	Becker et al. (2010), Dawson (1983), Dickinger et al. (2004, 2005), Ghosh and McLafferty (1987), Institute of Real Estate Management (1990), Kirkup and Rafiq (1999), Lee et al. (2007), Levy and Weitz (1998), Seah (2003), Sit et al. (2003), Wee and Tong (2005)
This company maintains a pool of service-minded and customer-oriented employees, investors, media and channel partners with shared vision (<i>Integrated Teamwork</i>)	Babakus & Boller (1992), Carman (1990), Conte (2008), Cronin & Taylor (1994), Kirkup and Rafiq (1999), Martínez & Martínez (2010), Yuen (2005)
This company maintains well coordinated, simple, smart and fast service process (e.g., easy to use/operate, easy to pay bill/recharge/ transfer balance, fast to connect, 24 hours call center support) (<i>Integrated Process</i>)	Aregbeyen (2011), Beckett & Hewer (2000), Gronroos (1983, 1984), Lichfield (1990), Lim et al. (2006), Kirkup and Rafiq (1999), M. K. Kim et al. (2004),
This company maintains same attractive interior, appealing exteriors, and branding atmosphere at all of its service points (<i>Integrated Physical Evidence</i>)	Alexander and Muhlebach (1992), Bitner and Zeithaml (2010), Guy (1994), Kirkup and Rafiq (1999), Lovelock, Patterson & Walker (2001), Sit et al. (2003), Yuen (2005)
This company maintains an integrated network with the local and international operators to serve its customers (<i>Horizontal Integration</i>)	C. B. Lefevre (2008), Economides (1996, 1999), Economides and Salop (1992), Economides and Woroch (1992), Economides, Lopomo and Worock (1996), G. Hasbani et. al. (2007), Laffont, Rey and Tirole (1997, 1998a, 1998b), O. Wymann (2007)
This company provides best quality service through an integrated relationship with the suppliers of technologies (<i>Backward Integration</i>)	Friedrich et al. (2009), Hecker and Kretschmer (2010), Porter (1979), The NEWS (2007), Wilde and de Haan (2006)

Table 5.6: Sustainable Development through Integrated Marketing

Items	Sources
Implementation of the above Integrated Marketing activities can ensure sustainable development of this company by providing benefits to all and increasing business volume, profitability and growth (<i>Sustainable Development</i>)	Fida Muhammad, 2002; Schultz and Kitchen, 2011; Axiata Group's Sustainability Report, 2012 Telenor's Sustainability Report, 2012 Airtel's Sustainability Report, 2012

Table 5.7: Performance Marketing Factors that Affect Sustainable Development

Items	Sources
This company adheres to the political vision “Digital Bangladesh” of minimizing the digital gap through its various services. (<i>Digital Gap Minimization</i>)	Ali (2010), Brown et al. (2003), CGAP (2006), Chowdhury and Ahmmad (2011), Economist (1999), Economist.com (2000), Ernberg (1998), Gatignon and Robertson (1985), Hammond (2001), Huda, Momen and Ahmed (2004), ITU (1999a), Kshetri and Dholakia (2001), Kim et al. (2009), Leo Burnett & Arc Worldwide (2011), Lopez (2000), Luo et al. (2010), Medhi et al (2009), Rai (2001), Schwartz (2001), Shamsuddoha (2008), Sultana (2009), The World Bank (2000), UNDP (2001), Wai (2001), Wilson (2001)
This company invested handsomely in acquiring licenses for mobile phone operating, new technologies, and building network (<i>Investment on Technology</i>)	Alleman et al. (1997), Ding and Haynes (2004), Jain and Sridhar (2003), Tella et al. (2007)
This company pays handsome amount of various types of taxes and duties like income tax, value added tax, import duties, etc. (<i>Taxes and Duties</i>)	Grubert and Mutti (2000), Hassett and Hubbard (2002), Hines (1997), Morisset and Pirnia (2001), Rolfe and White (1991)
This company has launched special mobile packages and facilities for the users of varied age and gender groups (<i>Age & Gender-wise Services</i>)	Cant et al. (2005), GSMA (2013), J. Abascal and A. Civit (2001), Reuters (2005), S. Kurniawan, M. Mahmud and Y. Nugroho (2006), S. Kurniawan (2007), The Mobile Economy (2013), Y. S. Lee (2007, 2008)
This company service packages and facilities are compatible with personal, professional, family, and social life style of customers (<i>Socio-Cultural Service Packages</i>)	Al-Gahtani (2003), Chen (2008), Chen et al. (2004), Koenig-Lewis (2010), Lin (2011), Ndubisi & Sinti (2006), Rogers (2003), Saaksjarvi (2003), The World Factbook (2008)
This company has good reputation for donations, sponsorship, charity, philanthropic support and commitment for the welfare of local communities, and underprivileged social groups (<i>Societal Welfare</i>)	CSR Report of Vodafone (2001-2002), Turyakire, Venter and Smith (2012)
This company offers mobile telecom services through the latest technologies (<i>Latest Technologies</i>)	AEC (2009), Ajzen (1985), Davis (1989), Fishbein and Ajzen (1975), Gazis et al (2001), Kuo and Yen (2009), Legris et al. (2003), Lim and Siau (2003), Matt Maier (2010), Meier (2010), Sambandaraksa (2012), Tang (2008), Taylor and Todd (1995), UMTS (2000), Wu and Wang (2005), Yi et al. (2006)
This company uses latest technological know-how to protect and secure users information (<i>Customers' Information Security</i>)	Clarke (2001), Dahlberg et al. (2007), Haque (2004), Huei (2004), Hossain and Prybutok (2008), ITU (1999b), Jillbert and Ahmad (2003), Kreyer et al. (2003), Lawrence and Lawrence (2004), Lee et al. (2004), Lopez (2000), Mariga (2003), Me (2003), Schwiderski and Knospe (2002), Vrechpoukis et al. (2002)
This company promptly updates the customers about their transaction information (balance recharge or bill pay) through user friendly confirmation SMS (<i>Transaction Updates</i>)	Abunyang (2007), Development Gateway (2005), Lennart and Soderberg (2008), Nasikye (2009), Tozsa and Budai (2005), Zalesak (2003), www.Infogile.com
The latest technology (e.g., 3G) launched by this company ensures faster speed of communication (<i>Faster Communication</i>)	Fleishman (2010), Lim and Siau (2003)
This company has recycling program to encourage customers to dispose their	AMTA (2006), Informa (2005a & 2005b)

mobile handsets, accessories and battery in a safe and responsible way through the recycling points in its outlets (<i>Recycling Program</i>)	
This company offers to help in reducing environmental pollution due to work-related travelling via vehicles and paper based wastages through mobile commuting, mobile conferencing services, etc. (<i>Environment Friendly Services</i>)	Arnfolk, P. (1999), Environmental Workplace Assessment (1999), Environmental Report: AT&T (1998-1999), British Telecom (1995/1996, 1999), Ericsson (1998, 1999), NOKIA (1998); Graedel, T. E., and B. R. Allenby (1995), Niles, J. (1994), Rosen, C., J. Bercovitz, and S. Beckman (1999), Schneider, A. (1999)
This company undertakes publicity about its environment friendly policy and environment compliant telecom infrastructure to prevent the environment from the adverse effect of electromagnetic radiation from the telecommunication networks (<i>Publicity on Environment Friendly Infrastructure</i>)	Abdel et al (2007), Bortkiewicz et al (2004), Hardell et al. (2007, 2009), Hutter et al (2006), IARC (2011), Martin (2008), Navarro et al (2003), Sage (2009), Santini et al (2003), Seitz et al. (2005), Takebayashi et. al (2008), www.who.int
This company undertakes strong publicity about the harmful effects of mobile phone usage on health and children, and risks of using while driving (<i>Publicity on Harmful Effects</i>)	HCN (2002, 2005), IEGMP (2000), UK NRPB (2004), WHO (2006)
This company launched various services by acquiring permission or license of 3G, VOIP, etc., in fair and transparent way through the due legal process (<i>Fair Acquisition of License</i>)	BTCR (2002), Camillus Eboh (2010), EIRIS (2005), KPMG Survey (2011), Lui (1985), Nigeria's National Broadband Plan (2013-2018), OECD (2009), http://www.btrc.gov.bd , www.china.org.cn/business
This company clearly discloses all billing information, terms and conditions to customers in advance including all charges like local and international taxes and tariffs, hidden and inter-operators charges (<i>Information Transparency</i>)	GSMA (2012)
This company registers complete user details for all of its issued SIMs (<i>Registered SIM Users</i>)	ACMA (2005, 2006), Adaramola (2011), AfricaNews.com (2010), Australian Communications Authority (1997, 2000), Burrell (2010), CPRST (2006), de Koker (2010), Donovan, K.P. (2012), Dowuona (2012), Esselaar, Gillwald, Moyo & Naidoo (2010), Hemeson (2012), Jentsch (2012), Lettice (2003), Smillie (2012), Southwood (2011), Sunday (2011), Telegeography (2013), The Register (2003), Wood (2010)
This company provides necessary information and support to protect the customer or the affected party or victim in case of customer's request or police and legal investigation against any criminal offence (<i>Support in Legal Proceedings</i>)	BBC News (2000), mobilementalism.com (2007), Nokia-n98.org (2011), The Committee Office (2011)
This company strictly maintains confidentiality of customer information and does not share them with anyone or, marketing campaign unless there is any legal obligation/customer's permission (<i>Privacy of Customer Information</i>)	Amidon (1992), Benjamin (1991), Branscomb (1995), Collier (1994), Fouty (1993), Frocht & Thomas (1994), Froehlich (1994), Hsu and Hsu (2008), Ian W. Jones and Michael G. Pollitt (1995), Milne and Rohm (2000), Neetling et al. (1996), Parasuraman, Zeithaml, and Malhotra (2005), Riel, Liljander, and Jurriëns (2001), Rosenberg (1994), Schattuck (1995), Shank (1986), Shaver et al. (1985), Smith (1994), Spinello (1995), Stair (1992), Vlachos and Vrechopoulos (2008)

This company takes permission from customer before sending any promotional message and SMS advertisement to them (<i>Customer Permitted Campaign</i>)	Bamba and Barnes (2006), Barnes & Scornavacca (2003), Easton (2002), Milne and Gordon (1993), Shimp (2007), Taylor et al. (2008), Tezinde et al. (2002), Trabelsi and Rached (2010), Tasng et al. (2004), Waldt et al. (2009), Wei et al. (2010)
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Table 5.8: Sustainable Development through Performance Marketing

Items	Sources
Implementation of the above Performance Marketing activities can ensure sustainable development of this company by enhancing business performance, volume, profitability and growth (<i>Sustainable Development</i>)	Crane and Matten, 2004; Maignan and Ferrell 2004; Maignan et al. 2005; UNEP 2005 Axiata Group's Sustainability Report, 2012 Telenor's Sustainability Report, 2012 Airtel's Sustainability Report, 2012

Length and Sequence of the questionnaires: There are different views in regards to the length of questionnaire. For instance, Frazer and Lawley (2000) outline that an instrument up to twelve pages in length is generally considered as appropriate. Zikmund (2003, p. 214) recommended that, "a general rule of thumb is that questionnaires should not exceed six pages". All the questions in this study including the cover page introduction have been presented on six pages, within the recommended length. The questionnaire has been printed on both sides of the paper to further reduce the impression of the survey being long. Questions have been also neatly organized and conveniently spaced to minimize eyestrain. Further, because sequencing of questions can influence the nature of the respondents' answers and can lead to an error in analysis (Kinnear and Taylor, 1996), considerable care has been taken. That is, the questionnaires have been designed to represent the goal of the research, moving from one topic to another in a logical manner, with questions focusing on the completed topic before moving to the next (Tull and Hawkins, 1990).

Wording and Language of the questionnaires: Janes (1999), Fowler (1992), and Frazer and Lawley (2000) recommended that the respondents should be able to read and understand the words used in the instrument, as this will encourage them to complete the questionnaires. So, the wording and language used in the questionnaires have been kept as simple as possible to communicate with all respondents, even those having little formal education. Questions are clear, answerable, unbiased, and suitable to the context of mobile telecom industry.

Questionnaire Translation and Back Translation: Methodological authors such as Brislin et al. (1973), Malhotra et al. (1996), Temple (1997), Frazer and Lawley (2000), Mallinckrodt and Wang (2004), and Salciuviene et al. (2005) mention that questionnaire translation and back translation are important because cultural differences could result in non-equivalence, which may confound results. According to Malhotra et al. (1996, p.24), "if the translator is not fluent in both languages and familiar with two cultures, direct translation of certain words and phrases may be erroneous". Bloemer and de Ruyeter (1998) and De Wulf et al. (2001) also used this approach in the context of non-English speaking respondents. Since this study consists of non-English speakers (i.e., users and employees of mobile telecom companies in Bangladeshi), translation and back-translation of the instrument has been undertaken. In the current study, two steps have been followed in translating the questionnaires. **Firstly**, after the original questionnaire (English version) was developed, it was translated into Bengali by the researcher himself who is a native Bangladeshi and fluent in both languages. **Secondly**,

another translator whose native language is Bengali, back-translated the Bengali version to ensure equivalence of questionnaire translations and adjust inconsistencies.

Thus, the questionnaires have been made available in two languages, Bengali and English, and the respondents have been given the choice of filling out whichever version they wished.

5.2.3.5 Sampling

When conducting primary research, information about the population can be attained by taking either a census or a sample (Malhotra, 2004:314). A census involves an investigation of all the individual elements that make up the population (Zikmund & Babin, 2010:412) while sampling is the process of selecting a representative part of a population for the purpose of making conclusions about the whole population (Coldwell *et al.*, 2004:74).

Population: A population refers to all the objects that possess a common set of characteristics with respect to a marketing problem (Kumar, Aaker & Day, 2002:299). So, population for a study is that group (usually of people) about whom the researcher wants to draw conclusions (Babbie, 2005). It is never possible to study all the members of the population that interest researcher. In every case, researcher selects a sample among the population (Babbie, 2005).

Sample: Sample is the segment of the population that is selected for investigation (Bryman and Bell, 2003).

Sampling: Sampling is an important issue because it is seldom possible for a researcher to collect evidence from all members of the population being studied. In order to deal with this, most of the time the researcher has to choose or select a subset of all possible informants in the target population; this selection is referred as sampling (Remenyi *et. al.*, 1998).

“The group the researcher wishes to study is termed as population and the group actually involves in the research is the sample” (Gorard, 2001 pp.10).

Sampling is a base for every research in different ways and the purpose of the sampling is to know about target population (large number of cases) with small number of cases, less time, less cost and through effective statistical tools (Gorard, 2001).

Sampling is useful in cost saving and time saving as well. Sampling is the short cut method to find out the required results. It is very difficult to examine the whole population. Sample must be large enough as possible, to find out the better results and also good data for empirical section. Because results gathered from sample are sometimes generalized to whole population (Gorard, 2001).

Sampling Process

5.2.3.5.1 Target Population: The sampling process commences with the definition of the target population. The target population refers to a collection of elements containing information required by the researcher and about which the researcher can make interferences (Malhotra, 2004:315). It is critical to accurately and precisely define the target population. Improper definition thereof will result in research results that do not answer the research question (Kumar *et al.*, 2002:301). The target population is defined in terms of: i) element (i.e., the respondent about which or from which the information is desired, i.e., 116.871

million mobile users), ii) sampling unit (i.e., an element, or, a unit containing the element, that is available for selection at some stage of the sampling process, i.e., employee and customer list from the company), iii) extent (i.e., geographical boundaries, i.e., Chittagong, Bangladesh), iv) time (i.e., time period under consideration, i.e., 20th October, 2013 to 15th January, 2014)

5.2.3.5.2 Selecting a Sampling Technique/Method

5.2.3.5.2.1) Probability sampling includes i) **Simple Random Sampling (SRS)** each element in the population has a known and equal probability of selection. This implies that every element is selected independently of every other element (Malhotra and Dhas, 2011:339), ii) **Systematic Sampling**, the sample is chosen by selecting a random starting point and then picking every element in particular sampling intervals in succession from the sampling frame. For example, a random number between 1 and 100 is selected. If this number is 23, the sample consists of elements 23, 123, 223, 323, 423, 523, and so on (Malhotra and Dhas, 2011:340), iii) **Stratified Sampling** is a two-step process in which the population is partitioned into subpopulations, or strata. Firstly, the strata should be mutually exclusive and collectively exhaustive in that every population element should be assigned to one and only one stratum and no population elements should be omitted. Next, elements are selected from each stratum by a random procedure, usually SRS (Malhotra and Dhas, 2011:341), iv) In **Cluster Sampling** the target population is first divided into mutually exclusive and collectively exhaustive subpopulations, or clusters. Then a random sample of clusters is selected, based on a probability sampling technique such as SRS. For each selected cluster, either all the elements are included in the sample (one-stage) or a sample of elements is drawn probabilistically (two-stage). Elements within a cluster should be as heterogeneous as possible, but clusters themselves should be as homogeneous as possible. Ideally, each cluster should be a small-scale representation of the population (Malhotra and Dhas, 2011:343).

5.2.3.5.2.2) Non-probability sampling: According to Diamantopoulos *et al.*, (1997:14) a non-probability sampling method is justified when the population is homogeneous. i) **Convenience sampling** attempts to obtain a sample of convenient elements. Often, respondents are selected because they happen to be in the right place at the right time such as use of students, and members of social organizations (Malhotra and Dhas, 2011:335), ii) **Judgment sampling** is a form of convenience sampling in which the population elements are selected based on the judgment of the researcher such as market test (Malhotra and Dhas, 2011:336), iii) **Quota sampling** may be viewed as two-stage restricted judgmental sampling of which the first stage consists of developing control categories, or quotas, of population elements while in the second stage, sample elements are selected based on convenience or judgment (Malhotra and Dhas, 2011:337), iv) **Snowball sampling**, an initial group of respondents is selected, usually at random. After being interviewed, these respondents are asked to identify others who belong to the target population of interest. Subsequent respondents are selected based on the referrals (Malhotra and Dhas, 2011:338).

5.2.3.5.3 Sample size

The sample size concerns the number of respondents to be included in the research. It is vital that the size of the sample is sufficient to be able to make dependable inferences about the population (Crimp *et al.*, 1995:115). Too small samples might produce data that are not representative of the greater population. Convention holds that the average ratio of cases to

variables be four-to-one, however, Hair et al (1987, 1995) suggest that a ratio of two-to-one can be used, provided the results are interpreted cautiously.

Sampling in the Present Study

Target Population

The employees and customers or, users of mobile phone telecom service providing companies operating in Bangladesh are the target population of this research study. Though the total number of mobile telecom subscribers is 116.871 million people (BTRC, July 2014), there is no available list of the customers and employees of the mobile phone telecom industry of Bangladesh. The industry consists of both pre-paid and post-paid mobile users with much diversity due to their varied ages, occupations, educational qualifications, etc. There are different categories of employees serving this industry including engineers, business and social science graduates, legal professionals and many more who work in full or part time as permanent or contractual basis. The service centers, offices and distributors of these companies are situated across different regions of the country and so as their customers and employees.

Sampling Technique/Method

The **Judgment sampling** which is convenient sampling method of non-probabilistic sampling technique has been used to select the respondents for three reasons. *Firstly*, the customers and employees are scattered across the country, which makes it very difficult to contact each of them individually. *Secondly*, since there is no available list or database on the customers and employees, it is difficult in getting the exact data of customers and employees for each of the mobile phone telecom service providing companies operating in Bangladesh which is required for the use of any random sampling technique. *Thirdly*, the researcher is working within the demands of an academic schedule. So, there is very limited time is available to conduct the study. *Fourthly*, being an academic piece of research work there is no fund or sponsor support.

Sample size

The study focuses on companies operating in Bangladesh that offer various types of mobile phone telecom services. The number of these companies is six (6) of which five (5) are privately managed with ownership forms like joint venture, public limited company, etc., and one (1) publicly owned with hundred percent (100%) ownership of the Government. As a result of limited data on the total population, cost and time constraints, a convenient sample size of four hundred fifty four (454) customers and one hundred twenty three (123) employees totaling five hundred seventy seven (577) unbiased but representative sample respondents from various districts or locations of Bangladesh especially from Dhaka and Chittagong districts have been selected. Besides this, data have also been collected from the respondents of some other districts of Bangladesh.

5.2.4 Fieldwork or, Data Collection

During this phase of the marketing research process, primary data have been collected by means of a self-administered and structured survey.

According to Lindner, Murphy and Briers (2001:51), when a response rate of less than 85% is achieved, extra procedures for non-response are imperative. Blair and Zinkhan (2006:4) argue that non-response should be accounted for, regardless of the response rate; in particular for studies using non-probability samples. Considering the response rate of only 7%, the non-

response error was calculated by comparing the early respondents with late respondents. In their meta-analysis, Lindner *et al.*, (2001:51) noted that this method was primarily used in social science literature. The rationale behind comparing early to late respondents “is based on the concept that subjects who respond late are similar to non-respondents” (Pace, 1398 as cited in Lindner *et al.*, 2001:51).

In order to conduct the survey, internationally reputed standard Codes of Conduct provided by the MRS (The Market Research Society, UK) and ESOMAR (European Society for Opinion and Market Research) have been followed so that accuracy, confidentiality and security of the private information of the respondents can be maintained. From the light of these codes, the following Dos and Don'ts shall be ensured by the researcher:

Dos

The research i) ensured voluntary (not forced) participation of the respondents, ii) assured the confidentiality and security of the respondent's personal and private information, iii) approached the respondents with good manners and courtesy and ensured that the research would be carried out honestly, transparently and objectively, without intruding or harming or adversely affecting the respondents, iv) told the purpose of the research survey, v) stated his name, vi) always acted to maintain and protect the integrity and reputation of the research profession, vii) conducted the survey in safe and appropriate environments and take commonsense precautions for own and respondents' security and viii) respected the respondent's right to withdraw from this survey at any stage.

Don'ts

The research did not i) sell and not influence opinions of the respondents, ii) mislead or pressurize a respondent when asking them to take part, iii) eat or smoke in front of the respondents, iv) make any comments on the respondent's answers and v) offer any comments or opinions of his own.

5.2.5 Data Preparation and Data Analysis

The aim of this step is to generate meaning from the first sampling sequence's collected data (Coldwell *et al.*, 2004:92). The data preparation process ensures that the data are accurate and that the data are converted from a raw format into a classified form, appropriate for analysis (Cooper *et al.*, 2006:490). The process involves the validation, editing, coding, transcription and cleaning of data (Malhotra, 2004:402).

The present study has been endeavored through quantitative analysis. As a part of quantitative analysis the popular statistical tools such as correlation analysis, regression analysis, etc., have been utilized to test the research hypotheses.

The first step in analyzing the data is to establish the reliability and the validity of the measuring instrument. The following steps in the data analysis are the descriptive and inferential statistical analysis of the data where the actual hypotheses will be tested.

Reliability and validity are determinants of measurement quality (Diamantopoulos *et al.*, 1997:32). The underlying constructs of the research study can be assessed for reliability and validity (Peter, 1979; Anderson and Gerbing, 1982; Anderson and Gerbing, 1988; Dunn *et al.*, 1994; Hair *et al.*, 1995). Reliability and validity are separate but closely related concepts (Bollen, 1989). Here, a measure may be consistent (reliable) but not accurate (valid), and alternatively, a measure may be accurate but not consistent (Holmes-Smith *et al.*, 2006;

Leedy et al, 2001). That is, an instrument is valid if it measures what it supposed to measure, and reliable if it is consistent and stable (Sekaran, 2000). Therefore, in order to ensure the quality of the findings and conclusions of the research study, both validity and reliability are assessed. Cronbach's (1951) coefficient alpha, Construct reliability (CR), and Average Variance Extracted (AVE) are computed to assess reliability, while content, construct, criterion and external validity are examined for validity. Both reliability and validity assessments are discussed below.

5.2.5.1 Reliability Analysis

Zikmund (2003, p. 330) defines reliability as “the degree to which measures are free from random error and therefore yield consistent results”. That means reliability refers to the extent to which a scale produces consistent results if repeated measurements are made on the variables of concern (Malhotra, 2003). Reliability and error are related, and thus the larger the reliability, the smaller the error (Punch, 1998). Therefore, the main objective of reliability is to minimize the errors and biases in a research (Yin, 1994). The objective of reliability is to make a study in a way that if someone else makes the same research, then he/she finds the same results. (Ibid) Reliability could be estimated mathematically or through pre-testing of the instruments. Reliability is defined as fundamentally concerned with the issues of consistency of measures (Bryman and Bell, 2003).

Reliability can be assessed through two main dimensions: 1) *repeatability* and 2) *internal consistency* (Zikmund, 2003). The first dimension, *repeatability*, can be explored using two methods, including test-retest, and alternatives.

5.2.5.1.1) Repeatability dimension includes i) **Test-retest method** entails the administration of the same instrument on two different occasions to the same sample of respondents, taking into account the equivalent conditions. In this case, a correlation coefficient is computed to confirm the degree of similarity between the two tests. However, two main problems proposed by Kinner and Taylor (1996), Malhotra (1996), and Zikmund (2003) are associated with this method, making it not suitable for use in this thesis. First, the initial test influences respondents' responses in the following tests. That is, respondents may have learned from the first test to change their attitude when the other is conducted. Second, respondents may change their attitude due to the time factor. For example, if the time between the two tests is long, respondents may change their attitude, and thus the longer the time interval between the tests, the lower the reliability; ii) The **alternative-form method** “is used when two alternative instruments are designed to be as equivalent as possible” (Zikmund, 2003, p.331). In this case, these two measurement scales are administered to the same group of respondents. When the correlation between the two forms is high, that means the scale is reliable (Zikmund, 2003). However, it is difficult in all cases to construct two equivalent forms of the same instrument.

5.2.5.1.2) Internal Consistency dimension: Since the abovementioned methods have shortcomings, they were not appropriate for use in this research study. Therefore, it was decided to look at the **internal consistency** – the second dimension of reliability, which is “used to assess the reliability of summated scale where several items are summed to form total score” (Malhotra, 1996, p. 305). If they are reliable, the items will show consistency in their indication of concept being measured. For example, i) **Split-half reliability:** The most basic method measure of internal consistency is split-half reliability. This method involves dividing a multi-items measurement into two halves, and thus checking the results obtained from the first half of the scales items against the results from the other half. ii) **Cronbach's**

alpha: Bryman and Bell (2003) suggested that a multiple-item measure in which each answers to each questions are aggregated to form an overall score, it needs to be sure that all our indicators are related to each other. It can be tested using Cronbach's alpha method. Alpha is a summary-statistic estimate of reliability of responses to items within a questionnaire based on the single administration of the instrument and describes the sample's response pattern (Helms, Henze, Sass & Mifsud, 2006: 633). Cronbach's alpha is the method used to determine the reliability of continuous item-response scales such as Likert scales (Leech et al., 2011: 116). While this method has been widely used in the literature, it has limitations in that results rely on how the items are divided. To avoid this problem, Cronbach's (1951) coefficient alpha, one of the most common methods in gauging reliability (Nunnally, 1978; Peter, 1979; Sekaran, 2000), is considered appropriate. This technique estimates the degree to which the items in the scale are representative of the domain of the construct being measured. It is a measure of the internal consistency of a set of items, and is considered 'absolutely the first measure' one should use to assess the reliability of a measurement scale (Nunnally, 1978; Churchill, 1979).

In assessing reliability through Cronbach's alpha, authors suggest different **levels of acceptance**. For instance: Nunnally (1967) recommend that an acceptable alpha is **between .50 and .60**. However, in the second edition of his book *Psychometric Theory*, Nunnally (1978) increased the level of acceptance and considered that alpha **should exceed the minimum of .70** for internal consistency. Similarly, Nunnally and Bernstein (1994) suggest a rule of thumb level of **higher than .70**, with level **as low as .60** being acceptable for new scales. In assessing *internal consistency* of the questionnaire using Cronbach's alpha, Cooper & Schindler (2006) and Malhotra & Birks (2007) recommended with a value **between 6.0 to 7.0** is **acceptable**. Other authors such as Carmines and Zeller (1979) indicate that **at least .80** is required to establish internal consistency.

The formula for Cronbach's alpha is as follows:

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\text{Sum of Item Variance}}{\text{Variance of Instrument Scores}} \right)$$

where, k refers to the number of items

The formula for Cronbach's alpha shows that by holding all factors constant, the smaller the sum of the item variances, the larger the resulting coefficient alpha (Leech et al., 2011:117)

Verifying Reliability in the Present Study

Cronbach's coefficient is important in measuring multi-point scale items (i.e., 5-point Likert scale used in this study) (Sekaran, 2000). Accordingly, this method of internal consistency has been adopted to assess the reliability of the measures in this study. Since different views have been recommended about levels of acceptance, it is generally agreed that **an alpha of .70 and over is acceptable**. Therefore, this **cut-off point (.70)** has been used **as the minimum** for determining internal consistency of scales for this study.

Reliability of this study has also been improved by: i) adopting the findings of the *previous studies* to construct the questionnaire items and ii) pre-testing the questionnaire, removing confusing words and improving their clarity of the questions items

5.2.5.2 Validity Analysis

Reliability alone is not sufficient to consider that an instrument is adequate (Churchill, 1979; Anderson and Gerbing, 1988; Dunn et al., 1994; Hair et al., 1995). Therefore, validity is required to validate the constructs of the research. According to Zikmund (2003, p.331), validity means “the ability of a scale to measure what intended to be measured”. It is the accuracy of a measure or the extent to which a score truthfully represents a concept (Zikmund et al., 2007: 323). Validity means “Does the research focus on what it is meant to? (Oulton 1995)”. Validity is particularly connected to topics that are investigated and how these topics can come up with theories which can be understood and agreed upon and how these topics can be operational (Oulton 1995). Validity refers to the degree to which a statistical instrument measures what it is intended to measure. It emphasizes the accuracy of a measurement instrument (Cooper and Schindler, 2006). Neuman (2003) points out that the better the fit between the conceptual and operational definitions, the greater the measurement validity. Added to this, validity represents the relationship between the construct and its indicators (Punch, 1998).

Nunnally and Bernstein (1994) suggest there are three important aspects of a valid construct. First, the construct should be seen to be a good representation of the domain of observable related to the construct. Second, the construct should well represent the alternative measures. Finally, the construct should be well related to other constructs of interest. Taking into account these considerations, three types of validity, including, content, construct (convergent and discriminant validity) and criterion have been found which are related to the internal validity of the scales and their respective items. As for the purpose of the generalizability of the research findings, external validity is also investigated.

Internal validity is needed at the stage of data analysis and external validity is at research design (Yin, 1994). The data collected for case study must be valid, air tight; evidence must be convergent either through interview or documentary proof (Yin, 1994).

5.2.5.2.1) Internal Validity is of three types: **a) Face or content validity** refers to whether the measuring instrument appears to measure what it purports to measure (Coldwell et al., 2004:18). Content validity is a subjective but systematic assessment of the extent content of a scale measures a construct (Malhotra, 1996). When it appears evident to experts that the measure shows adequate coverage of the concept, the measure has face validity (Zikmund, 2003); **b) Construct validity** exists when a measure reliably measures and truthfully represents a unique concept and consists of content, convergent, criterion and discriminant validity (Zikmund et al., 2010:337). Construct validity is directly concerned with what the instrument is actually measuring (Churchill, 1995). In other words, it refers to how well the results are achieved from employing the measure fitting the theories around which the test is designed (Sekaran, 2000). In this context, Malhotra (1996) also found it necessary to consider the theoretical questions about why the findings work and what deductions can be made based on the theory. In summary, this measure of validity refers to developing correct and adequate operational measures for the concept being tested (Yin, 1994; Malhotra, 1996). Although measuring reliability and content validity develops ‘internally consistent’ sets of measurement items, it is not sufficient for construct validity (Nunnally, 1967). Construct validity is examined by analysing the measures of **correlation** (Sekaran, 2000). There are several measures relating to each separate item, including the item-to-total correlation (the correlation of the item to the summated scale score) and the inter-item correlation (the correlation among items). According to Hair, et al (1998), rules of thumb suggest that the: item-to-total correlations exceed .50 and inter-item correlations exceed .30. As part of

construct validity the Factor Validity is a form of construct validity which may be tested through the: **Kaiser-Meyer-Olkin (KMO)** Measure of Sampling Adequacy is a statistic that indicates the proportion of variance in the variables that might be caused by underlying factors. The KMO statistic varies between 0 and 1. A value of 0 indicates that factor analysis is likely to be inappropriate; on the other hand, 1 indicates that factor analysis should yield distinct and reliable factor (Kaiser, 1974). Kaiser recommends accepting values greater than 0.5 as acceptable (values below this should lead the researcher to either collect more data or rethink which variables to include). Kaiser also recommends the rate of different values namely values less than 0.50 “probably won't be very useful”, values between 0.5 and 0.7 are “mediocre”, values between 0.7 and 0.8 are “good”, values between 0.8 and 0.9 are “great”, values above 0.9 are “superb” and **Bartlett's** test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would indicate that the variables are unrelated and therefore unsuitable for structure detection. Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful with the data and **c) Criterion validity** measures whether the measurement scale performs as expected in relation to other variables selected as meaningful criteria (Malhotra, 2004:269). Criterion validity refers to the ability of measures to correlate with other standard measures of the same construct (Zikmund, 2003). According to Peter (1981), criterion validity was commonly used in earlier research. However, its popularity has vanished with the increased use of construct validity. This is because criterion validity is synonymous with construct validity, and thus assessment of the latter would mean that the former was satisfied (Zikmund, 1994).

5.2.5.2.2) External validity is concerned with establishing the extent to which the study findings can be generalized to other subjects or groups (Zikmund, 2003). In more specific terms, external validity is related to the generalisability of the cause-effect relationships of the research findings (Yin, 1994).

Verifying Validity in the Present Study

Internal Validity

a) Content validity: In order to obtain content validity, this study follows the recommended procedures of Cooper and Schindler (1998) through identifying the existing literatures on holistic marketing and sustainable development and conducting interviews with panel of experts (including academics and practitioners from the industry), asking them to give their comments on the instrument. The interviews were conducted as part of the pre-test methods discussed earlier in this chapter. Moreover, since content validity has a subjective nature, it is not sufficient to provide a more rigorous empirical test (Zikmund, 2003). Therefore, it was assured *a priori* to conducting the final survey as a precursor to other measures of validity.

b) Construct validity: A number of methods have been suggested for assessing construct validity: factor analysis, correlation, and Common Factor Analysis (CFA) existing in Structure Equation Model (SEM).

Factor Validity as a form of construct validity has been used in this study. In this regard, the **Kaiser-Meyer-Olkin (KMO)** Measure of Sampling Adequacy and **Bartlett's** test of Sphericity have been pursued to test the hypotheses of the present study:

c) Criterion validity: Since construct validity has been used as a measure within this study, it is therefore assumed that criterion validity is also accounted for.

External validity

Evidence on external validity for this study has been obtained by employing a representative sample (i.e., 454 customers and 123 employees of the six mobile telecom operators in Bangladesh as respondents) and using a real-world setting (Leedy and Ormrod, 2001; Zikmund, 2003).

Validity of this study has also been improved by:

Questionnaire with all possible questions: This research involves questionnaire with closed questions to gather data and 454 customers and 123 employees of the mobile phone telecom operating companies in Bangladesh filled out this questionnaire without any repetition. This questionnaire contains all possible questions which are required to answer the research question.

Editing and Data Cleaning for greater Response Rate: After refinement, questionnaires were distributed to 800 prospective respondents of mobile telecom of which 600 were for the concerned users or customers participation and 200 for the employees. All these efforts resulted in obtaining 577 usable responses. All collected questionnaires were checked for completeness. To increase accuracy and precision, an editing process was undertaken by reviewing the questionnaire and screen out illegible, inconsistent and ambiguous responses. A code sheet was then prepared. After this process, data cleaning was undertaken for a more thorough and extensive treatment of responses. All data was inputted using the SPSS v21 package for the next step of analysis. After this round of elimination due to incompleteness, there were finally 577 usable questionnaires, of which 454 mobile telecom service users and 123 mobile telecom employees. This gives a favorable response rate of 75.67% (i.e., 454/600) on customers and 61.50% (i.e., 123/200) on employees.

In summary, the validity of the constructs has been established prior to testing the underlying hypotheses. This is important because having valid constructs provides conclusions that help generalize the results of this study. For this purpose, both types of validity, including content, construct, criterion and external, have been adopted in this study.

5.2.5.3 Statistical Analysis

Statistical techniques can be categorized as either descriptive or inferential. The following statistical techniques have been used in this research study.

5.2.5.3.1) Descriptive statistics: Descriptive statistics involve the elementary transformation of raw data in a manner that describes the basic characteristics such as central tendency, distribution and variability (Zikmund *et al.*, 2010: 516). The tools of descriptive statistics include: i) **Frequency distribution** reports the quantity of responses that a particular question received (Kumar *et al.*, 2002: 361), ii) **Cross-tabulation** is a technique for comparing data from two or more categorical variables (Cooper *et al.*, 2006: 525), iii) **Mean** is the average value characterizing a set of numbers (Burns *et al.*, 2003: 438) and iv) **Standard deviation** is an indicator of the spread of variability, in other words, it indicates the average distance the average score is from the mean (Coldwell *et al.*, 2004: 104).

In the present study, frequency distribution has been chosen to explain the demographic data of the respondents.

5.2.5.3.2) Inferential statistics: Inferential statistics are concerned with the simultaneous relationships among two or more phenomena, and focus upon the degree of the relationship. (Malhotra, 2004: 416) as well as testing the hypotheses by means of various statistical tests. Selecting the most appropriate test depends on the type of data collected (Coldwell *et al.*, 2004: 93) and it is important to obtain the desired results.

The significance level indicates the amount of risk the researcher is willing to accept in rejecting a true null hypothesis (Diamantopoulos *et al.*, 1997: 139). The most typical significance values are 0.05, 0.01 and 0.001 and the less risk one is willing to take, the lower the significance value should be.

There are many tools of inferential statistics. However, in the current research study three tools have been used which are namely i) Factor analysis through the Principal Components Analysis (PCA) with orthogonal varimax rotation, ii) Correlation Analysis to find the correlations between the identified components (through principal component analysis (PCA) method of factor analysis) as independent variables and sustainable development as dependent variable and iii) the Multiple Regression Analysis.

5.2.6 Report preparation

The marketing research process concludes with the report preparation phase. In this stage the researcher communicates the research findings, recommendations and other conclusions (Zikmund *et al.*, 2007:626). This thesis has been prepared as part of this phase of the study.

6

FINDINGS & ANALYSIS

CHAPTER 6

FINDINGS AND ANALYSIS

This chapter exhibits the findings and analysis of the survey results on customers and employees. It is divided into 7 (seven) sections. Following the prelude as an overview of the survey in the introductory section 6.1, section 6.2 and 6.3 respectively exhibit the profile of the surveyed customers and employees. Finally, the sections 6.4, 6.5, 6.6 and 6.7 respectively exhibit results of the reliability test, factor analysis, correlations and multiple regression analysis by identifying the components of relationship marketing, internal marketing, integrated marketing and performance marketing which together as holistic marketing effort ensure(s) sustainable development of the mobile phone telecom industry of Bangladesh.

6.1. Overview of Survey

A survey on 577 respondents including 454 customers and 123 employees of six mobile phone telecom service operating companies has been conducted using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) based self-administered questionnaire. The questionnaire consists of four components of the holistic marketing namely relationship marketing, internal marketing, integrated marketing and performance marketing respectively and their role in the sustainable development of the mobile phone telecommunication industry of Bangladesh. In this regard, to examine ‘the relationship between relationship marketing and sustainable development’, the feedback of the said 454 customers through 1 dependent variable or statement and 15 independent variables or statements have been used. Similarly, the feedback of the said 123 employees through 1 dependent variable or statement and 15 independent variables or statements have been used to examine ‘the relationship between internal marketing and sustainable development’. While, ‘the relationship of integrated marketing and performance marketing and sustainable development will be examined through the feedback of the total 577 respondents.

Based on the purpose of this study, four hypotheses relating to sustainable development and relationship marketing, internal marketing, integrated marketing and performance marketing respectively have been proposed. Each of these four hypotheses is reiterated below as null hypothesis (H_0) together with an alternative hypothesis (H_1) under separate sections. Then, the results of statistical analysis for testing them are reported. Each hypothesis has been tested by using Univariate Analysis of “Descriptive Statistics”, Multivariate Analysis like “Factor Analysis (FA) using Principal Component Analysis (PCA) with orthogonal varimax rotation”, “Multiple Regression Analysis” and Bivariate Analysis of “Correlation”, with the support of SPSS v21. Finally, on the basis of the statistical analysis results, the techniques of Entity Relationship (E/R) Diagram has been used to develop necessary model(s) of relationship Marketing, internal marketing, integrated marketing and performance marketing for sustainable development.

6.2. Profile of Customers

The present section deals with the profile of the customers

6.2.1 Residential Location of the Customers

Table 6.1: Residential location of Mobile Telecom Service Customers

Residential Locations	Number of Respondets	%
Barishal	2	.4
Bhola	1	.2
Bogura	1	.2
Brahmanbaria	3	.6
Chandpur	1	.2
Chittagong	310	68.3
Chuadanga	1	.2
Comilla	4	.9
Coxsbazar	2	.4
Dhaka	82	18.1
Faridpur	2	.4
Feni	1	.2
Gaibandha	1	.2
Gopalganj	3	.7
Hobigonj	2	.4
Jaipurhat	1	.2
Khagrachari	3	.7
Khulna	1	.2
Kuhstia	1	.2
Narayangonj	1	.2
Narshingdi	2	.4
Natore	1	.2
Noakhali	6	1.3
Rajshahi	1	.2
Rangamati	5	1.1
Rangpur	3	.7
Sandip	1	.2
Sherpur	2	.4
Shunamgonj	1	.2
Sylhet	4	.9
Thakurgaon	1	.2
Total	454	100.0

Source: Field Survey

Table 6.1 shows the residential location of customers. Of the total customers surveyed, major users are from Chittagong which is 68.3% while 18.1% are the residents of Dhaka. Besides these two major groups, the residents from Barishal, Bhola, Bogura, Brahmanbaria, Chandpur, Chuadanga, Comilla, Coxsbazar, Faridpur, Feni, Gaibandha, Gopalganj, Hobigonj, Jaipurhat, Khagrachari, Khulna, Kuhstia, Narayangonj, Narshingdi, Natore, Noakhali, Rajshahi, Rangamati, Rangpur, Sandip, Sherpur, Shunamgonj, Sylhet and Thakurgaon have also participated in this survey.

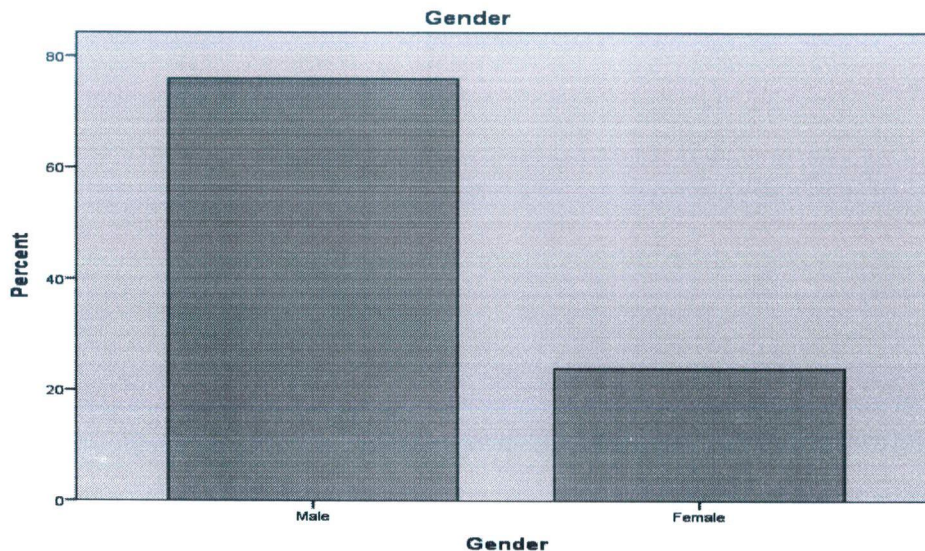
6.2.2 Gender of the Customers

Table 6.2: Gender of Mobile Telecom Service Customers

Gender	Number of Respondets	%
Male	345	76.0
Female	109	24.0
Total	454	100.0

Source: Field Survey

Figure 6.1: Gender of Mobile Telecom Service Customers



Source: Field Survey

Table 6.2 and Figure 6.1 exhibit the gender classification of customers. Of the total surveyed customers, 76% are males and 24% are females. So, males consist of major users.

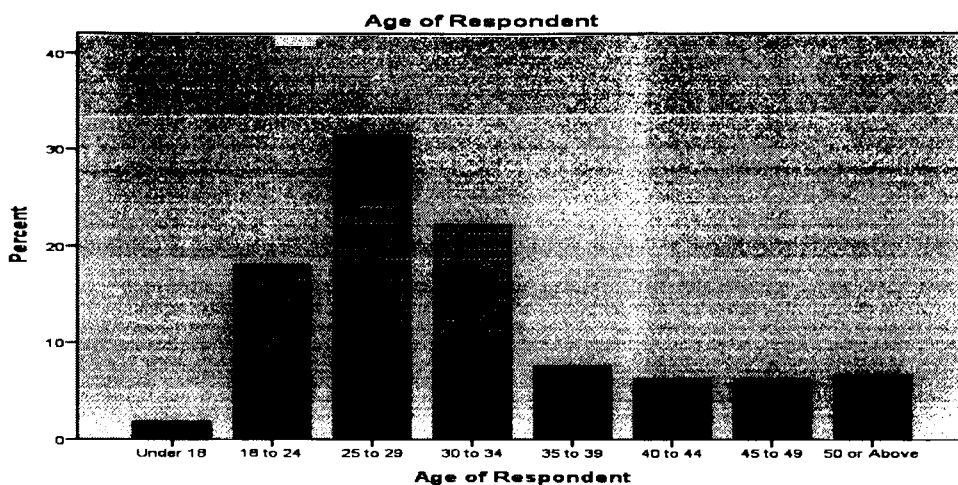
6.2.3 Age of the Customers

Table 6.3: Age of Mobile Telecom Service Customers

Age of Customers	Number of Respondets	%
Under 18	8	1.8
18 to 24	82	18.1
25 to 29	143	31.5
30 to 34	101	22.2
35 to 39	34	7.5
40 to 44	28	6.2
45 to 49	28	6.2
50 or Above	30	6.6
Total	454	100.0

Source: Field Survey

Figure 6.2: Age of Mobile Telecom Service Customers



Source: Field Survey

Table 6.3 and Figure 6.2 exhibit the age wise classification of customers of mobile phone telecom service providing companies. Out of the total surveyed customers 31.5% are in the age group of 25-29 years and 22.2% are in the age group of 30-34 years. Further, 18.1% are in the age group of 18-24 years, 7.5% are in the age group of 35-39 years, 6.6% are in the age group of 50 or above years, 6.2% are in both the age group of 40-44 years and 45-49 years, and 1.8% are in the age group of under 18 years. So, it is clearly evident that young people from 18 to 34 years are the major users of mobile telecom.

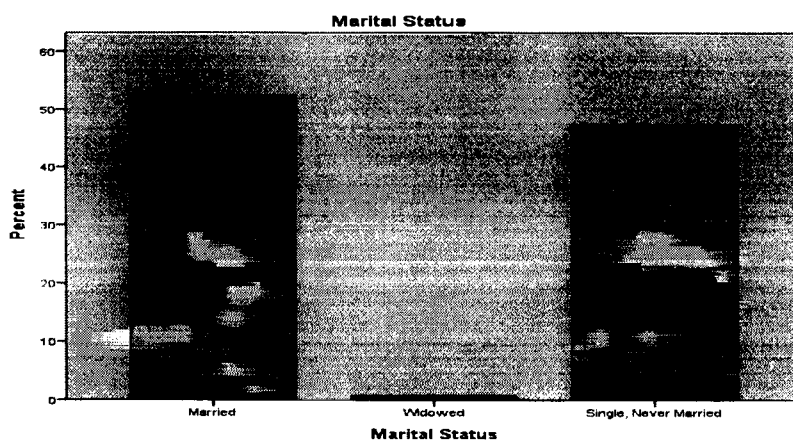
6.2.4 Marital Status of the Customers

Table 6.4: Marital Status of Mobile Telecom Service Customers

Marital Status of Customers	Number of Respondets	%
Married	237	52.2
Widowed	3	.7
Single, Never Married	214	47.1
Total	454	100.0

Source: Field Survey

Figure 6.3: Marital Status of Mobile Telecom Service Customers



Source: Field Survey

Table 6.4 and **Figure 6.3** exhibit the marital status of the surveyed customers. The marital status wise classification reveals that 52.2% of the customers are married. Further, it can also be noted from the table that 47.1% of the customers are single and never married or unmarried and only 0.7% of the customers are widowed. So, it is clear that mobile usage is a common trend among both the married and unmarried people.

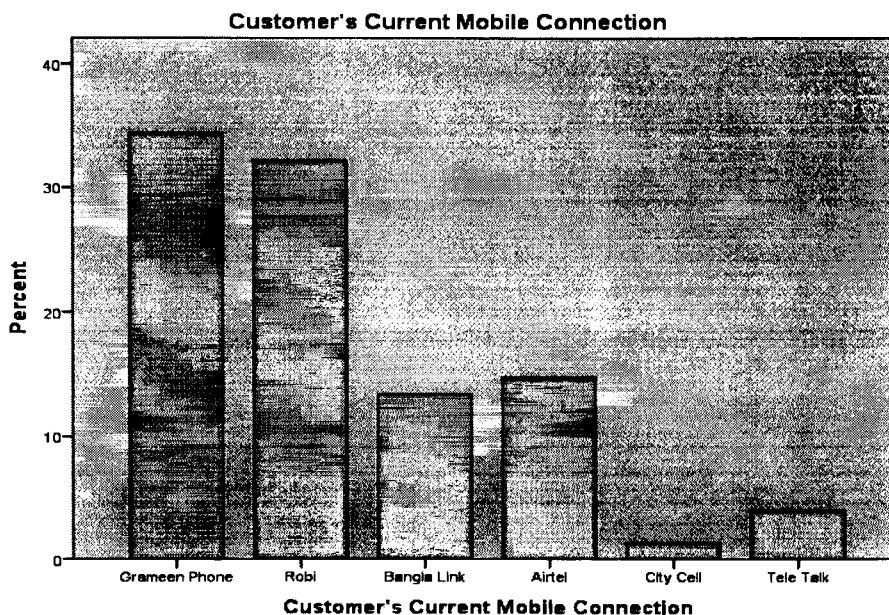
6.2.5 Current Mobile of Connection of the Customers

Table 6.5: Current Connection of Mobile Telecom Service Customers

Current Connection of Customers	Number of Respondets	%
Grameen Phone	156	34.4
Robi	146	32.2
Bangla Link	61	13.4
Airtel	67	14.8
City Cell	6	1.3
Tele Talk	18	4.0
Total	454	100.0

Source: Field Survey

Figure 6.4: Current Connection of Mobile Telecom Service Customers



Source: Field Survey

Table 6.5 and **Figure 6.4** exhibit the current connection of mobile telecom service customers. Out of the total surveyed customers 34.4% are the users of Grameen Phone, 32.2% are the users of Robi, 14.8% are the users of Airtel, 13.4% are the users of Bangla Link, 4.0% are the users of Tele Talk and 1.3% are the users of City Cell.

6.2.6 Occupation of the Customers

Table 6.6 and **Figure 6.5** exhibit the occupation of mobile telecom service customers respondents. Out of the total surveyed customers 70.0% are the full time job holders, 14.1% are the students, 5.7% are the businesspersons, 4.0% are the homemakers, 2.9% are the part

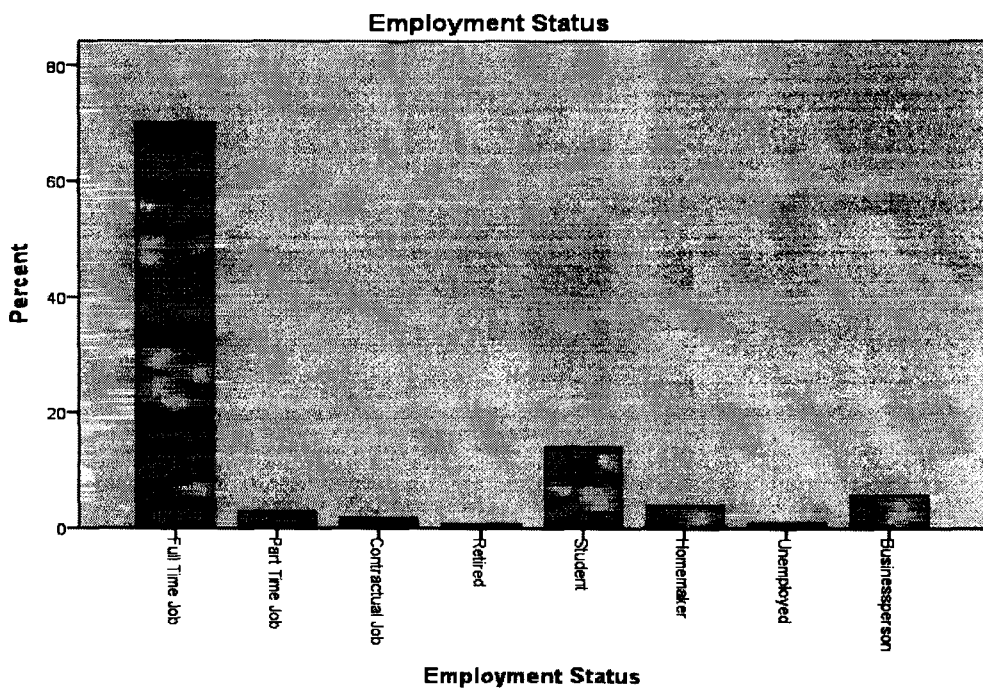
time job holders, 1.8% are the contractual job holders, 0.9% are unemployed and 0.7% are retired. The highest number of respondents represent full time job holders.

Table 6.6: Occupation of Mobile Telecom Service Customers

Occupation	Number of Respondets	%
Full Time Job	318	70.0
Part Time Job	13	2.9
Contractual Job	8	1.8
Retired	3	.7
Student	64	14.1
Homemaker	18	4.0
Unemployed	4	.9
Businessperson	26	5.7
Total	454	100.0

Source: Field Survey

Figure 6.5: Occupation of Mobile Telecom Service Customers



Source: Field Survey

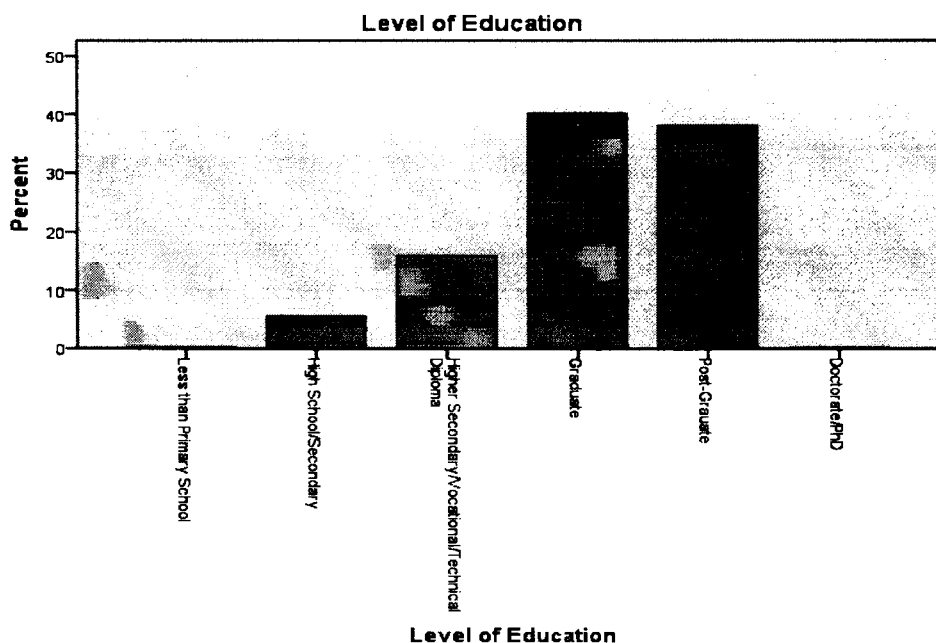
6.2.7 Educational Qualification of the Customers

Table 6.7 and **Figure 6.6** exhibit the educational qualifications of mobile telecom service customers. Out of the total surveyed customers 40.1% are the graduates, 38.1% are the post-graduates, 15.9% are the higher secondary/vocational/technical diploma holders, 5.5% are the high school/secondary qualified, 0.2% are from less than primary school qualified while the rest 0.2% are from Doctorate/PhD holders. The respondents in the survey are educated people.

Table 6.7: Educational Qualifications of Mobile Telecom Service Customers

Educational Qualifications	Number of Respondets	%
Less than Primary School	1	.2
High School/Secondary	25	5.5
Higher Secondary/Vocational/Technical Diploma	72	15.9
Graduate	182	40.1
Post-Grauate	173	38.1
Doctorate/PhD	1	.2
Total	454	100.0

Source: Field Survey

Figure 6.6: Educational Qualifications of Mobile Telecom Service Customers

Source: Field Survey

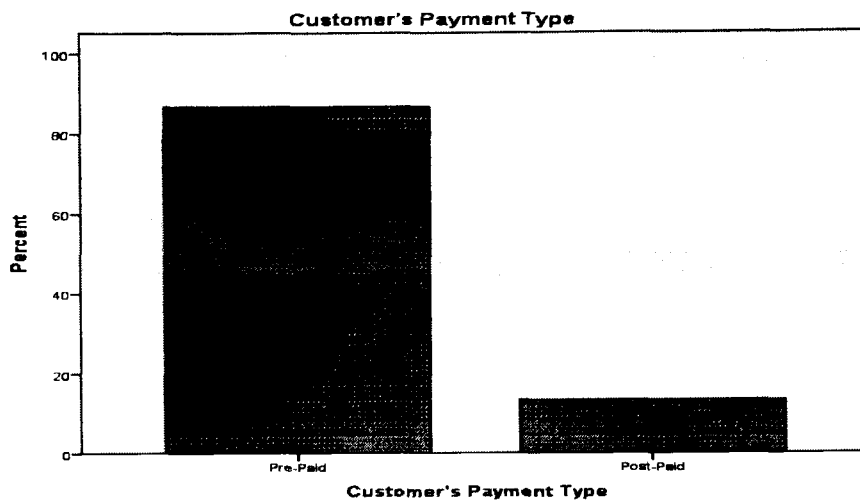
6.2.8 Payment of the Customers for Mobile Uses

Table 6.8 and **Figure 6.7** exhibit the payment type of surveyed customers who use mobile telecom service. Out of the total surveyed customers, 86.8% are the pre-paid users while 13.2% are the post-paid users. So, it is evident that pre-paid is more popular than post-paid.

Table 6.8: Type of Payment for Mobile Telecom Service Uses

Mode of Payment	Number of Respondets	%
Pre-Paid	394	86.8
Post-Paid	60	13.2
Total	454	100.0

Source: Field Survey

Figure 6.7: Type of Payment for Mobile Telecom Service Uses

Source: Field Survey

6.2.9 Customers' Uses of Mobile Telecom Services & Products

Table 6.9 and **Figure 6.8** exhibit the various uses of mobile telecom services by the surveyed customers. It has been seen in the study that same customer uses more than one mobile telecom services. Out of the total 454 customers, 99.11% use mobile telephony, 50.88% use mobile internet, 15.85% use mobile conferencing, 15.41% use mobile phone handset offered as part of the packages by their mobile operators, 9.91% use mobile banking services as well as mobile internet modem of the same operator while 3.30% use mobile commerce.

So, it is seen that among the telecom services mobile telephony, mobile internet, mobile conferencing and mobile banking services occupy formidable position. However, the usage of mobile commerce is yet to be popular.

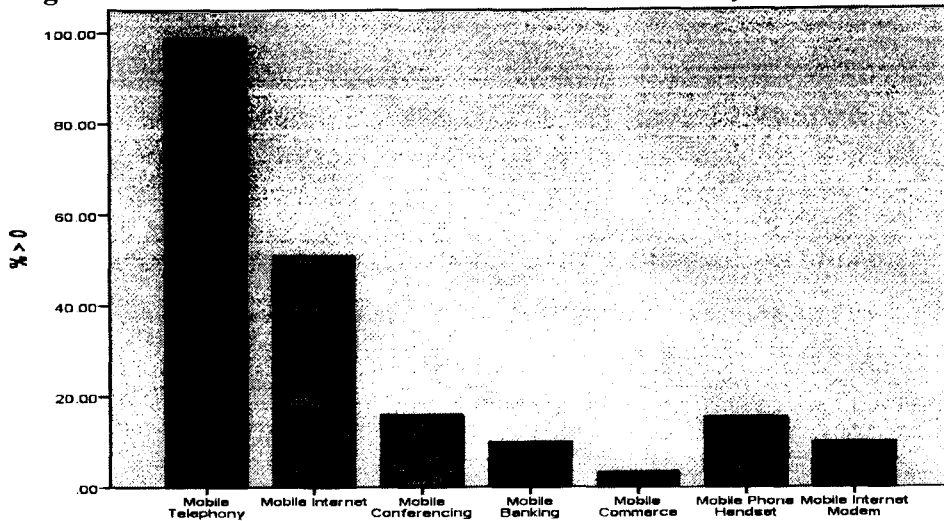
Table 6.9: Use of Mobile Telecom Services & Products by the Customers

Mobile Telecom Services & Products	Responses		
	Total Number of Respondents	Number of Respondets	%
Mobile Telephony	454	450	99.11
Mobile Internet	454	231	50.88
Mobile Conferencing	454	72	15.85
Mobile Banking	454	45	9.91
Mobile Commerce	454	15	3.30
Mobile Phone Handset	454	70	15.41
Mobile Internet Modem	454	45	9.91

Source: Field Survey

Note: For each individual service percentage (%) of response has been calculated based on the total number of customer respondents (i.e., 454)

Figure 6.8: Use of Mobile Telecom Services & Products by the Customers



Source: Field Survey

6.2.10 Customers' Length of Using Mobile Telecom Services

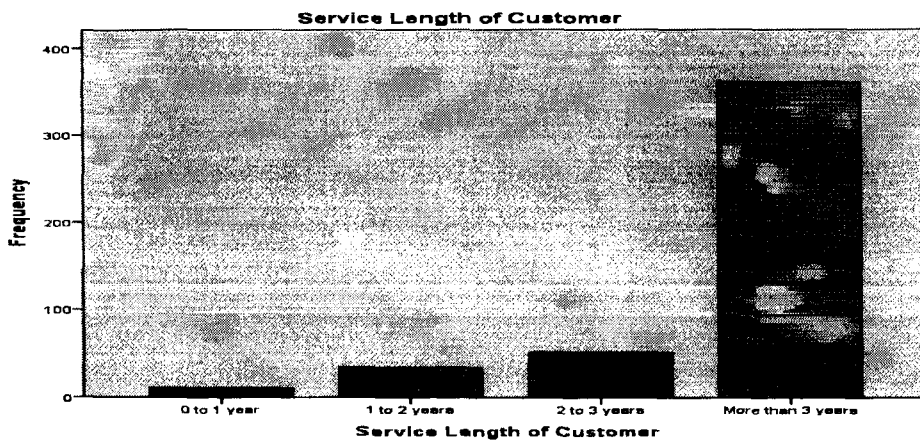
Table 6.10 and Figure 6.9 exhibit the length of uses of mobile telecom services by the surveyed customers. It has been found in the study that 79.3% customers are using the service for more than 3 years, 11.2% customers are using from the last 2 to 3 years, 7.3% customers are using from the last 1 to 2 years while only 2.2% customers are have just started use in the last year.

Table 6.10: Customers' Length of Using Mobile Telecom Services

Length of Mobile Telecom Service Usage	Number of Respondets	%
0 to 1 year	10	2.2
1 to 2 years	33	7.3
2 to 3 years	51	11.2
More than 3 years	360	79.3
Total	454	100.0

Source: Field Survey

Figure 6.9: Customers' Length of Using Mobile Telecom Services



Source: Field Survey

6.3. Profile of Employees

The present section deals with the profile of the employees who have been surveyed.

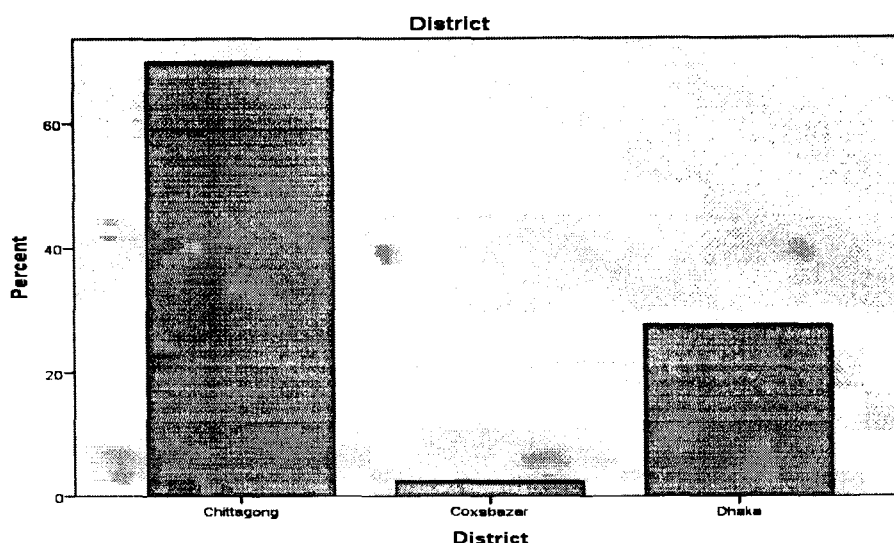
6.3.1 District wise Workplace Location of the Employees

Table 6.11: District Wise Workplace location of the Employees of the Mobile Telecom Operators

Workplace location of the Employees	Number of Respondets	%
Chittagong	86	69.9
Coxsbazar	3	2.4
Dhaka	34	27.6
Total	123	100.0

Source: Field Survey

Figure 6.10: District Wise Workplace location of the Employees of the Mobile Telecom Operators



Source: Field Survey

Table 6.11 and **Figure 6.10** show the district wise workplace location of the employees of the mobile telecom service providing companies who have been surveyed. Out of the total surveyed employees, 69.9% are serving in Chittagong, 27.6% are serving in Dhaka while 2.4% are serving in Coxsbazar. This means employees of Chittagong and Dhaka represent the major segment of respondents in this survey.

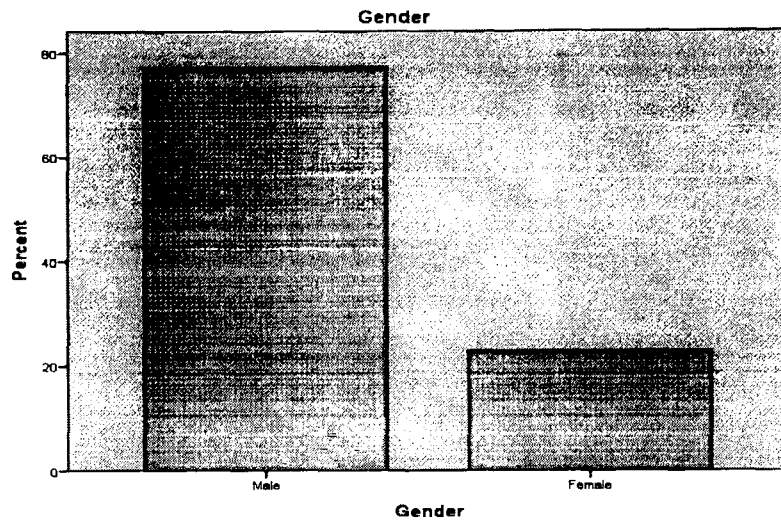
6.3.2 Gender of the Employees

Table 6.12 and **Figure 6.11** show the gender classification of surveyed employees. Of the total surveyed employees, 77.2% are males and 22.8% are females. The number of male employees is/are found major segment in the survey.

Table 6.12: Gender of the Employees of the Mobile Telecom Operators

Gender of the Employees	Number of Respondets	%
Male	95	77.2
Female	28	22.8
Total	123	100.0

Source: Field Survey

Figure 6.11: Gender of the Employees of the Mobile Telecom Operators

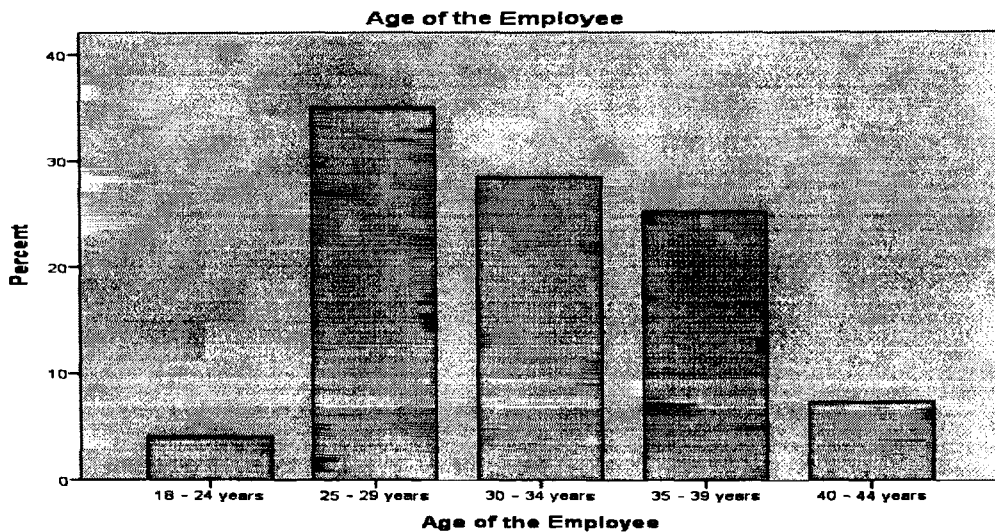
Source: Field Survey

6.3.3 Age of the Employees

Table 6.13: Age of the Employees of the Mobile Telecom Operators

Age of Employees	Number of Respondets	%
18 – 24 years	5	4.1
25 – 29 years	43	35.0
30 – 34 years	35	28.5
35 – 39 years	31	25.2
40 – 44 years	9	7.3
Total	123	100.0

Source: Field Survey

Figure 6.12: Age of the Employees of the Mobile Telecom Operators

Source: Field Survey

Table 6.13 and **Figure 6.12** present the age wise classification of surveyed employees of mobile phone telecom service providing companies. Out of the total surveyed employees 35.0% are in the age group of 25-29 years, 28.5% are in the age group of 30-34 years, 25.2% are in the age group of 35 – 39 years, 7.3% are in the age group of 40 – 44 years and 4.1% are in the age group of 18 – 24 years. The employees of 25 to 39 years are found as major respondents. So, it is expected that their responses represent mature and logical answers.

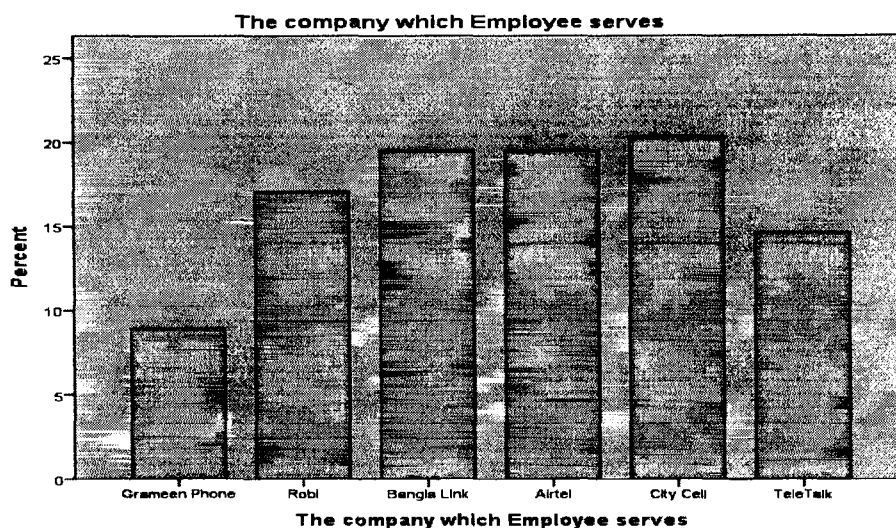
6.3.4 The Mobile Telecom Operators that Employees Serve

Table 6.14: Mobile Telecom Operators that Employees Serve

Employers	Number of Respondets	%
Grameen Phone	11	8.9
Robi	21	17.1
Bangla Link	24	19.5
Airtel	24	19.5
City Cell	25	20.3
TeleTalk	18	14.6
Total	123	100.0

Source: Field Survey

Figure 6.13: Mobile Telecom Operators that Employees Serve



Source: Field Survey

Table 6.14 and **Figure 6.13** show the employer of the surveyed employees. Of the total surveyed employees, 20.3% are the employees of City Cell, 19.5% are the employees of Bangla Link and Airtel respectively. Again, 17.1% are the employees of Robi, 14.6% are the employees of TeleTalk while 8.9% are the employees of Grameen Phone.

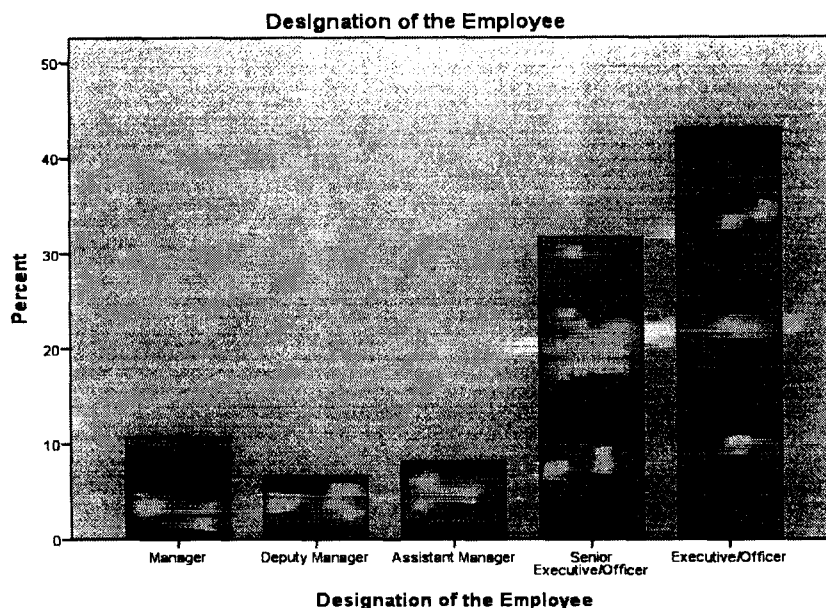
6.3.5 Designation of the Employees

Table 6.15 and **Figure 6.14** show the designation of the surveyed employees. Of the total surveyed employees, 43.1% employees hold 'Executive/Officer' position, 31.7% employees hold 'Senior Executive/Officer' position, 10.6% employees hold 'Manager' position, 8.1% employees hold 'Assistant Manager' position while 6.5% employees hold 'Deputy Manager' position. So, the officers and senior represent the majority of the respondents.

Table 6.15: Designation of Employees of the Mobile Telecom Operators

Designation of Employees	Number of Respondets	%
Manager	13	10.6
Deputy Manager	8	6.5
Assistant Manager	10	8.1
Senior Executive/Officer	39	31.7
Executive/Officer	53	43.1
Total	123	100.0

Source: Field Survey

Figure 6.14: Designation of Employees of the Mobile Telecom Operators

Source: Field Survey

6.3.6 Employment Status of the Employees

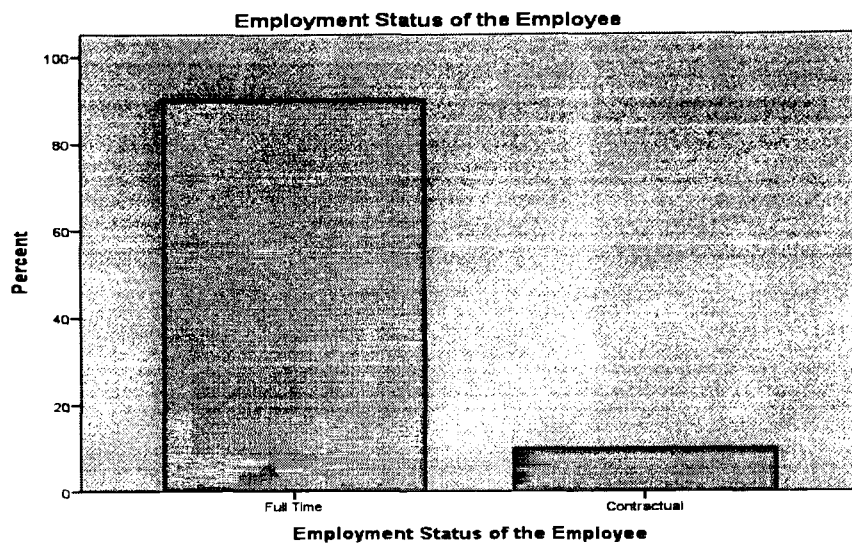
Table 6.16 and **Figure 6.15** show the employment status of the surveyed employees. Of the total surveyed employees, 90.2% are 'Full Time' employees while 9.8% are 'Contractual' employees.

Table 6.16: Employment Status of Employees of the Mobile Telecom Operators

Employment Status of the Employee	Number of Respondets	%
Full Time	111	90.2
Contractual	12	9.8
Total	123	100.0

Source: Field Survey

Figure 6.15: Employment Status of Employees of the Mobile Telecom Operators



Source: Field Survey

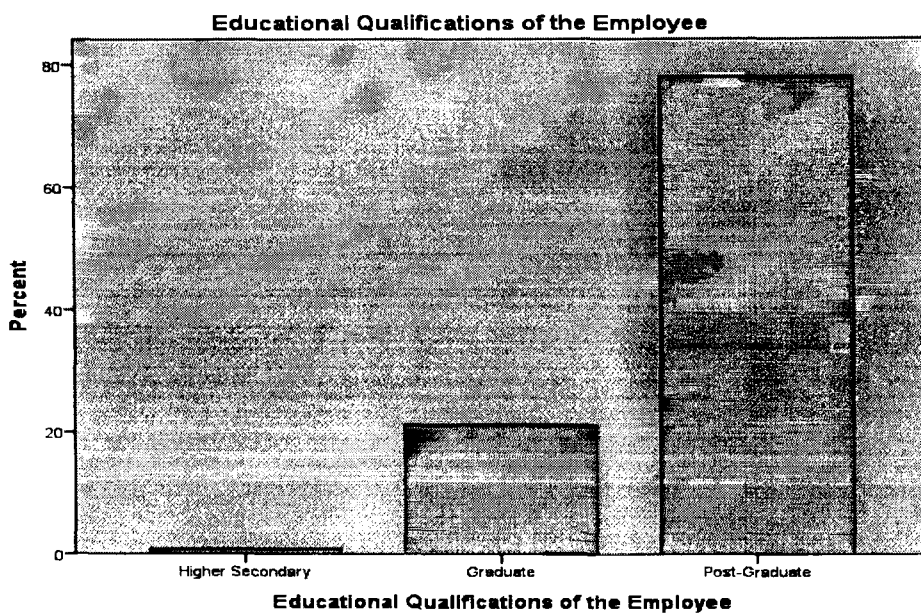
6.3.7 Educational Qualification of the Employees

Table 6.17: Educational Qualifications of Employees of the Mobile Telecom Operators

Educational Qualifications of Employees	Number of Respondets	%
Higher Secondary	1	.8
Graduate	26	21.1
Post-Graduate	96	78.0
Total	123	100.0

Source: Field Survey

Figure 6.16: Educational Qualifications of Employees of the Mobile Telecom Operators



Source: Field Survey

Table 6.17 and **Figure 6.16** exhibit the educational qualifications of employees of the mobile telecom operators who have been surveyed. Out of the total surveyed employees 78.0% are the 'Post-Graduates', 21.1% are the 'Graduates' while 0.8% are the higher secondary qualified. So, it is evident that in dealing customers and technologies of varied types, the mobile telecom companies employee educated and dynamic employees mostly with post-graduation.

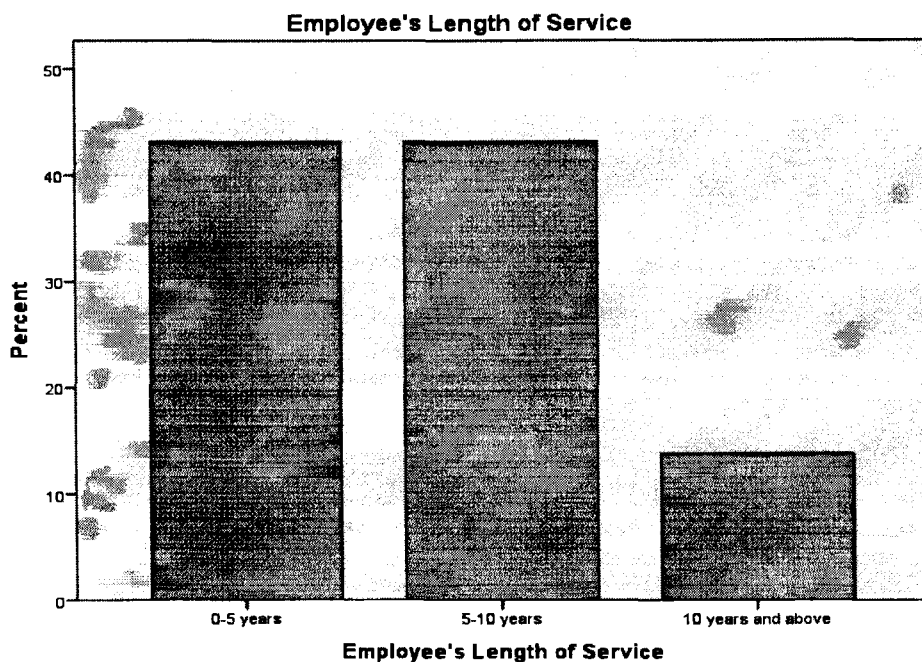
6.3.8 Length of Service of the Employees

Table 6.18: Service Length of Employees of the Mobile Telecom Operators

Length of Service of Employees	Number of Respondets	%
0-5 years	53	43.1
5-10 years	53	43.1
10 years and above	17	13.8
Total	123	100.0

Source: Field Survey

Figure 6.17: Service Length of Employees of the Mobile Telecom Operators



Source: Field Survey

Table 6.18 and **Figure 6.17** exhibit the service length of employees of the mobile telecom operators who have been surveyed. Out of the total surveyed employees 43.1% have the 0-5 years and 5-10 years length of service while 13.8% have the 10 years and above length of service. Since the majority of the respondents are officers and senior officers, their length of service is between 0 to 10 years which is exhibited here as well.

6.4. Relationship Marketing and Sustainable Development

Hypothesis

H_{0a}: Relationship marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1a}: Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

6.4.1 Reliability Analysis

Table 6.19: Reliability Statistics (Relationship Marketing and Sustainable Development)

Cronbach's Alpha	No. of Items
.926	16

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.19**, the Cronbach's Alpha value of all the 16 items together is .926 which is greater than 0.7, indicating an overall higher reliability factors. Thus, it can safely be concluded by looking at Table 6(18) that the reliability of this study is substantial in every perspective because the sample size and the data collected are reliable and also the reliability is shown to be good using all the 16 items.

6.4.2 Factor Analysis

6.4.2.1. To Formulate the Problem

i) Objectives: The objective of the factors analysis in this study is to determine how "Relationship Marketing can ensure Sustainable Development of the Mobile Phone Telecommunication Industry of Bangladesh".

ii) Identification of Variables

Table 6.20: Identification of Variables (Relationship Marketing and Sustainable Development)

Code	Variables	Code	Variables	Code	Variables
v1	Sincere Service	v6	Attention to Customers	v11	Attractive Rates & Charges
v2	Accurate Billing	v7	Informative Services	v12	Attractive Rewards
v3	Customer Security	v8	Responsiveness to Customers	v13	Greeting Customers
v4	Quality Service	v9	Service Centers	v14	Advising Customers
v5	Cooperative Employees	v10	24 Hours Service	v15	Customized Services

Source: Literature Review

Based on the review of literature discussed earlier, **Table 6.20** exhibits 15 (fifteen) independent variables which have been identified to conduct the factor analysis.

iii) Sample size: The number of valid samples for this set of variables is 454. With 454 samples and 15 variables, the ratio of cases to variables is 30.26:1, which exceeds the requirement for the ratio of cases to variables.

6.4.2.2. To Construct the Correlation Matrix

i) Correlation Matrix

Table 6.21: Correlation Matrix (Relationship Marketing Activities)

		Correlation Matrix														
		v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14	v15
Correlation	v1	1.000	.787	.739	.630	.631	.508	.273	.440	.360	.358	.328	.263	.250	.345	.447
	v2	.787	1.000	.777	.626	.610	.497	.244	.383	.317	.357	.368	.321	.267	.320	.432
	v3	.739	.777	1.000	.641	.639	.475	.347	.436	.348	.392	.345	.320	.356	.379	.467
	v4	.630	.626	.641	1.000	.733	.577	.317	.446	.385	.369	.335	.374	.392	.358	.450
	v5	.631	.610	.639	.733	1.000	.621	.387	.470	.455	.427	.388	.388	.397	.375	.464
	v6	.508	.497	.475	.577	.621	1.000	.462	.365	.370	.375	.359	.330	.382	.295	.419
	v7	.273	.244	.347	.317	.387	.462	1.000	.381	.371	.369	.322	.354	.289	.268	.298
	v8	.440	.383	.436	.446	.470	.365	.381	1.000	.517	.460	.322	.272	.286	.335	.409
	v9	.360	.317	.348	.385	.455	.370	.371	.517	1.000	.641	.427	.397	.382	.371	.386
	v10	.358	.357	.392	.369	.427	.375	.369	.460	.641	1.000	.533	.439	.373	.337	.392
	v11	.328	.368	.345	.335	.388	.359	.322	.322	.427	.533	1.000	.680	.438	.352	.401
	v12	.263	.321	.320	.374	.388	.330	.354	.272	.397	.439	.680	1.000	.543	.430	.391
	v13	.250	.267	.356	.392	.397	.382	.289	.286	.382	.373	.438	.543	1.000	.650	.520
	v14	.345	.320	.379	.358	.375	.295	.268	.335	.371	.337	.352	.430	.650	1.000	.627
	v15	.447	.432	.467	.450	.464	.419	.298	.409	.386	.392	.401	.391	.520	.627	1.000
Sig. (1-tailed)	v1		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	v2	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	v3	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	v4	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	v5	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	v6	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	v7	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	v8	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	v9	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	v10	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	v11	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	v12	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	v13	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	v14	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	v15	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Source: SPSS v21 Analysis on Field Survey Data

i) The correlation matrix, constructed from the data obtained to understand how Relationship Marketing can ensure Sustainable Development of the Mobile Phone Telecommunication Industry of Bangladesh is shown in the **Table 6.21** which exhibits sufficient coefficients above 0.3 to allow Factor Analysis. In the **Table 6.21**, there are 94 coefficients, the correlations of which are greater than 0.30 and they are highlighted in grey.

ii) From the above correlation matrix in **Table 6.21**, it is also found that there are relatively high correlations between/among the:

- v1 (Sincere Service), v2 (Accurate Billing), v3 (Customer Security), v4 (Quality Service), v5 (Cooperative Employees), v6 (Attention to Customers), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v14 (Advising Customers) and v15 (Customized Services)
- v2 (Accurate Billing), v3 (Customer Security), v4 (Quality Service), v5 (Cooperative Employees), v6 (Attention to Customers), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v14 (Advising Customers) and v15 (Customized Services)
- v3 (Customer Security), v4 (Quality Service), v5 (Cooperative Employees), v6 (Attention to Customers), v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)

- d) v4 (Quality Service), v5 (Cooperative Employees), v6 (Attention to Customers), v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- e) v5 (Cooperative Employees), v6 (Attention to Customers), v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- f) v6 (Attention to Customers), v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- g) v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges) and v12 (Attractive Rewards)
- h) v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v14 (Advising Customers) and v15 (Customized Services)
- i) v9 (Service Centers), v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- j) v10 (24 Hours Service), v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- k) v11 (Attractive Rates & Charges), v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- l) v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- m) v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services)
- n) v14 (Advising Customers) and v15 (Customized Services)

So, the highlighted coefficients in the Table 6.21 exhibit that the variables are correlated with each other. These variables may also be expected to correlate with the same factors.

ii) Testing the appropriateness of the Factor Model

The Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy have been used to validate the use of factor analysis.

Table 6.22: KMO and Bartlett's Test (Relationship Marketing and Sustainable Development)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.905
Approx. Chi-Square		3946.745
Bartlett's Test of Sphericity	df	105
	Sig.	.000

Source: SPSS v21 Analysis on Field Survey Data

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy

Table 6.22 exhibits that the value of KMO is .905 which is 'marvelous' (Kaiser, 1974) suggesting the adequacy of the sample size for the factor analysis.

Bartlett's Test of Sphericity

From the results of the Bartlett's Test of Sphericity in the **Table 6.22**, it is seen that the approximate chi-square statistics is 3946.745 with 105 degrees of freedom, which is significant. Calculated value 3946.745 is greater than table value. This means that the null hypothesis that the population correlation matrix is an identity matrix, is rejected by Bartlett's test of sphericity. So, the result of Bartlett's test of sphericity is significant suggesting that the population was not an identity matrix. Therefore, the Bartlett's Test of Sphericity is significant.

6.4.2.3 To Determine the Method of Factor Analysis

- i) **Communalities:** The "Initial" column of the **Table 6.23** exhibits that the communality for each variable, v1 to v15, is 1.0 as unites which were inserted in the diagonal of the correlation matrix. Moreover, the Table 6 also exhibits that the average communality of the variables after extraction is above 0.50 except .440 for the variable v7 which is highlighted in grey.

Table 6.23: Communalities (Relationship Marketing and Sustainable Development)

	Initial	Extraction
v1	1.000	.783
v2	1.000	.772
v3	1.000	.759
v4	1.000	.688
v5	1.000	.703
v6	1.000	.519
v7	1.000	.440
v8	1.000	.506
v9	1.000	.651
v10	1.000	.671
v11	1.000	.568
v12	1.000	.609
v13	1.000	.741
v14	1.000	.736
v15	1.000	.626

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

- ii) **Initial Eigenvalues:** In the **Table 6.24**, "Initial Eigenvalues" in column B exhibits the eigenvalues in its sub column entitled "Total". The eigenvalues for the components are exhibited in decreasing order of magnitude from component 1 to component 15. The eigenvalue for a component indicates the total variance attributed to that component. The total variance accounted for by all fifteen (15) components is 15.00, which is equal to the number of variables (i.e., 15). Each of the 15 variables has a sample variance in column entitled "% of Variance", the sum of which equals the total variance in column entitled "Cumulative %". According to the eigenvalues criterion, the exact number of components is 15 which in **Table 6.24**.

Table 6.24: Total Variance Explained (Relationship Marketing and Sustainable Development)

A Component	B Initial Eigenvalues			C Extraction Sums of Squared Loadings			D Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.985	46.565	46.565	6.985	46.565	46.565	4.139	27.591	27.591
2	1.678	11.185	57.750	1.678	11.185	57.750	2.932	19.545	47.135
3	1.110	7.402	65.152	1.110	7.402	65.152	2.702	18.017	65.152
4	.878	5.853	71.005						
5	.823	5.486	76.491						
6	.595	3.966	80.457						
7	.508	3.385	83.843						
8	.469	3.126	86.968						
9	.374	2.494	89.462						
10	.350	2.336	91.798						
11	.297	1.981	93.778						
12	.278	1.850	95.629						
13	.250	1.667	97.295						
14	.221	1.472	98.767						
15	.185	1.233	100.000						

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

6.4.2.4 To Determine the Number of Factors

Table 6.24: Initial Eigenvalues (Column B) exhibits that:

- the eigenvalue greater than 1.0 (default option) results in 3 (three) components being extracted
- from the cumulative percentage of variance accounted for, it is seen that the first 3 (three) components account for 65.152 percent of the variance, and that the gain achieved in going to 4 (four) components is marginal. Thus, the 3 (three) factors appear to be reasonable in this situation.
- the scree plot in the following Figure exhibits that a distinct break occurs at 4 (four) components.

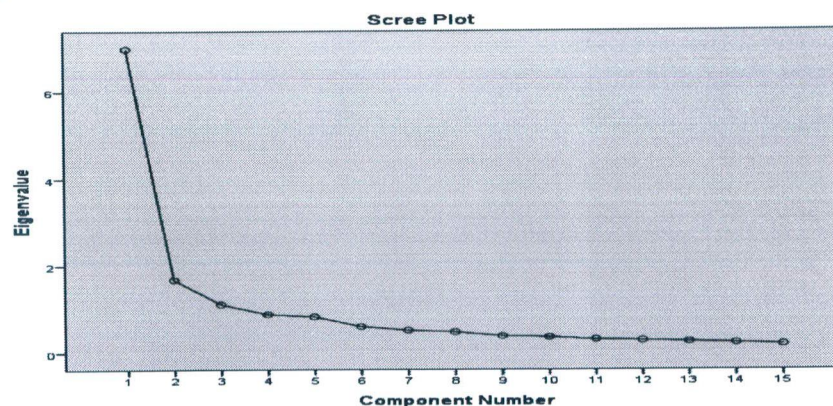


Figure 6.18: Scree Plot of Relationship Marketing and Sustainable Development

Source: SPSS v21 Analysis on Field Survey Data

The scree plots in the above **Figure 6.18** exhibits the components extracted from all independent variables used in this study. Starting with the first components, the plot slopes steeply downward initially and then slowly becomes an approximately horizontal line. The cut-off point at which the curve first begins to straighten out is considered to indicate the maximum number of factors or, components to extract. Here, the first 3 components would qualify. As a general rule, the scree test results include at least one or sometimes two or three factors more to consider for inclusion than does the eigenvalue criterion.

As demonstrated in **Table 6.24**: Initial Eigenvalues (Column B) and supported by the scree plot in the above **Figure 6.18**; three (3) components with eigenvalues greater than 1.0 were extracted using the factor loading of 0.50 as the cut-off point. The total variance explained by each component extracted is as follows: The first principal component (component 1) accounted for 46.57% of the total variance, the second principal (component 2) component, accounted for 11.19% whilst the third principal (component 3) component, accounted for 7.40%. The cumulative proportion of variance criterion, which says that the extracted components should together explain at least 60% of the variation, shows that the 3 extracted components cumulatively accounted for 65.15% of the variation in the data set. Scores are numbers that express the influence of an eigenvector on a specific sample.

Table 6.24: Extraction Sums of Squared Loadings (Column C) exhibits the variances associated with the factors that are retained. So, the other 12 variables have been dropped and the variances associated with them are also not explained here.

The percentage variance accounted for by a factor is determined by dividing the associated eigenvalue with the total number of factors (variables) and multiplying by 100 (Malhotra and Dhas, 2011: 596). Thus, the ‘Component 1’ accounts for a variance of 6.985, which is $(6.985/15) \times 100$ or 46.57% of the total variance. Likewise, ‘Component 2’ accounts for $(1.678/15) \times 100$ or, 11.18% of the total variance. Similarly, ‘Component 3’ accounts for $(1.110/15) \times 100$ or, 7.4% of the total variance. Thus, the first 3 (three) components combined (i.e., cumulative) account for 65.15% of the total variance.

6.4.2.5 To Rotate Factors/Components

i) Factor/Component Matrix (i.e., correlation between the factors and variables)

In **Table 6.25** “Component Matrix”, Component 1 is correlated with all the 15 variables (an absolute value of factor loading greater than 0.3). Likewise, Component 2 is at least somewhat correlated with 8 of the 15 variables. Similarly, Component 3 is at least somewhat correlated with 7 of the 15 variables. Moreover, variables v1, v2, v3, v4, v11, v12, v13 and v14 load at least somewhat on both the components 1 and 2 whereas variables v7, v8, v9, v10, v13, v14 and v15 load at least somewhat on both the components 1 and 3. Again, variables v13 and v14 load at least somewhat on all the 3 components. So, it is seen that the “Component Matrix” in the **Table 6.25** is not ideal option to interpret the components properly instead it is difficult to interpret or seldom results in components that can be interpreted.

Table 6.25: Component Matrix^a (Relationship Marketing and Sustainable Development)

	Component		
	1	2	3
v1	.741	-.480	-.059
v2	.736	-.468	-.105
v3	.768	-.398	-.102
v4	.765	-.316	-.060
v5	.798	-.257	.034
v6	.695	-.163	.096
v7	.539	.145	.359
v8	.635	-.009	.321
v9	.650	.266	.397
v10	.659	.284	.395
v11	.634	.396	.098
v12	.622	.467	-.059
v13	.626	.440	-.394
v14	.621	.338	-.486
v15	.694	.153	-.347

Extraction Method: Principal Component Analysis.
a. 3 components extracted.

Source: SPSS v21 Analysis on Field Survey Data

ii) Rotation of Factors/Components

By comparing the **Table 6.24: Extraction Sums of Squared Loadings (Column C)** with the **Table 6.24: Rotation Sums of Squared Loadings (Column D)**, it is seen that:

- Rotation does not affect the communalities and the percentage of total variance explained.
- However, the percentage of variance accounted for by each factor does change.

iii) Rotated Factor/ Component Matrix

Now, by comparing the **Table 6.26: Rotated Component Matrix** with the **Table 6.25: Initial or Unrotated Matrix (titled “Component Matrix”)**, it is seen that how rotation achieves simplicity and enhances interpretability. From the comparison, it is seen that whereas all variables correlated with Component 1 in the unrotated matrix, only variables v1 (Sincere Service), v2 (Accurate Billing), v3 (Customer Security), v4 (Quality Service), v5 (Cooperative Employees) and v6 (Attention to Customers) correlate with Component 1 after

rotation. Likewise, v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service) and v11 (Attractive Rates & Charges) correlate highly with Component 2. Similarly, the remaining variables, v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services) also correlate highly with Component 3. Furthermore, no variable commonly correlates highly with all the 3 factors. This can be clearly seen in the **Table 6.26**.

Table 6.26: Rotated Component Matrix^a
(Relationship Marketing and Sustainable Development)

Variables	Component		
	1	2	3
v1	.859	.170	.128
v2	.852	.139	.163
v3	.823	.186	.216
v4	.757	.248	.234
v5	.725	.358	.222
v6	.580	.385	.184
v7	.221	.616	.110
v8	.402	.580	.094
v9	.204	.752	.208
v10	.198	.763	.224
v11	.135	.572	.472
v12	.094	.477	.610
v13	.156	.220	.818
v14	.237	.109	.817
v15	.404	.180	.656

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Source: SPSS v21 Analysis on Field Survey Data

6.4.2.6 To Interpret Factors/Components

The rotated factor/component matrix forms the basis for interpretation of the components.

Component/Factor Loadings: In this study, loadings of 0.50 or more are considered practically significant.

In the rotated component matrix of **Table 6.26**:

- i. Component 1 has high coefficients for variables: v1 (Sincere Service), v2 (Accurate Billing), v3 (Customer Security), v4 (Quality Service), v5 (Cooperative Employees) and v6 (Attention to Customers). Therefore, this component may be labeled or named as 'Trustworthy & Committed Service' Component. Thus, relationship marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by providing trustworthy & committed service.
- ii. Component 2 is highly related with variables: v7 (Informative Services), v8 (Responsiveness to Customers), v9 (Service Centers), v10 (24 Hours Service) and v11 (Attractive Rates & Charges). Therefore, this component may be labeled or named as

'Interactive & Affordable Communication' Component. Thus, relationship marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by offering interactive & affordable communication service.

- iii. Component 3 has high coefficients for variables: v12 (Attractive Rewards), v13 (Greeting Customers), v14 (Advising Customers) and v15 (Customized Services). Therefore, this component may be labeled or named as 'Caring & Customized Value Proposition' Component. Thus, relationship marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by assuring caring & customized value proposition.

Table 6.27: Component Loadings

Name of Components	Variables	Component Loading*	Eigenvalue*	Component Interpretation (% of Variance Explained)**
Component 1: Trustworthy & Committed Service	v1: Sincere Service	.859	6.985	46.565
	v2: Accurate Billing	.852		
	v3: Customer Security	.823		
	v4: Quality Service	.757		
	v5: Cooperative Employees	.725		
	v6: Attention to Customers	.580		
Component 2: Interactive & Affordable Communication	v7: Informative Services	.616	1.678	11.185
	v8: Responsiveness to Customers	.580		
	v9: Service Centers	.752		
	v10: 24 Hours Service	.763		
	v11: Attractive Rates & Charges	.572		
Component 3: Caring & Customized Value Proposition	v12: Attractive Rewards	.610	1.110	7.402
	v13: Greeting Customers	.818		
	v14: Advising Customers	.817		
	v15: Customized Services	.656		
Total Variance				65.152

Source: * Table 6.26, ** Table 6.24

From the above findings of this study in Table 6.27, it is evident that sustainable development of the mobile phone telecom industry of Bangladesh is ensured through Relationship Marketing for three reasons namely 'Trustworthy & Committed Service', 'Interactive & Affordable Communication' and 'Caring & Customized Value Proposition'. Components loading of the variables and percentage (%) of variance of the factors as exhibited in Table 6.27 rejects the null hypothesis (H_{0a} : Relationship marketing cannot ensure sustainable development of the mobile phone telecommunication industry of Bangladesh) and proved the alternative hypothesis (H_{1a} : Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh). The following is a brief discussion of each component in the order of its contribution to the total variance.

Component 1: Trustworthy & Committed Service

It is the most important component since the eigenvalue and percentage (%) of variation explained by this component are 6.985 and 46.565 respectively. This component contains 6 (six) variables, of which the first three (v1, v2, v3) with component loading .859, .852 and .823 respectively have relevance to the trustworthiness of the customers and the remaining three (v4, v5 and v6) with component loading .757, .725 and .580 respectively are related to commitment to the customers. The examination of the impact of relationship marketing activities on sustainable development reveals that all these six variables are significant [Table 6.27]. Sincere service by the employees, for example, can build trustworthy relations with customers through their honesty, sincerity, truthfulness, etc. It is because customers feel

comfortable with such service and trust the company employees who motivate them to repeat their purchase and usage. Accurate billing is also a sensitive issue among the customers because much dissonance often arises due to ghost billing, bogus billing, erroneous call charges, etc. It is because customers favor that company which has trustworthy and authentic billing for which s/he will not be looser. Customer security, for example, is an important issue to protect their personal and transactional privacy because customers want to be secured. In the services like blocking disturbing numbers, mobile banking, balance recharge, etc., trustworthiness of the company to their customers is very important. On the other hand, quality service, cooperation and attention of the employees to customers need fulfillment, for example, are very important to attract new customers as well as retain the existing customers. It is because committed quality service can not only ensure customer satisfaction by reducing their switching tendencies but also ensure business growth through profitability. Customers expect that they will be served by the cooperative employees with individual attention to them.

Component 2: Interactive & Affordable Communication

It is the second most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.678 and 11.185 respectively. This component contains 5 (five) variables, of which the first four (v7, v8, v9 and v10) with component loading .616, .580, .752 and .763 respectively have relevance to the interactive communication with the customers and the remaining one (v11) with component loading .572 is related to affordability of the customers. The examination of the impact of relationship marketing activities on sustainable development reveals that all these 5 (five) variables are significant [Table 6.27]. In this age of information and communication technologies (ICT) customers want to communicate uninterruptedly for which anytime and anywhere interaction service is highly valued. Informative services, for example, are highly desired by the customers or users because they can update themselves with the latest news, new policies, changes in rules and regulations, alters, reminders, etc. Modern customers have many queries regarding their service requirements and they want prompt response to such queries because many of their service needs require instant resolution through interactive discussion with the concerned customer service executive. To provide technical services throughout the daytime, service centers, for example, play important role since these centers render services to the customers through face to face interactive process where many of the customers problems may be resolved within short span of time. But customers today prefer those companies which offer round the clock services so that any of their queries, problems and requirements can be met whether it is midnight, early morning or late evening. Due to this 24 hours service is very important. Now-a-days, third party or company owned call centers are playing this important role of providing interactive customer service at day and night. Attractive rates and charges, for example, may enable the companies to go for mass marketing as mass people want to buy a product or service at an affordable price within their budget. This is also true for the companies to keep the costs within their budget or affordability.

Component 3: Caring & Customized Value Proposition

This is the third most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.110 and 7.402 respectively. This component contains 4 (four) variables, (v12, v13, v14 and v15) with component loading .610, .818, .817 and .656 respectively have relevance to the caring & customized value proposition or benefits. Of them the first one that is 'attractive rewards' is related to value offer. For example, customers who use mobile phone up to a given amount of talk time, they may be offered bonus talk time, free short message service (SMS), etc. On the other hand, the next two variables namely 'greeting customers' and 'advising customers' are the instances of

customer care. Since, customers favor the company which care its customers most and based on such caring customer satisfaction is also dependent, 'greeting customers' and 'advising customers' may act as effective customer care strategies of relationship marketing. Finally, customers want that their requirements will be met in the ways appropriate to them and for this they expect 'customized services' from the concerned service provider. Such service may extend maximum value or benefits to meet the very requirements of each individual customers provided that the concerned organization shall develop necessary capabilities in this regard. In support to the aforesaid discussion, the **Table 6.27** proves that relationship marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through assured caring & customized value proposition where all the identified 4 (four) variables are significant.

From the above discussion, it is clearly evident that relationship marketing can ensure sustainable development through 'trustworthy & committed service', 'interactive & affordable communication' and 'caring & customized value proposition'.

6.4.2.7 To Calculate Component Scores

Table 6.28: Component Score Coefficient Matrix
(Relationship Marketing and Sustainable Development)

	Component		
	1	2	3
v1	.285	-.094	-.076
v2	.284	-.122	-.045
v3	.257	-.101	-.021
v4	.217	-.054	-.018
v5	.185	.025	-.051
v6	.128	.080	-.064
v7	-.048	.316	-.126
v8	.032	.262	-.149
v9	-.093	.378	-.100
v10	-.100	.382	-.092
v11	-.119	.207	.121
v12	-.134	.118	.238
v13	-.086	-.112	.428
v14	-.033	-.198	.447
v15	.039	-.142	.307

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Source: SPSS v21 Analysis on Field Survey Data

Following interpretation, component scores can be calculated to reduce the original set of variables to a smaller set of composite variables (component) for use in subsequent multivariate analysis like correlation and multiple regression.

6.4.2.8 To Determine the Model Fit

From the upper left triangle of the “Reproduced Correlations Matrix” of Table 6.29, it is seen that there are only 43 (40.0%) non-redundant residuals with absolute values greater than 0.05, indicating an acceptable model fit. From the above analysis, it is proved that Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

**Table 6.29: Reproduced Correlation Matrix
(Relationship Marketing and Sustainable Development)**

	v1	v2	v3	v4	v5	v6	v7	v8	v9	v10	v11	v12	v13	v14	v15	
Reproduced Correlation	v1	.783*	.776	.766	.722	.712	.587	.308	.456	.330	.329	.274	.240	.276	.327	.462
	v2	.776	.772*	.762	.717	.704	.578	.291	.438	.312	.311	.271	.245	.296	.350	.476
	v3	.766	.762	.759*	.719	.712	.589	.320	.459	.353	.354	.320	.298	.346	.392	.508
	v4	.722	.717	.719	.688*	.689	.577	.345	.469	.389	.391	.354	.332	.364	.397	.504
	v5	.712	.704	.712	.689	.703*	.599	.405	.520	.464	.467	.408	.374	.373	.392	.503
	v6	.587	.578	.589	.577	.599	.519*	.385	.473	.446	.450	.386	.350	.326	.330	.424
	v7	.308	.291	.320	.345	.405	.385	.440*	.456	.531	.538	.434	.382	.260	.209	.272
	v8	.456	.438	.459	.469	.520	.473	.456	.506*	.538	.543	.430	.372	.267	.235	.328
	v9	.330	.312	.353	.389	.464	.446	.531	.538	.651*	.661	.556	.505	.367	.300	.354
	v10	.329	.311	.354	.391	.467	.450	.538	.543	.661	.671*	.569	.519	.382	.313	.364
	v11	.274	.271	.320	.354	.408	.386	.434	.430	.556	.569	.568*	.574	.533	.480	.467
	v12	.240	.245	.298	.332	.374	.350	.382	.372	.505	.519	.574	.609*	.618	.572	.524
	v13	.276	.296	.346	.364	.373	.326	.260	.267	.367	.382	.533	.618	.741*	.729	.639
	v14	.327	.350	.392	.397	.392	.330	.209	.235	.300	.313	.480	.572	.729	.736*	.651
	v15	.462	.476	.508	.504	.503	.424	.272	.328	.354	.364	.467	.524	.639	.651	.626*
Residual ^b	v1		.010		-.027	-.092	-.082	-.080	-.035	-.015	.030	.029	.054	.023	-.026	-.015
	v2	.010		.015	-.091	-.094	-.081	-.048	-.055	.005	.046	.097	.076	-.030	-.030	-.044
	v3	-.027	.015		-.079	-.072	-.114	.027	-.023	-.006	.039	.025	.022	.010	-.013	-.041
	v4	-.092	-.091	-.079		.044	.000	-.028	-.024	-.004	-.023	-.019	.043	.028	-.040	-.054
	v5	-.082	-.094	-.072	.044		.022	-.018	-.050	-.009	-.039	-.020	.014	.023	-.017	-.039
	v6	-.080	-.081	-.114	.000	.022		.076	-.108	-.076	-.075	-.026	-.021	.056	-.035	-.005
	v7	-.035	-.048	.027	-.028	-.018	.076		-.075	-.160	-.169	-.112	-.028	.029	.059	.026
	v8	-.015	-.055	-.023	-.024	-.050	-.108	-.075		-.021	-.083	-.109	-.100	.018	.100	.080
	v9	.030	.005	-.006	-.004	-.009	-.076	-.160	-.021		-.020	-.129	-.108	.015	.071	.032
	v10	.029	.046	.039	-.023	-.039	-.075	-.169	-.083	-.020		-.036	-.081	-.009	.025	.028
	v11	.054	.097	.025	-.019	-.020	-.026	-.112	-.109	-.129	-.036		.106	-.095	-.128	-.066
	v12	.023	.076	.022	.043	.014	-.021	-.028	-.100	-.108	-.081	.106		-.076	-.142	-.133
	v13	-.026	-.030	.010	.028	.023	.056	.029	.018	.015	-.009	-.095	-.076		-.079	-.119
	v14	.018	-.030	-.013	-.040	-.017	-.035	.059	.100	.071	.025	-.128	-.142	-.079		-.024
	v15	-.015	-.044	-.041	-.054	-.039	-.005	.026	.080	.032	.028	-.066	-.133	-.119	-.024	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 43 (40.0%) non-redundant residuals with absolute values greater than 0.05.

Source: SPSS v21 Analysis on Field Survey Data

6.4.2.9 Relationship Marketing Model for Sustainable Development

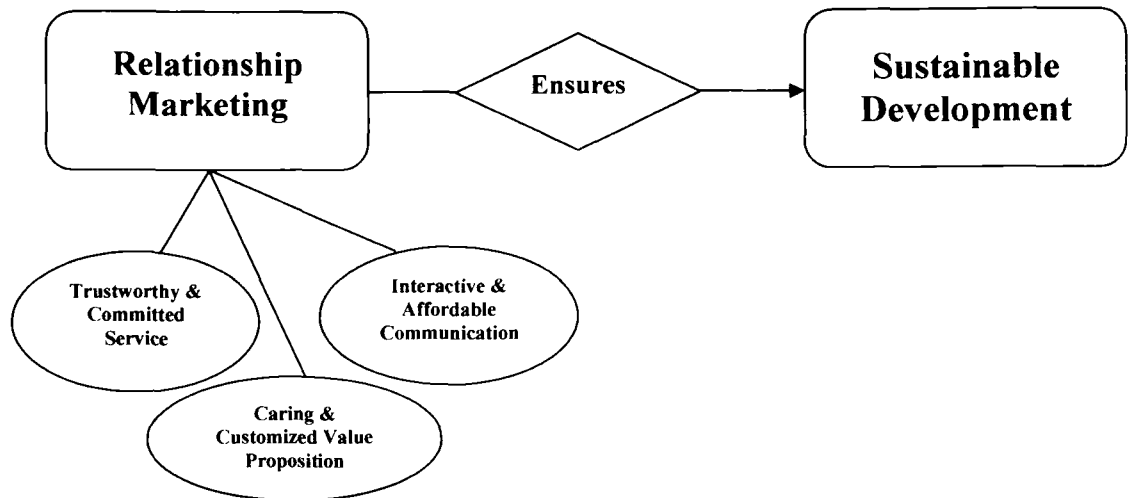


Figure 6.19: Research Model for Sustainable Development through Relationship

On the basis of the factor analysis, a model of Relationship Marketing for Sustainable Development is proposed in the above **Figure 6.19**. In the model, sustainable development is dependent variable and ‘Component 1: Trustworthy & Committed Service’, ‘Component 2: Interactive & Affordable Communication’ and ‘Component 3: Caring & Customized Value Proposition’ are the independent variables

The model has been derived on the basis of statistical evidence. Hence, it is validated. It can be further used and developed for similar other researches.

6.4.3 Correlations of Components

Table 6.30: Correlations of Relationship Marketing Components

		Component 1: (Trustworthy & Committed Service) score for analysis 1	Component 2: (Interactive & Affordable Communication) score for analysis 1	Component 3: (Caring & Customized Value Proposition) score for analysis 1
Component 1: (Trustworthy & Committed Service) score for analysis 1	Pearson Correlation	1	.000	.000
	Sig. (2-tailed)		1.000	1.000
	N	454	454	454
Component 2: (Interactive & Affordable Communication) score for analysis 1	Pearson Correlation	.000	1	.000
	Sig. (2-tailed)	1.000		1.000
	N	454	454	454
Component 3: (Caring & Customized Value Proposition) score for analysis 1	Pearson Correlation	.000	.000	1
	Sig. (2-tailed)	1.000	1.000	
	N	454	454	454

Source: SPSS v21 Analysis on Field Survey Data

Table 6.30 exhibits that there is no relationship between the components; which indicates that due to the use of orthogonal rotation strategy now the identified components of relationship marketing are unique.

6.4.4 Correlations of Relationship Marketing and Sustainable Development

A correlation coefficient measured the strength of a linear between two variables. In the present study, a correlation coefficient measured the strength of a linear between the sustainable development and three components (Trustworthy & Committed Service, Interactive & Affordable Communication and Caring & Customized Value Proposition) of relationship marketing. The correlation between sustainable development and three components is positive and is significant at the 0.01 level (2-tailed).

Table 6.31: Correlations (Relationship Marketing and Sustainable Development)

Correlations		Sustainable Development	Component 1: (Trustworthy & Committed Service)	Component 2: (Interactive & Affordable Communication)	Component 3: (Caring & Customized Value Proposition)
Sustainable Development	Pearson Correlation	1	.549**	.460**	.454**
	Sig. (2-tailed)		.000	.000	.000
	N	454	454	454	454
Component 1: (Trustworthy & Committed Service)	Pearson Correlation	.549**	1	.000	.000
	Sig. (2-tailed)	.000		1.000	1.000
	N	454	454	454	454
Component 2: (Interactive & Affordable Communication)	Pearson Correlation	.460**	.000	1	.000
	Sig. (2-tailed)	.000	1.000		1.000
	N	454	454	454	454
Component 3: (Caring & Customized Value Proposition)	Pearson Correlation	.454**	.000	.000	1
	Sig. (2-tailed)	.000	1.000	1.000	
	N	454	454	454	454

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS v21 Analysis on Field Survey Data

Table 6.31 shows the correlation between ‘sustainable development’ and ‘Trustworthy & Committed Service’ (Component 1) is 0.549 (Sig.=0.000); the correlation between ‘sustainable development’ and ‘Interactive & Affordable Communication’ (Component 2) is 0.460 (Sig.=0.000); the correlation between ‘sustainable development’ and ‘Caring & Customized Value Proposition’ (Component 3) is 0.454 (Sig.=0.000). Therefore, the study exhibits that there seems to be a moderate correlation between relationship marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh.

Thus, the result of correlation rejects the null hypothesis (H_{0a}) that “Relationship marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1a}) that “Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.4.5 Multiple Regression Analysis

Multiple regression analysis has been used to examine whether relationship marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh or not. The dependent variable (sustainable development) has been regressed against each of the component scores (beta coefficients) of the three independent variables (Component 1: Trustworthy & Committed Service, Component 2: Interactive & Affordable Communication, Component 3: Caring & Customized Value Proposition) derived from the factor analysis as orthogonal components.

The dependent variable, sustainable development, has been used as a surrogate indicator of respondents' evaluation of the role of relationship marketing in assuring sustainable development of the mobile phone telecommunication industry of Bangladesh.

Sustainable Development and Relationship Marketing

The equation for sustainable development and relationship marketing is expressed in the following equation:

$$Y_{SD} = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3$$

Where,

Y_{SD} = Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh

β_0 = constant (coefficient of intercept)

X_1 = Trustworthy & Committed Service

X_2 = Interactive & Affordable Communication

X_3 = Caring & Customized Value Proposition

B_1, \dots, B_3 = regression coefficient of Component 1 to Component 3.

Table 6.32: Regression Results of Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh Based on the Relationship Marketing Dimensions (N=454)

Dependent Variable: Sustainable Development

Independent Variables: Three Components

Table 6.32a: Model Summary of Relationship Marketing and Sustainable Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.848 ^a	.719	.717	.47452

a. **Predictors:** (Constant), Component 3: (Caring & Customized Value Proposition), Component 2: (Interactive & Affordable Communication), Component 1: (Trustworthy & Committed Service)

Source: SPSS v21 Analysis on Field Survey Data

Table 6.32b: ANOVA^a of Relationship Marketing and Sustainable Development

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	259.619	3	86.540	384.332	.000 ^b
	Residual	101.326	450	.225		
	Total	360.945	453			

a. **Dependent Variable:** Sustainable Development

b. **Predictors:** (Constant), Component 3: (Caring & Customized Value Proposition), Component 2: (Interactive & Affordable Communication), Component 1: (Trustworthy & Committed Service)

Source: SPSS v21 Analysis on Field Survey Data

Table 6.32c: Coefficients^a of Relationship Marketing and Sustainable Development

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.989	.022		134.214	.000
Component 1: (Trustworthy & Committed Service)	.490	.022	.549	21.963	.000
Component 2: (Interactive & Affordable Communication)	.411	.022	.460	18.432	.000
Component 3: (Caring & Customized Value Proposition)	.406	.022	.454	18.189	.000

a. **Dependent Variable:** Sustainable Development

Source: SPSS v21 Analysis on Field Survey Data

Table 6.32 exhibits the results of the regression analysis. To predict the goodness-of-fit of the regression model, the Multiple Correlation Coefficient (R), Coefficient of Determination or, Square Multiple Correlation Coefficients (R^2), Adjusted R^2 , F ratio and t-values with significance have been examined.

In **Table 6.32a: Model Summary of Relationship Marketing and Sustainable Development**

Firstly, the multiple correlation coefficients (R) of independent variables (three components, X_1 to X_3) on the dependent variable (Sustainable Development or, SD of the Mobile Phone Telecommunication Industry of Bangladesh, or Y_{SD}) is 0.848, which showed that Sustainable Development (SD) has positive input from the three components of Relationship Marketing. In other words, the R value 0.848 shows 84.8% multiple correlation coefficients which means that there is 84.8% correlation between/among the predictors or independent variables or components (Component 1: Trustworthy & Committed Service, Component 2: Interactive & Affordable Communication and Component 3: Caring & Customized Value Proposition) of Relationship Marketing and the dependent variable (Sustainable Development).

Secondly, the Square multiple correlation coefficients (R^2) is 0.719, suggesting that more than 71.9% of the variation or variance in the dependent variable (Sustainable Development) has been explained by the predictors or independent variables or components (Component 1: Trustworthy & Committed Service, Component 2: Interactive & Affordable Communication and Component 3: Caring & Customized Value Proposition) of Relationship Marketing. This meets the assumption of non-zero variance based on the fact that the R^2 value the variance in the predictor values, which in this case is not equal to zero.

Thirdly, the adjusted R^2 value 0.717 is ideal to generalize the model well because this value is close to R^2 value with a small difference of 0.002 (0.719 – 0.717). This means that if the model were applied to the population, it would account for 0.2% less variance in outcome.

In **Table 6.32b: ANOVA^a of Relationship Marketing and Sustainable Development**

Firstly, the F ratio is 384.332, which is highly significant ($p < 0.001$) and this means that the model significantly improves the ability to predict the outcome variable. In this table, the p value is shown as 0.000 which is less than 0.05 indicating the model has a significant fit to the overall data.

So, the regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of Sustainable Development (SD) in relation to the three components, as measured by the above mentioned R^2 , Adjusted R^2 and F ratio. In other words, at least one of the three components is important in contributing to Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh.

In Table 6.32c: Coefficients^a of Relationship Marketing and Sustainable Development

The application of the b-values in the multiple regression model equation ($Y_{SD} = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3$ Or, $= 2.989 + 0.490 + 0.411 + 0.406$) interprets this model to mean that for every increase of one unit in Component 1: Trustworthy & Committed Service, assuming the effects of Component 2: Interactive & Affordable Communication and Component 3: Caring & Customized Value Proposition be held constant, Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh would increase by 0.490. This is same in case of the other components also.

Since the beta values are the standardized versions of the b-values and are directly comparable, these values may be used to infer regarding the relative importance of each predictor or component to the model. In other words, the beta coefficients could be used to explain the relative importance of the three dimensions (independent variables) in contributing to the variance in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh (dependent variable). As far as the relative importance of the three relationship marketing dimensions is concerned, Component 1: (Trustworthy & Committed Service, Beta =0.549, Sig.=0.000), followed by Component 2: (Interactive & Affordable Communication, Beta=0.460, Sig.=0.000) and Component 3: (Caring & Customized Value Proposition, Beta=0.454, Sig.=0.000) are all important in the sustainable development of the mobile telecom industry.

Again, since there are more than one predictors or components (independent variables), the magnitude of the t-value in conjunction with the significance has been considered to assess the overall contribution to the model. Based on the decision rule “the smaller the significance value and the greater the t-value, the greater the contribution of the predictor”, it is seen that Component 1: (Trustworthy & Committed Service, $t=21.963$, Sig.=0.000), followed by Component 2: (Interactive & Affordable Communication, $t=18.432$, Sig.=0.000) and Component 3: (Caring & Customized Value Proposition, $t=18.189$, Sig.=0.000) are all significant predictors or components of relationship marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh. In this regard, from the t-values it can be also concluded that Component 1: (Trustworthy & Committed Service) has a greater impact on the outcome (i.e. sustainable development) than Component 2: (Interactive & Affordable Communication) and Component 3: (Caring & Customized Value Proposition).

In conclusion, it can be stated that all underlying dimensions are positive and therefore are significant. Thus, the result of multiple regression analysis rejects the null hypothesis (H_{0a}) that “Relationship marketing cannot ensure sustainable development of the mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1a}) that “Relationship marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.5. Internal Marketing and Sustainable Development

Hypothesis

H_{0b}: Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh

H_{1b}: Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh

6.5.1 Reliability Analysis

Table 6.33: Reliability Statistics (Internal Marketing and Sustainable Development)

Cronbach's Alpha	No. of Items
.910	16

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.33**, the Cronbach's Alpha value of all the 16 items together is .910 which is greater than 0.7, indicating an overall higher reliability factors. Thus, it can safely be concluded by looking at **Table 6.33** that the reliability of this study is substantial in every perspective because the sample size and the data collected are reliable and also the reliability is shown to be good using all the 16 items.

6.5.2 Factor Analysis

6.5.2.1 To Formulate the Problem

i) **Objectives:** The objective of the factors analysis in this study is to determine how “Internal Marketing can ensure Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh”.

ii) Identification of Variables

Table 6.34: Identification of Variables (Internal Marketing and Sustainable Development)

Code	Variables	Code	Variables
i1	Employee welfare	i9	Balanced Work/Life
i2	Employees as Resources	i10	Recreation Facilities
i3	Investment on Training	i11	Equal Employment Opportunity
i4	Proactive Interpersonal Communication	i12	Well Defined Job Description
i5	Performance Based Pay	i13	Participative Management
i6	Recognition & Appreciation	i14	Logistic Support
i7	Promotion & Career Growth	i15	Positive Interpersonal Relationship
i8	Good Workplace		

Source: Literature Review

Based on the review of literature discussed earlier, **Table 6.34** exhibits 15 (fifteen) independent variables which have been identified to conduct the factor analysis.

iii) **Sample size:** The number of valid samples for this set of variables is 123. With 123 samples and 15 variables, the ratio of samples to variables is 8.2 to 1, which exceeds the requirement for the ratio of samples to variables.

6.5.2.2 To Construct the Correlation Matrix

i) Correlation Matrix

Table 6.35: Correlation Matrix (Internal Marketing and Sustainable Development)

		i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	i13	i14	i15
Correlation	i1	1.000	.747	.642	.484	.628	.650	.573	.324	.292	.116	.395	.366	.125	.131	.183
	i2	.747	1.000	.726	.578	.610	.658	.539	.291	.335	.191	.496	.411	.087	.111	.188
	i3	.642	.726	1.000	.705	.631	.632	.506	.322	.375	.113	.457	.396	.174	.163	.231
	i4	.484	.578	.705	1.000	.632	.633	.515	.326	.469	.211	.497	.473	.200	.229	.262
	i5	.628	.610	.631	.632	1.000	.767	.660	.394	.479	.311	.394	.418	.213	.196	.218
	i6	.650	.658	.632	.633	.767	1.000	.679	.347	.486	.257	.472	.447	.169	.132	.202
	i7	.573	.539	.506	.515	.660	.679	1.000	.369	.423	.427	.469	.429	.274	.184	.235
	i8	.324	.291	.322	.326	.394	.347	.369	1.000	.526	.383	.395	.304	.088	.147	.268
	i9	.292	.335	.375	.469	.479	.486	.423	.526	1.000	.469	.626	.524	.184	.272	.321
	i10	.116	.191	.113	.211	.311	.257	.427	.383	.469	1.000	.367	.195	.385	.292	.251
	i11	.395	.496	.457	.497	.394	.472	.469	.395	.626	.367	1.000	.743	.131	.201	.285
	i12	.366	.411	.396	.473	.418	.447	.429	.304	.524	.195	.743	1.000	-.017	.163	.240
	i13	.125	.087	.174	.200	.213	.169	.274	.088	.184	.385	.131	-.017	1.000	.714	.686
	i14	.131	.111	.163	.229	.196	.132	.184	.147	.272	.292	.201	.163	.714	1.000	.764
	i15	.183	.188	.231	.262	.218	.202	.235	.268	.321	.251	.285	.240	.686	.764	1.000
Sig. (1-tailed)	i1		.000	.000	.000	.000	.000	.000	.000	.001	.101	.000	.000	.085	.075	.021
	i2	.000		.000	.000	.000	.000	.000	.001	.000	.017	.000	.000	.169	.110	.018
	i3	.000	.000		.000	.000	.000	.000	.000	.000	.106	.000	.000	.027	.036	.005
	i4	.000	.000	.000		.000	.000	.000	.000	.000	.010	.000	.000	.013	.005	.002
	i5	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.009	.015	.008
	i6	.000	.000	.000	.000	.000		.000	.000	.000	.002	.000	.000	.031	.073	.012
	i7	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.001	.021	.004
	i8	.000	.001	.000	.000	.000	.000	.000		.000	.000	.000	.000	.166	.052	.001
	i9	.001	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.021	.001	.000
	i10	.101	.017	.106	.010	.000	.002	.000	.000	.000		.000	.015	.000	.001	.003
	i11	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.074	.013	.001
	i12	.000	.000	.000	.000	.000	.000	.000	.000	.000	.015	.000		.425	.036	.004
	i13	.085	.169	.027	.013	.009	.031	.001	.166	.021	.000	.074	.425		.000	.000
	i14	.075	.110	.036	.005	.015	.073	.021	.052	.001	.001	.013	.036	.000		.000
	i15	.021	.018	.005	.002	.008	.012	.004	.001	.000	.003	.001	.004	.000	.000	

Source: SPSS v21 Analysis on Field Survey Data

i) The correlation matrix, constructed from the data obtained to understand how Internal Marketing can ensure Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh is shown in the Table 6.35 which exhibits sufficient coefficients above 0.3 to allow Factor Analysis. In the Table 6.35, there are 63 coefficients, the correlations of which are greater than 0.30 and they are highlighted in grey.

ii) From the above correlation matrix in **Table 6.35**, it is also found that there are relatively high correlations between/among the:

- a) i1 (Employee welfare), i2 (Employees as Resources), i3 (Investment on Training), i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i8 (Good Workplace), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- b) i2 (Employees as Resources), i3 (Investment on Training), i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i9 (Balanced Work/Life), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- c) i3 (Investment on Training), i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i8 (Good Workplace), i9 (Balanced Work/Life) and i12 (Well Defined Job Description)
- d) i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i8 (Good Workplace), i9 (Balanced Work/Life), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- e) i5 (Performance Based Pay), i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i8 (Good Workplace), i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- f) i6 (Recognition & Appreciation), i7 (Promotion & Career Growth), i8 (Good Workplace), i9 (Balanced Work/Life), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- g) i7 (Promotion & Career Growth), i8 (Good Workplace), i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- h) i8 (Good Workplace), i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- i) i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity), i12 (Well Defined Job Description) and i15 (Positive Interpersonal Relationship)

- j) i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i13 (Participative Management)
- k) i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description)
- l) i13 (Participative Management), i14 (Logistic Support) and i15 (Positive Interpersonal Relationship)
- a) i14 (Logistic Support) and i15 (Positive Interpersonal Relationship)

So, the highlighted coefficients in the **Table 6.35** exhibit that the above variables are correlated with each other. These variables may also be expected to correlate with the same factors.

ii) Testing the appropriateness of the Factor Model

The Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy have been used to validate the use of factor analysis.

Table 6.36: KMO and Bartlett's Test (Internal Marketing and Sustainable Development)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.862
Approx. Chi-Square	1172.804
Bartlett's Test of Sphericity Df	105
Sig.	.000

Source: SPSS v21 Analysis on Field Survey Data

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy

Table 6.36 exhibits that the value of KMO is .862 which is 'meritorious' (Kaiser, 1974) suggesting the adequacy of the sample size for the factor analysis.

Bartlett's Test of Sphericity

From the results of the Bartlett's Test of Sphericity in the **Table 6.36**, it is seen that the approximate chi-square statistics is 1172.804 with 105 degrees of freedom, which is significant at the 0.05 level. Calculated value 1172.804 is greater than table value. This means that the null hypothesis that the population correlation matrix is an identity matrix, is rejected by Bartlett's test of sphericity. So, the result of Bartlett's test of sphericity is significant suggesting that the population was not an identity matrix. Therefore, the Bartlett's Test of Sphericity is significant.

6.5.2.3 To Determine the Method of Factor Analysis

i) **Communalities:** The "Initial" column of the **Table 6.37** exhibits that the communality for each variable, i1 to i15, is 1.0 as unites which were inserted in the diagonal of the correlation matrix. Moreover, the **Table 6.37** also exhibits that the average communality of the variables after extraction is above 0.50 except .461 for the variable i8 which is highlighted in grey.

Table 6.37: Communalities (Internal Marketing and Sustainable Development)

	Initial	Extraction
i1	1.000	.717
i2	1.000	.743
i3	1.000	.734
i4	1.000	.622
i5	1.000	.707
i6	1.000	.744
i7	1.000	.593
i8	1.000	.461
i9	1.000	.729
i10	1.000	.501
i11	1.000	.703
i12	1.000	.587
i13	1.000	.833
i14	1.000	.815
i15	1.000	.774

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

ii) Initial Eigenvalues:

Table 6.38: Total Variance Explained (Internal Marketing and Sustainable Development)

Component	B			C			D		
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.578	43.854	43.854	6.578	43.854	43.854	4.697	31.316	31.316
2	2.294	15.293	59.147	2.294	15.293	59.147	3.003	20.017	51.333
3	1.391	9.272	68.419	1.391	9.272	68.419	2.563	17.086	68.419
4	.989	6.592	75.010						
5	.701	4.675	79.685						
6	.581	3.876	83.561						
7	.501	3.342	86.902						
8	.387	2.581	89.484						
9	.309	2.063	91.547						
10	.254	1.696	93.243						
11	.246	1.638	94.881						
12	.234	1.559	96.440						
13	.196	1.308	97.748						
14	.184	1.225	98.973						
15	.154	1.027	100.000						

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.38**, “Initial Eigenvalues” in column B exhibits the eigenvalues in its sub column entitled “Total”. The eigenvalues for the components are exhibited in decreasing order of magnitude from component 1 to component 15. The eigenvalue for a component indicates the total variance attributed to that component. The total variance accounted for by all fifteen (15) components is 15.00, which is equal to the number of variables (i.e., 15). Each of the 15 variables has a sample variance in column entitled “% of Variance”, the sum of which equals the total variance in column entitled “Cumulative %”. According to the eigenvalues criterion, the exact number of components is 15 which in **Table 6.38**.

6.5.2.4 To Determine the Number of Factors

Table 6.38: Initial Eigenvalues (Column B) exhibits that:

- i) the eigenvalue greater than 1.0 (default option) results in 3 (three) components being extracted
- ii) from the cumulative percentage of variance accounted for, it is seen that the first 3 (three) components account for 68.419% of the variance, and that the gain achieved in going to 4 (four) components is marginal. Thus, the 3 (three) factors appear to be reasonable in this situation.
- iii) the scree plot in the following Figure exhibits that a distinct break occurs at 4 (four) components.

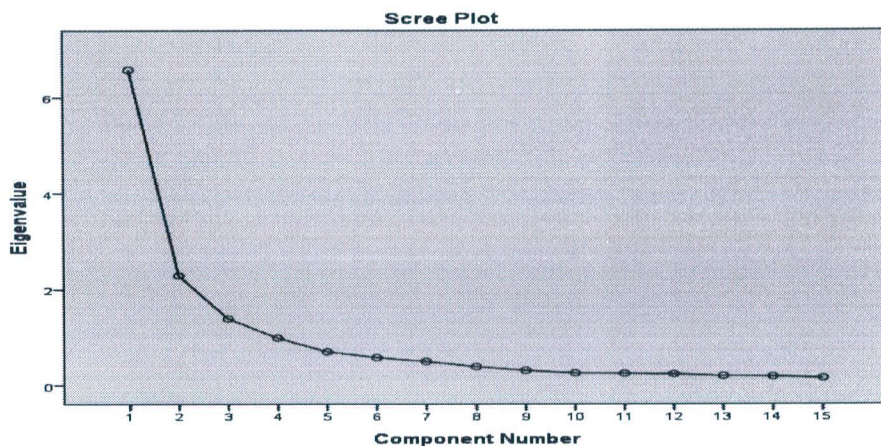


Figure 6.20: Scree plot (Internal Marketing and Sustainable Development)

Source: SPSS v21 Analysis on Field Survey Data

The scree plots in the above Figure exhibits the components extracted from all independent variables used in this study. Starting with the first components, the plot slopes steeply downward initially and then slowly becomes an approximately horizontal line. The cut-off point at which the curve first begins to straighten out is considered to indicate the maximum number of factors to extract. Here, the first 3 components would qualify. As a general rule, the scree test results include at least one or sometimes two or three factors more to consider for inclusion than does the eigenvalue criterion.

As demonstrated in **Table 6.38:** Initial Eigenvalues (Column B) and supported by the scree plot in the above **Figure 6.20**; three (3) components with eigenvalues greater than 1.0 were extracted using the factor loading of 0.50 as the cut-off point. The total variance explained by each component extracted is as follows: The first principal component (component 1) accounted for 43.85% of the total variance, the second principal (component 2) component, accounted for 15.29% whilst the third principal (component 3) component, accounted for 9.272%. The cumulative proportion of variance criterion, which says that the extracted

components should together explain at least 60% of the variation, shows that the 3 extracted components cumulatively accounted for 68.42% of the variation in the data set. Scores are numbers that express the influence of an eigenvector on a specific sample.

Table 6.38: Extraction Sums of Squared Loadings (Column C) exhibits the variances associated with the factors that are retained. So, the other 12 variables have been dropped and the variances associated with them are also not explained here.

The percentage variance accounted for by a factor is determined by dividing the associated eigenvalue with the total number of factors (variables) and multiplying by 100 (Malhotra and Dhas, 2011: 596). Thus, the ‘Component 1’ accounts for a variance of 6.578, which is $(6.578/15) \times 100$ or 43.85% of the total variance. Likewise, ‘Component 2’ accounts for $(2.294/15) \times 100$ or, 15.29% of the total variance. Similarly, ‘Component 3’ accounts for $(1.391/15) \times 100$ or, 9.27% of the total variance. Thus, the first 3 (three) components combined (i.e., cumulative) account for 68.42% of the total variance.

6.5.2.5 To Rotate Factors/Components

i) Factor/Component Matrix (i.e., correlation between the factors and variables)

Table 6.39: Component Matrix^a (Internal Marketing and Sustainable Development)

	Component		
	1	2	3
i1	.724	-.283	-.337
i2	.760	-.306	-.267
i3	.766	-.237	-.303
i4	.769	-.127	-.119
i5	.808	-.164	-.165
i6	.816	-.235	-.152
i7	.766	-.069	-.042
i8	.549	.050	.396
i9	.686	.119	.495
i10	.457	.365	.398
i11	.718	-.029	.432
i12	.644	-.129	.396
i13	.356	.786	-.300
i14	.384	.795	-.188
i15	.458	.737	-.143

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Source: SPSS v21 Analysis on Field Survey Data

In **Table 6.39:** “Component Matrix”, Component 1 is correlated with all the 15 variables (an absolute value of factor loading greater than 0.3). Likewise, Component 2 is at least somewhat correlated with 5 of the 15 variables. Similarly, Component 3 is at least somewhat correlated with 8 of the 15 variables. Moreover, variables i2, i10, i13, i14 and i15 load at least somewhat on both the components 1 and 2 whereas variables i1, i3, i8, i9, i10, i11, i12 and

i13 load at least somewhat on both the components 1 and 3. The variables i10 and i11 load commonly on both the components 2 and 3. Again, variables i10 and i13 load at least somewhat on all the 3 components. So, it is seen that the “Component Matrix” in the **Table 6.39** is not ideal option to properly interpret the components. Instead it is difficult to interpret or seldom results in components that can be interpreted.

ii) Rotation of Factors/Components

By comparing the **Table 6.38: Extraction Sums of Squared Loadings (Column C)** with the **Table 6.38: Rotation Sums of Squared Loadings (Column D)**, it is seen that:

- Rotation does not affect the communalities and the percentage of total variance explained.
- However, the percentage of variance accounted for by each factor does change.

iii) Rotated Factor/Component Matrix

Table 6.40: Rotated Component Matrix^a (Internal Marketing and Sustainable Development)

	Component		
	1	2	3
i1	.840	.098	.047
i2	.844	.174	.016
i3	.838	.153	.092
i4	.708	.317	.139
i5	.776	.298	.129
i6	.804	.306	.063
i7	.646	.385	.167
i8	.219	.637	.085
i9	.251	.801	.158
i10	.020	.617	.346
i11	.364	.753	.051
i12	.364	.673	-.051
i13	.108	.024	.906
i14	.072	.133	.890
i15	.131	.206	.845

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Source: SPSS v21 Analysis on Field Survey Data

Now, by comparing the **Table 6.40: Rotated Component Matrix** with the **Table 6.40: Initial or Unrotated Matrix** (titled “Component Matrix”), it is seen that how rotation achieves simplicity and enhances interpretability. From the comparison, it is seen that whereas all variables correlated with Component 1 in the unrotated matrix, only variables i1 (Employee welfare), i2 (Employees as Resources), i3 (Investment on Training), i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation) and i7 (Promotion & Career Growth). Likewise, i8 (Good Workplace), i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description) correlate highly with Component 2. Similarly, the

remaining variables, i13 (Participative Management), i14 (Logistic Support) and i15 (Positive Interpersonal Relationship) also correlate highly with Component 3. Furthermore, no variable commonly correlates highly with all the 3 factors. This can be clearly seen in the “Table 6.40”.

6.5.2.6 To Interpret Factors

The rotated factor/component matrix forms the basis for interpretation of the components.

Component Loadings

In this study, loadings of 0.50 or more are considered practically significant.

In the rotated component matrix of Table 6.40:

i) Component 1 has high coefficients for variables: i1 (Employee welfare), i2 (Employees as Resources), i3 (Investment on Training), i4 (Proactive Interpersonal Communication), i5 (Performance Based Pay), i6 (Recognition & Appreciation) and i7 (Promotion & Career Growth). Therefore, this component may be labeled or named as ‘Employee Training & Motivation’ Component. Thus, internal marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by training and motivating employees.

ii) Component 2 is highly related with variables: i8 (Good Workplace), i9 (Balanced Work/Life), i10 (Recreation Facilities), i11 (Equal Employment Opportunity) and i12 (Well Defined Job Description). Therefore, this component may be labeled or named as ‘Secured, Enjoyable & Balanced Work/Life for All’ Component. Thus, internal marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by maintaining secured, enjoyable & balanced work/life for all.

iii) Component 3 has high coefficients for variables: i13 (Participative Management), i14 (Logistic Support) and i15 (Positive Interpersonal Relationship). Therefore, this component may be labeled or named as ‘Participative Management & Logistic Support’ Component. Thus, internal marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through participative management and logistic support.

Table 6.41: Component Loadings (Internal Marketing and Sustainable Development)

Name of Components	Variables	Component Loading*	Eigenvalue **	Component Interpretation (% of Variance Explained)**
Component 1: Employee Training & Motivation	i1: Employee welfare	.840	6.578	43.854
	i2: Employees as Resources	.844		
	i3: Investment on Training	.838		
	i4: Proactive Interpersonal Communication	.708		
	i5: Performance Based Pay	.776		
	i6: Recognition & Appreciation	.804		
	i7: Promotion & Career Growth	.646		
Component 2: Secured, Enjoyable & Balanced Work/Life for All	i8: Good Workplace	.637	2.294	15.293
	i9: Balanced Work/Life	.801		
	i10: Recreation Facilities	.617		
	i11: Equal Employment Opportunity	.753		
Component 3: Participative Management & Logistic Support	i12: Well Defined Job Description	.673	1.391	9.272
	i13: Participative Management	.906		
	i14: Logistic Support	.890		
	i15: Positive Interpersonal Relationship	.845		
Total Variance				68.419

Source: * Table 6.40, ** Table 6.38

From the above findings of this study it is evident that sustainable development of the mobile phone telecom industry of Bangladesh is ensured through internal marketing for three reasons namely 'Employee Training & Motivation', 'Secured, Enjoyable & Balanced Work/Life for All' and 'Participative Management & Logistic Support'. Components loading of the variables and percentage (%) of variance of the factors as exhibited in **Table 6.41** rejects the null hypothesis (H_{0b} : Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh) and proved the alternative hypothesis (H_{1b} : Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh). The following is a brief discussion of each component in the order of its contribution to the total variance.

Component 1: Employee Training & Motivation

It is the most important component since the eigenvalue and percentage (%) of variation explained by this component are 6.578 and 43.854 respectively. This component contains 7 (seven) variables, of which the six variables (i1, i2, i4, i5, i6 and i7) with component loading .840, .844, .708, .776, .804 and .646 respectively have relevance to the motivation of employees and the remaining one (i3) with component loading .838 respectively is related to employee training. The examination of the impact of internal marketing activities on sustainable development reveals that all these seven variables are significant [**Table 6.41**]. Employee welfare, for example, provident fund, gratuity, retirement benefits, housing, health package, etc., may motivate the telecom employees to serve the customers wholeheartedly because through such measures they find their job is interesting and an assured protection of their future. Likewise, treating employees as resources always act as a matter of inspiration for them which also motivates them to work with loyalty for the long-term success of the organization. Similarly, proactive interpersonal communication may positively encourage the employees and reduce the level of their doubts and frustration. Thus, it builds confidence in them. The talented employees deserve positive discrimination because of their caliber. They deserve handsome pay for their performance which acts as a token of motivation to work with dedication. In fact, performance based pay gives the employees a strong belief about their competence and motivates them to creatively contribute in the satisfaction of target customers, as well as growth and profitability of the organization. Apart from financial motivation, employees also expect due recognition and appreciation from the management which increase their morale and lead them to higher productivity. Thus, they feel valued and are motivated to perform to their best. Opportunities for promotion and career growth also motivate the employees to raise their expectation for higher salaries, allowances, fringe benefits and above all rise in the top level of the organization. Giving priority on investment in training the employees enable the concerned companies to increase the knowledge, ability and professional skills of their employees which improves service quality to a great extent. So, it has been proved through factor analysis that 'Employee Training & Motivation' is a significant component of internal marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

Component 2: Secured, Enjoyable and Balanced Work/Life for All

It is the second most important component since the eigenvalue and percentage (%) of variation explained by this component are 2.294 and 15.293 respectively. This component contains 5 (five) variables, of which the variables i8, i11 and i12 with component loading .637, .753 and .673 respectively have relevance to job security of the employees, variable i10 with component loading .617 is related to enjoyment during the tenure of job and variable i9 with component loading .801 is related to balance between professional and personal life. The examination of the impact of internal marketing activities on sustainable development

reveals that all these 5 (five) variables are significant [Table 6.41]. Good Workplace, for example, healthy working environment, job security, etc., make the job and career both secured to serve the organization being free from stress and anxieties. Similarly, job is also found secured for equal employment opportunity where discrimination may be checked based on caste, tribe, religion, gender, origin, political ideology, etc. Thus, job satisfaction of the employees may be enhanced which further increase their morale and thereby productivity. Similarly, a well defined job description, for example, also encourages employees to perform their duties and responsibilities with utmost sincerity and due diligence. Thus, their job gets secured and they can focus on organizational development. With the rising business challenges, employees often become stressed which adversely affect their capability and performance and so this is not positive for the growth and development of the concerned organization as well. Various types of recreation facilities, for example, sports, holiday parties, picnics, employee lunches, corporate retreats, etc., may energize themselves which is very essential for any organization to proactively lead the development activities. This also brings a change in their routine bound monotonous lives. Finally, a good balance between professional and personal life, for example, acts as a determining factor in assuring job satisfaction of the employees. Some employees are forced to leave a job with handsome salaries only due to the imbalanced work schedule that badly affects their personal, family and even marital life. Thus, by assuring a balanced work/life not only quality of work life can be increased but also they can be retained with positive moods, attitudes, emotions, etc. together with improved performance. So, it has been proved through factor analysis that 'Secured, Enjoyable and Balanced Work/Life for All' is a significant component of internal marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

Component 3: Participative Management & Logistic Support

This is the third most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.391 and 9.272 respectively. This component contains 3 (three) variables, (i13, i14 and i15) with component loading .906, .890, and .845 respectively have relevance to the participative management through necessary logistic support and positive interpersonal relationship. Participative management, for example, delegates decision making authority to the employees which gives them appropriate control and authority over their work due to which they feel and act more positively about their jobs. Thus, higher level of employee satisfaction is ensured and turnover rates are lowered down. Being satisfied employees can also render more responsive service and quickly deal with customer complaints resulting in more repeat business and enhanced development. Participative management is also important in developing positive interpersonal relationship between employees and their superiors, employees and their colleagues which ensures a customer-oriented behavior. This is very important for the balanced growth and development of the concerned business. Logistic support, for example, is very important because a talented employee desires to have good and decorated office accommodation, necessary furniture, personal computer or laptop, mobile phone, internet connection, etc., to diligently perform the duties and responsibilities assigned to them. Getting such support from the employer enhances their commitment and devotion to their jobs which ultimately contributes to the positive development of the organization. In support to the aforesaid discussion, the Table 6.41 proves that internal marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through participative management & logistic support where all the identified 3 (three) variables are significant.

From the above discussion, it is clearly evident that internal marketing can ensure sustainable development through ‘Employee Training & Motivation’, ‘Secured, Enjoyable & Balanced Work/Life for All’ and ‘Participative Management & Logistic Support’.

6.5.2.7. To Calculate Component Scores

Following interpretation, component scores can be calculated to reduce the original set of variables to a smaller set of composite variables (component) for use in subsequent multivariate analysis like correlation and multiple regression.

Table 6.42: Component Score Coefficient Matrix
(Internal Marketing and Sustainable Development)

	Component		
	1	2	3
i1	.251	-.150	-.010
i2	.236	-.107	-.032
i3	.237	-.125	.003
i4	.155	-.011	.008
i5	.181	-.036	.005
i6	.190	-.031	-.026
i7	.117	.037	.014
i8	-.080	.283	-.040
i9	-.110	.356	-.028
i10	-.147	.290	.080
i11	-.059	.316	-.072
i12	-.038	.284	-.107
i13	.009	-.116	.391
i14	-.028	-.046	.373
i15	-.025	-.016	.343

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Scores.

Source: SPSS v21 Analysis on Field Survey Data

6.5.2.8 To Determine the Model Fit

From the upper left triangle of the “Reproduced Correlations Matrix” of **Table 6.43**, it is seen that there are only 43 (40.0%) non-redundant residuals with absolute values greater than 0.05, indicating an acceptable model fit. From the above analysis, it is proved that internal marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh.

Table 6.43: Reproduced Correlation Matrix (Internal Marketing and Sustainable Development)

	i1	i2	i3	i4	i5	i6	i7	i8	i9	i10	i11	i12	i13	i14	i15	
Reproduced Correlation	i1	.717*	.727	.723	.632	.687	.708	.588	.250	.296	.094	.382	.369	.136	.115	.171
	i2	.727	.743*	.735	.655	.709	.733	.615	.297	.353	.130	.439	.423	.110	.098	.160
	i3	.723	.735	.734*	.655	.707	.726	.615	.289	.347	.143	.425	.403	.177	.162	.219
	i4	.632	.655	.655	.622*	.662	.675	.602	.369	.454	.258	.504	.464	.210	.216	.275
	i5	.687	.709	.707	.662	.707*	.723	.637	.370	.453	.244	.513	.476	.208	.210	.272
	i6	.708	.733	.726	.675	.723	.744*	.647	.376	.457	.227	.527	.495	.151	.155	.222
	i7	.588	.615	.615	.602	.637	.647	.593*	.401	.496	.308	.534	.485	.230	.246	.305
	i8	.250	.297	.289	.369	.370	.376	.401	.461*	.578	.427	.564	.504	.116	.176	.232
	i9	.296	.353	.347	.454	.453	.457	.496	.578	.729*	.554	.703	.622	.189	.265	.331
	i10	.094	.130	.143	.258	.244	.227	.308	.427	.554	.501*	.490	.405	.330	.391	.422
	i11	.382	.439	.425	.504	.513	.527	.534	.564	.703	.490	.703*	.637	.103	.171	.246
	i12	.369	.423	.403	.464	.476	.495	.485	.504	.622	.405	.637	.587*	.009	.070	.143
	i13	.136	.110	.177	.210	.208	.151	.230	.116	.189	.330	.103	.009	.833*	.818	.785
	i14	.115	.098	.162	.216	.210	.155	.246	.176	.265	.391	.171	.070	.818	.815*	.789
	i15	.171	.160	.219	.275	.272	.222	.305	.232	.331	.422	.246	.143	.785	.789	.774*
Residual ^b	i1		.021	-.081	-.148	-.059	-.059	-.015	.074	-.005	.022	.013	-.003	-.011	.015	.012
	i2	.021		-.010	-.077	-.098	-.075	-.076	-.005	-.019	.061	.056	-.013	-.023	.013	.028
	i3	-.081	-.010		.050	-.076	-.095	-.109	.034	.028	-.030	.032	-.007	-.003	.001	.012
	i4	-.148	-.077	.050		-.030	-.042	-.088	-.043	.016	-.047	-.007	.009	-.010	.012	-.014
	i5	-.059	-.098	-.076	-.030		.043	.023	.023	.025	.067	-.120	-.058	.005	-.015	-.055
	i6	-.059	-.075	-.095	-.042	.043		.032	-.029	.029	.030	-.055	-.048	.018	-.023	-.020
	i7	-.015	-.076	-.109	-.088	.023	.032		-.031	-.074	.119	-.065	-.057	.043	-.063	-.070
	i8	.074	-.005	.034	-.043	.023	-.029	-.031		-.052	-.044	-.169	-.199	-.028	-.029	.036
	i9	-.005	-.019	.028	.016	.025	.029	-.074	-.052		-.085	-.077	-.098	-.005	.007	-.010
	i10	.022	.061	-.030	-.047	.067	.030	.119	-.044	-.085		-.123	-.209	.054	-.099	-.170
	i11	.013	.056	.032	-.007	-.120	-.055	-.065	-.169	-.077	-.123		.107	.028	.030	.040
	i12	-.003	-.013	-.007	.009	-.058	-.048	-.057	-.199	-.098	-.209	.107		-.026	.093	.097
	i13	-.011	-.023	-.003	-.010	.005	.018	.043	-.028	-.005	.054	.028	-.026		-.104	-.099
	i14	.015	.013	.001	.012	-.015	-.023	-.063	-.029	.007	-.099	.030	.093	-.104		-.025
	i15	.012	.028	.012	-.014	-.055	-.020	-.070	-.036	-.010	-.170	.040	.097	-.099	-.025	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 43 (40.0%) nonredundant residuals with absolute values greater than 0.05.

Source: SPSS v21 Analysis on Field Survey Data

6.5.2.9 Internal Marketing Model for Sustainable Development

On the basis of the factor analysis results, a model of Internal Marketing for Sustainable Development is proposed in the **Figure 6.21**. In the model, sustainable development is dependent variable and ‘Component 1: Employee Training & Motivation’, ‘Component 2: Secured, Enjoyable & Balanced Work/Life for All’ and ‘Component 3: Participative Management & Logistic Support’ are the independent variables.

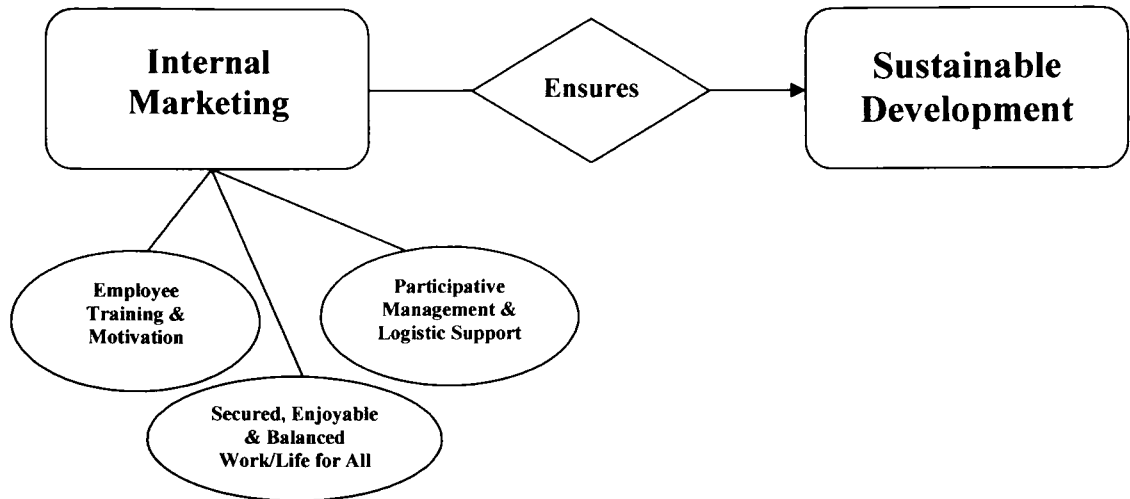


Figure 6.21: Research Model for Sustainable Development through Relationship

The model has been derived on the basis of statistical evidence. Hence, it is validated. It can be further used and developed for similar other researches.

6.5.3 Correlations of Components

To determine if the identified components are related, a simple correlation can be estimated using the component scores, the result of which is as follows:

Table 6.44: Correlations of Internal Marketing Components

		Component 1: (Employee Training & Motivation)	Component 2: (Secured, Enjoyable & Balanced Work/Life for All)	Component 3: (Participative Management & Logistic Support)
Component 1: (Employee Training & Motivation)	Pearson Correlation	1	.000	.000
	Sig. (2-tailed)		1.000	1.000
	N	123	123	123
Component 2: (Secured, Enjoyable & Balanced Work/Life for All)	Pearson Correlation	.000	1	.000
	Sig. (2-tailed)	1.000		1.000
	N	123	123	123
Component 3: (Participative Management & Logistic Support)	Pearson Correlation	.000	.000	1
	Sig. (2-tailed)	1.000	1.000	
	N	123	123	123

Source: SPSS v21 Analysis on Field Survey Data

Table 6.44 exhibits that there is no relationship between the components; which indicates that due to the use of orthogonal rotation strategy now the identified components of internal marketing are unique.

6.5.4 Correlations of Internal Marketing and Sustainable Development

A correlation coefficient measured the strength of a linear between two variables. In the present study, a correlation coefficient measured the strength of a linear between the sustainable development and three components (Employee Training & Motivation, Secured, Enjoyable & Balanced Work/Life for All and Participative Management & Logistic Support) of internal marketing. The correlation between sustainable development and three components is positive and is significant at the 0.01 level (2-tailed).

Table 6.45: Correlations of Internal Marketing and Sustainable Development

		Sustainable Development	Component 1: (Employee Training & Motivation)	Component 2: (Secured, Enjoyable & Balanced Work/Life for All)	Component 3: (Participative Management & Logistic Support)
Sustainable Development	Pearson Correlation	1	.438**	.435**	.610**
	Sig. (2-tailed)		.000	.000	.000
	N	123	123	123	123
Component 1: (Employee Training & Motivation)	Pearson Correlation	.438**	1	.000	.000
	Sig. (2-tailed)	.000		1.000	1.000
	N	123	123	123	123
Component 2: (Secured, Enjoyable & Balanced Work/Life for All)	Pearson Correlation	.435**	.000	1	.000
	Sig. (2-tailed)	.000	1.000		1.000
	N	123	123	123	123
Component 3: (Participative Management & Logistic Support)	Pearson Correlation	.610**	.000	.000	1
	Sig. (2-tailed)	.000	1.000	1.000	
	N	123	123	123	123

** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS v21 Analysis on Field Survey Data

Table 6.45 shows the correlation between ‘sustainable development’ and ‘Employee Training & Motivation’ (Component 1) is 0.438 (Sig.=0.000); the correlation between ‘sustainable development’ and ‘Secured, Enjoyable & Balanced Work/Life for All’ (Component 2) is 0.435 (Sig.=0.000); the correlation between ‘sustainable development’ and ‘Participative Management & Logistic Support’ (Component 3) is 0.610 (Sig.=0.000). Therefore, the study exhibits that there seems to be a moderate correlation between internal marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh.

Thus, the result of correlation rejects the null hypothesis (H_{0b}) that “Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1b}) that “Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.5.5 Multiple Regression Analysis

Multiple regression analysis has been used to examine whether internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh or not. The dependent variable (sustainable development) has been regressed against each of the component scores (beta coefficients) of the three independent variables (Component 1:

Employee Training & Motivation, Component 2: Secured, Enjoyable & Balanced Work/Life for All, Component 3: Participative Management & Logistic Support) derived from the factor analysis as orthogonal components. The dependent variable, sustainable development, has been used as a surrogate indicator of respondents' evaluation of the role of internal marketing in assuring sustainable development of mobile phone telecommunication industry of Bangladesh.

Sustainable Development and Internal Marketing

The equation for sustainable development and internal marketing is expressed in the following equation:

$$Y_{SD} = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3$$

Where,

Y_{SD} = Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh

β_0 = constant (coefficient of intercept)

X_1 = Employee Training & Motivation

X_2 = Secured, Enjoyable & Balanced Work/Life for All

X_3 = Participative Management & Logistic Support

B_1, \dots, B_3 = regression coefficient of Component 1 to Component 3.

Table 6.46

Regression Results of Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh Based on the Internal Marketing Dimensions (N=123)

Dependent Variable: Sustainable Development

Independent Variables: Three Components

Table 6.46a: Model Summary of Internal Marketing and Sustainable Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868 ^a	.754	.748	.41527

a. **Predictors:** (Constant), Component 3: Participative Management & Logistic Support, Component 2: Secured, Enjoyable & Balanced Work/Life for All, Component 1: Employee Training & Motivation

Source: SPSS v21 Analysis on Field Survey Data

Table 6.46b: ANOVA^a of Internal Marketing and Sustainable Development

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.894	3	20.965	121.572	.000 ^b
	Residual	20.521	119	.172		
	Total	83.415	122			

a. **Dependent Variable:** Sustainable Development

b. **Predictors:** (Constant), Component 3: Participative Management & Logistic Support, Component 2: Secured, Enjoyable & Balanced Work/Life for All, Component 1: Employee Training & Motivation

Source: SPSS v21 Analysis on Field Survey Data

Table 6.46c: Coefficients^a of Internal Marketing and Sustainable Development

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.171	.037		84.681	.000
Component 1: Employee Training & Motivation	.362	.038	.438	9.636	.000
Component 2: Secured, Enjoyable & Balanced Work/Life for All	.360	.038	.435	9.575	.000
Component 3: Participative Management & Logistic Support	.505	.038	.610	13.423	.000

a. Dependent Variable: Sustainable Development

Source: SPSS v21 Analysis on Field Survey Data

Table 6.46 exhibits the results of the regression analysis. To predict the goodness-of-fit of the regression model, the Multiple Correlation Coefficient (R), Coefficient of Determination or, Square Multiple Correlation Coefficients (R^2), Adjusted R^2 , F ratio and t-values with significance have been examined.

In **Table 6.46a**: Model Summary of Internal Marketing and Sustainable Development

Firstly, the multiple correlation coefficients (R) of independent variables (three components, X_1 to X_3) on the dependent variable (Sustainable Development or, SD) of the Mobile Phone Telecommunication Industry of Bangladesh, or Y_{SD}) is 0.868, which showed that Sustainable Development (SD) has positive input from the three components of Internal Marketing. In other words, the R value 0.868 shows 86.8% multiple correlation coefficients which means that there is 86.8% correlation between the predictors or three independent variables (Component 1: Employee Training & Motivation, Component 2: Secured, Enjoyable & Balanced Work/Life for All and Component 3: Participative Management & Logistic Support) and the dependent variable (Sustainable Development).

Secondly, the Square multiple correlation coefficients (R^2) is 0.754, suggesting that more than 75.4% of the variation or variance in the dependent variable (Sustainable Development) has been explained by the predictors or independent variables or three components (Component 1: Employee Training & Motivation, Component 2: Secured, Enjoyable & Balanced Work/Life for All and Component 3: Participative Management & Logistic Support). This meets the assumption of non-zero variance based on the fact that the R^2 value the variance in the predictor values, which in this case is not equal to zero.

Thirdly, the adjusted R^2 value 0.748 is ideal to generalize the model well because this value is close to R^2 value with a small difference of 0.006 (0.754 - 0.748). This means that if the model were applied to the population, it would account for 0.6% less variance in outcome.

In Table 6.46b: ANOVA^a of Internal Marketing and Sustainable Development

Firstly, the F ratio is 121.572, which is highly significant ($p < 0.001$) and this means that the model significantly improves the ability to predict the outcome variable. In this table, the p value is shown as 0.000 which is less than 0.05 indicating the model has a significant fit to the overall data.

So, the regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of Sustainable Development (SD) in relation to the two components, as measured by the above mentioned R , R^2 , Adjusted R^2 and F ratio. In other words, at least one of the three components is important in contributing to Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh.

In Table 6.46c: Coefficients^a of Internal Marketing and Sustainable Development

The application of the b-values in the multiple regression model equation ($Y_{SD} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$ Or, $= 3.171 + .362 + .360 + .505$) interprets this model to mean that for every increase of one unit in Component 1: Employee Training & Motivation, assuming the effects of Component 2: Secured, Enjoyable & Balanced Work/Life for All, Component 3: Participative Management & Logistic Support be held constant, Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh would increase by 0.362. Likewise, should the effects of Component 1: Employee Training & Motivation and Component 3: Participative Management & Logistic Support be held constant, a single unit increase in Component 2: Secured, Enjoyable & Balanced Work/Life for All would result in a 0.360 increase in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh. Similarly, the results showed that a one-unit increase in Sustainable Development (SD) with the Component 3: (Participative Management & Logistic Support) assuming Component 1: Employee Training & Motivation, assuming the effects of Component 2: Secured, Enjoyable & Balanced Work/Life for All be held constant would lead to a 0.505 unit increase in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh, other variables being held constant.

Since the beta values are the standardized versions of the b-values and are directly comparable, these values may be used to infer regarding the relative importance of each predictor or component to the model. In other words, the beta coefficients could be used to explain the relative importance of the three dimensions (independent variables) in contributing to the variance in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh (dependent variable). As far as the relative importance of the three internal marketing dimensions is concerned, Component 3: (Participative Management & Logistic Support, Beta=0.610, Sig.=0.000), followed by Component 1: (Employee Training & Motivation, Beta=0.438, Sig.=0.000) and Component 2: (Secured, Enjoyable & Balanced Work/Life for All, Beta=0.435, Sig.=0.000) are all important in the sustainable development of mobile telecom industry of Bangladesh.

Again, since there are more than one predictors or components (independent variables), the magnitude of the t-value in conjunction with the significance has been considered to assess the overall contribution to the model. Based on the decision rule “the smaller the significance value and the greater the t-value, the greater the contribution of the predictor”, it is seen that Component 3: (Participative Management & Logistic Support, $t=13.423$, Sig.=0.000), followed by Component 1: (Employee Training & Motivation, $t=9.636$, Sig.=0.000) and Component 2: (Secured, Enjoyable & Balanced Work/Life for All, $t=9.575$, Sig.=0.000) are

all significant predictors or components of internal marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh. In this regard, from the t-values it can be also concluded that Component 3: (Participative Management & Logistic Support) has a greater impact on the outcome (i.e. SD) than Component 1: (Employee Training & Motivation) and Component 2: (Secured, Enjoyable & Balanced Work/Life for All).

In conclusion, it can be stated that all underlying dimensions are positive and therefore are significant. Thus, the result of multiple regression analysis rejects the null hypothesis (H_{0b}) that “Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1b}) that “Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.6. Integrated Marketing and Sustainable Development

Hypothesis

H_{0c} : Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1c} : Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

6.6.1. Reliability Analysis

Table 6.47: Reliability Statistics (Integrated Marketing and Sustainable Development)

Cronbach's Alpha	No. of Items
.930	11

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.47**, the Cronbach's Alpha value of all the 11 items together is .930 which is greater than 0.7, indicating an overall higher reliability factors. Thus, it can safely be concluded by looking at **Table 6.47** that the reliability of this study is substantial in every perspective because the sample size and the data collected are reliable and also the reliability is shown to be good using all the 11 items.

6.6.2. Factor Analysis

6.6.2.1 To Formulate the Problem

i) Objectives: The objective of the factors analysis in this study is to determine how "Integrated Marketing can ensure Sustainable Development of Mobile Phone Telecommunication Industry of Bangladesh".

ii) Identification of Variables

Table 6.48: Identification of Variables (Integrated Marketing and Sustainable Development)

Code	Variables	Code	Variables
IGM01	Functional Integration	IGM06	Integrated Teamwork
IGM02	Integrated Service/Product	IGM07	Integrated Process
IGM03	Integrated Pricing	IGM08	Integrated Physical Evidence
IGM04	IMC	IGM09	Horizontal Integration
IGM05	Forward Integration	IGM10	Backward Integration

Source: Literature Review

Based on the review of literature discussed earlier, **Table 6.48** exhibits 10 (ten) independent variables which have been identified to conduct the factor analysis.

iii) Sample size: The number of valid samples for this set of variables is 577. With 577 samples and 10 variables, the ratio of cases to variables is 57.7 to 1, which exceeds the requirement for the ratio of cases to variables.

6.6.2.2 To Construct the Correlation Matrix

i) Correlation Matrix

Table 6.49: Correlation Matrix (Integrated Marketing and Sustainable Development)

	IGM01	IGM02	IGM03	IGM04	IGM05	IGM06	IGM07	IGM08	IGM09	IGM10	
Correlation	IGM01	1.000	.712	.702	.633	.570	.385	.461	.466	.438	.419
	IGM02	.712	1.000	.714	.688	.576	.420	.511	.436	.421	.458
	IGM03	.702	.714	1.000	.661	.623	.469	.452	.424	.415	.406
	IGM04	.633	.688	.661	1.000	.692	.531	.542	.498	.511	.523
	IGM05	.570	.576	.623	.692	1.000	.602	.569	.485	.497	.420
	IGM06	.385	.420	.469	.531	.602	1.000	.589	.492	.484	.430
	IGM07	.461	.511	.452	.542	.569	.589	1.000	.653	.606	.524
	IGM08	.466	.436	.424	.498	.485	.492	.653	1.000	.689	.559
	IGM09	.438	.421	.415	.511	.497	.484	.606	.689	1.000	.598
	IGM10	.419	.458	.406	.523	.420	.430	.524	.559	.598	1.000
Sig. (1-tailed)	IGM01		.000	.000	.000	.000	.000	.000	.000	.000	.000
	IGM02	.000		.000	.000	.000	.000	.000	.000	.000	.000
	IGM03	.000	.000		.000	.000	.000	.000	.000	.000	.000
	IGM04	.000	.000	.000		.000	.000	.000	.000	.000	.000
	IGM05	.000	.000	.000	.000		.000	.000	.000	.000	.000
	IGM06	.000	.000	.000	.000	.000		.000	.000	.000	.000
	IGM07	.000	.000	.000	.000	.000	.000		.000	.000	.000
	IGM08	.000	.000	.000	.000	.000	.000	.000		.000	.000
	IGM09	.000	.000	.000	.000	.000	.000	.000	.000		.000
	IGM10	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Source: SPSS v21 Analysis on Field Survey Data

i) The correlation matrix, constructed from the data obtained to understand how Integrated Marketing can ensure Sustainable Development of the Mobile Phone Telecommunication Industry of Bangladesh is shown in the Table 6.49 which exhibits sufficient coefficients above 0.3 to allow Factor Analysis. In the Table 6.49, all the coefficients (i.e., 45), the correlations of which are greater than 0.30 and they are highlighted in grey.

ii) From the above correlation matrix it is also found that there are relatively positively high correlations between/among all the variables:

a) IGM01 (Functional Integration), IGM02 (Integrated Service/Product), IGM03 (Integrated Pricing), IGM04 (IMC), IGM05 (Forward Integration), IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

b) IGM02 (Integrated Service/Product), IGM03 (Integrated Pricing), IGM04 (IMC), IGM05 (Forward Integration), IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

c) IGM03 (Integrated Pricing), IGM04 (IMC), IGM05 (Forward Integration), IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

d) IGM04 (IMC), IGM05 (Forward Integration), IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

e) IGM05 (Forward Integration), IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

f) IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

g) IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

h) IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

i) IGM09 (Horizontal Integration) and IGM10 (Backward Integration)

So, the highlighted coefficients in the **Table 6.49** exhibit that the above variables are correlated with each other. These variables may also be expected to correlate with the same factors.

ii) Testing the appropriateness of the Factor Model

The Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy were used to validate the use of factor analysis.

Table 6.50: KMO and Bartlett's Test (Integrated Marketing and Sustainable Development)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.920
Approx. Chi-Square		3603.609
Bartlett's Test of Sphericity	Df	45
	Sig.	.000

Source: SPSS v21 Analysis on Field Survey Data

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy

Table 6.50 exhibits that the value of KMO is .920 which is 'marvelous' (Kaiser, 1974) suggesting the adequacy of the sample size for the factor analysis.

Bartlett's Test of Sphericity

From the results of the Bartlett's Test of Sphericity in the **Table 6.50**, it is seen that the approximate chi-square statistics is 3603.609 with 45 degrees of freedom, which is significant at the 0.05 level. Calculated value 3603.609 is greater than table value. This means that the null hypothesis that the population correlation matrix is an identity matrix, is rejected by Bartlett's test of sphericity. So, the result of Bartlett's test of sphericity is significant suggesting that the population was not an identity matrix. Therefore, the Bartlett's Test of Sphericity is significant.

6.6.2.3 To Determine the Method of Factor Analysis

i) **Communalities:** The “Initial” column of the **Table 6.51** exhibits that the communality for each variable, IGM01 to IGM10, is 1.0 as unites which were inserted in the diagonal of the correlation matrix. Moreover, the **Table 6.51** also exhibits that the average communality of all the variables after extraction is above 0.50 except.

Table 6.51: Communalities (Integrated Marketing and Sustainable Development)

	Initial	Extraction
IGM01	1.000	.736
IGM02	1.000	.772
IGM03	1.000	.785
IGM04	1.000	.735
IGM05	1.000	.655
IGM06	1.000	.529
IGM07	1.000	.695
IGM08	1.000	.732
IGM09	1.000	.735
IGM10	1.000	.585

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

ii) Initial Eigenvalues:

Table 6.52: Total Variance Explained (Integrated Marketing and Sustainable Development)

Component	B			C			D		
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.805	58.051	58.051	5.805	58.051	58.051	3.543	35.426	35.426
2	1.153	11.528	69.579	1.153	11.528	69.579	3.415	34.153	69.579
3	.695	6.954	76.533						
4	.488	4.877	81.410						
5	.398	3.977	85.387						
6	.364	3.637	89.024						
7	.296	2.961	91.985						
8	.288	2.882	94.867						
9	.278	2.778	97.644						
10	.236	2.356	100.000						

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.52**, “Initial Eigenvalues” in column B exhibits the eigenvalues in its sub column entitled “Total”. The eigenvalues for the components are exhibited in decreasing order of magnitude from component 1 to component 10. The eigenvalue for a component indicates the total variance attributed to that component. The total variance accounted for by

all ten (10) components is 10.00, which is equal to the number of variables (i.e., 10). Each of the 10 variables has a sample variance in column entitled “% of Variance”, the sum of which equals the total variance in column entitled “Cumulative %”. According to the eigenvalues criterion, the exact number of components is 10 which in **Table 6.52**.

6.6.2.4 To Determine the Number of Factors

Table 6.52: Initial Eigenvalues (Column B) exhibits that:

- i) the eigenvalue greater than 1.0 (default option) results in 2 (two) components being extracted
- ii) from the cumulative percentage of variance accounted for, it is seen that the first 2 (two) components account for 69.579% of the variance, and that the gain achieved in going to 3 (three) or 3rd components is marginal. Thus, the 2 (two) factors appear to be reasonable in this situation.
- iii) the scree plot in the following Figure exhibits that a distinct break occurs at 3 (three) or, 3rd components.

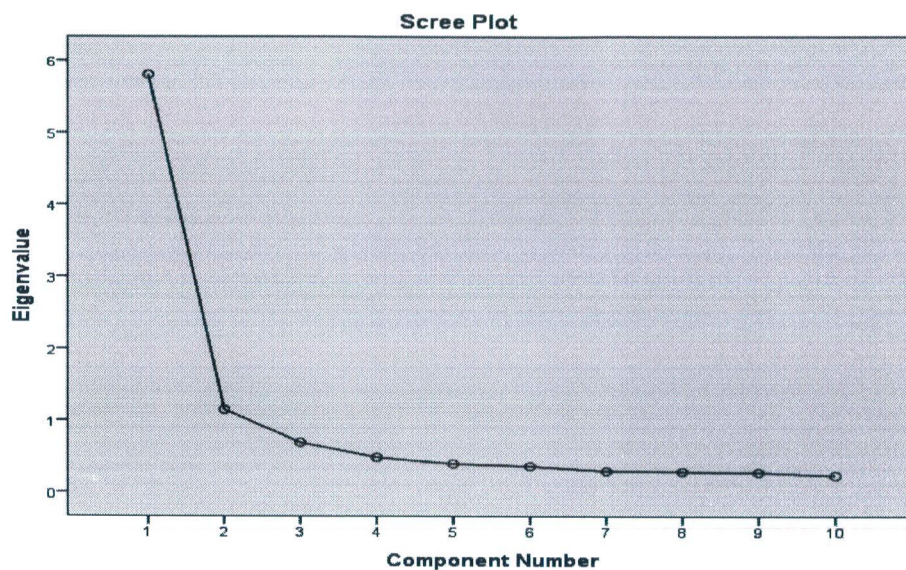


Figure 6.22: Scree plot (Integrated Marketing and Sustainable Development)

Source: SPSS v21 Analysis on Field Survey Data

The scree plots in the above Figure exhibits the components extracted from all independent variables used in this study. Starting with the first components, the plot slopes steeply downward initially and then slowly becomes an approximately horizontal line. The cut-off point at which the curve first begins to straighten out is considered to indicate the maximum number of factors to extract. Here, the first 2 components would qualify. As a general rule, the scree test results include at least one or sometimes two or three factors more to consider for inclusion than does the eigenvalue criterion.

As demonstrated in **Table 6.52: Initial Eigenvalues (Column B)** and supported by the scree plot in the above **Figure 6.22**; two (2) components with eigenvalues greater than 1.0 were extracted using the factor loading of 0.50 as the cut-off point. The total variance explained by each component extracted is as follows: The first principal component (component 1) accounted for 58.051% of the total variance whilst the second principal (component 2) component, accounted for 11.528%. The cumulative proportion of variance criterion, which says that the extracted components should together explain at least 60% of the variation,

shows that the 2 extracted components cumulatively accounted for 69.579% of the variation in the data set. Scores are numbers that express the influence of an eigenvector on a specific sample.

Table 6.52: Extraction Sums of Squared Loadings (Column C) exhibits the variances associated with the factors that are retained. So, the other 8 variables have been dropped and the variances associated with them are also not explained here.

The percentage variance accounted for by a factor is determined by dividing the associated eigenvalue with the total number of factors (variables) and multiplying by 100 (Malhotra and Dhas, 2011: 596). Thus, the 'Component 1' accounts for a variance of 5.805, which is $(5.805/15) \times 100$ or 58.051% of the total variance. Likewise, 'Component 2' accounts for $(1.153/15) \times 100$ or, 11.528% of the total variance. Thus, the first 2 (two) components combined (i.e., cumulative) account for 69.579% of the total variance.

6.6.2.5 To Rotate Factors/Components

i) **Factor/Component Matrix** (i.e., correlation between the factors and variables)

Table 6.53: Component Matrix^a (Integrated Marketing and Sustainable Development)

	Component	
	1	2
IGM01	.765	-.389
IGM02	.785	-.394
IGM03	.776	-.429
IGM04	.831	-.211
IGM05	.797	-.138
IGM06	.705	.180
IGM07	.774	.308
IGM08	.745	.421
IGM09	.738	.436
IGM10	.693	.323

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Source: SPSS v21 Analysis on Field Survey Data

In **Table 6.53: "Component Matrix"**, Component 1 is correlated with all the 10 variables (an absolute value of factor loading greater than 0.3). Likewise, Component 2 is at least somewhat correlated with 7 of the 10 variables namely IGM01, IGM02, IGM03, IGM07, IGM08, IGM09 and IGM10 which are commonly loaded on both the components 1 and 2. So, it is seen that the "Component Matrix" in the **Table 6.53** is not ideal option to properly interpret the components. Instead it is difficult to interpret or seldom results in components that can be interpreted.

ii) Rotation of Factors/Components

By comparing the **Table 6.52: Extraction Sums of Squared Loadings (Column C)** with the **Table 6.52: Rotation Sums of Squared Loadings (Column D)**, it is seen that:

- c) Rotation does not affect the communalities and the percentage of total variance explained.
- d) However, the percentage of variance accounted for by each factor does change.

iii) Rotated Component Matrix

Table 6.54: Rotated Component Matrix^a (Integrated Marketing and Sustainable Development)

	Component	
	1	2
IGM01	.820	.254
IGM02	.837	.266
IGM03	.855	.234
IGM04	.743	.428
IGM05	.667	.457
IGM06	.380	.620
IGM07	.340	.761
IGM08	.240	.821
IGM09	.225	.827
IGM10	.271	.715

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

Source: SPSS v21 Analysis on Field Survey Data

Now, by comparing the **Table 6.54: Rotated Component Matrix** with the **Table 6.53: Initial or Unrotated Matrix (titled “Component Matrix”)**, it is seen that how rotation achieves simplicity and enhances interpretability. From the comparison, it is seen that whereas all variables correlated with Component 1 in the unrotated matrix, only variables IGM01 (Functional Integration), IGM02 (Integrated Service/Product), IGM03 (Integrated Pricing), IGM04 (IMC), and IGM05 (Forward Integration) correlate highly with Component 1. Likewise, the variables IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration) correlate highly with Component 2. Furthermore, no variable commonly correlates highly with both the factors. This can be clearly seen in the “**Table 6.54**”.

6.6.2.6 To Interpret Factors

The rotated factor/component matrix forms the basis for interpretation of the components.

Factor Loadings

In this study, loadings of 0.50 or more are considered practically significant.

In the rotated component matrix of **Table 6.54**:

- i) Component 1 has high coefficients for variables: IGM01 (Functional Integration), IGM02 (Integrated Service/Product), IGM03 (Integrated Pricing), IGM04 (IMC), and IGM05 (Forward Integration). Therefore, this component may be labeled or named as ‘Functionally

Integrated Core Marketing Mix' Component. Thus, integrated marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by functionally integrating the 4Ps of core marketing mix.

ii) Component 2 is highly related with variables: IGM06 (Integrated Teamwork), IGM07 (Integrated Process), IGM08 (Integrated Physical Evidence), IGM09 (Horizontal Integration) and IGM10 (Backward Integration). Therefore, this component may be labeled or named as 'Integrated Value Chain' Component'. Thus, integrated marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by integrating the linkages among the suppliers (backward linkages), people, process, physical evidence and distributors (forward linkages).

Table 6.55: Component Loadings (Integrated Marketing and Sustainable Development)

Name of Components	Variables	Component Loading*	Eigenvalue **	Component Interpretation (% of Variance Explained)**
Component 1: Functionally Integrated Core Marketing Mix	IGM01: Functional Integration	.820	5.805	58.051
	IGM02: Integrated Service/Product	.837		
	IGM03: Integrated Pricing	.855		
	IGM04: IMC	.743		
	IGM05: Forward Integration	.667		
Component 2: Integrated Value Chain	IGM06: Integrated Teamwork	.620	1.153	11.528
	IGM07: Integrated Process	.761		
	IGM08: Integrated Physical Evidence	.821		
	IGM09: Horizontal Integration	.827		
	IGM10: Backward Integration	.715		
Total Variance				69.579

Source: * Table 6.54, ** Table 6.52

From the above findings of this study it is evident that sustainable development of the mobile phone telecom industry of Bangladesh is ensured through integrated marketing for two reasons namely 'Functionally Integrated Core Marketing Mix', and 'Integrated Value Chain' Component'. Components loading of the variables and percentage (%) of variance of the components as exhibited in Table 6.55 rejects the null hypothesis (H_{0c} : Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh) and proved the alternative hypothesis (H_{1c} : Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh). The following is a brief discussion of each component in the order of its contribution to the total variance.

Component 1: Functionally Integrated Core Marketing Mix

It is the most important component since the eigenvalue and percentage (%) of variation explained by this component are 5.805 and 58.051 respectively. This component contains 5 (five) variables, of which the first variable (IGM01: Functional Integration) with component loading .820 is related to the integration of the cross-functional departments or teams within the organization. While the remaining 4 (four) variables namely IGM02: Integrated Service/Product, IGM03: Integrated Pricing, IGM04: IMC and IGM05: Forward Integration with component loading .837, .855, .743 and .667 respectively are related to 4Ps or the core marketing mix. The examination of the impact of integrated marketing activities on sustainable development reveals that all these five variables are significant [Table 6.55]. Functional integration, for example, by assigning specialists from various departments an

organization (e.g., mobile phone telecom operator) can provide the best customer service. In this regard, customer service centers may resolve the technical problems with the active support of the assigned engineers while customer service executives may assist the 'R&D' and 'Product Development' departments by giving necessary customer feedback as input of market research and planning new products or services. Integrated Service/Product, for instance, may provide a balanced package of benefits through various combinations. In this regard, a telecom company may offer a balanced combination of basic telephony, mobile commerce, mobile banking, mobile internet, etc., as part of its varied service packages. Together with this, they may also provide SIM and handset in the package. Thus, a bundle offer of benefits can attract mass customers towards the company offering which actively help in the growth of business through increase sales volume and profitability. Likewise, 'integrated pricing' is becoming a very popular concept among the market oriented organizations in offering convenient and affordable service packages. Through such pricing customers may be offered a number of services (e.g., mobile telephony, mobile internet, etc.) together under a package through integrated and competitive call rates and charges. Thus, customer reliance may be gained leading to maximum customer satisfaction and thereby greater business volume and higher amount of profitability. Integrated Marketing Communication (IMC), for example, is considered as the most effective and important marketing weapon for a pro-modern market driven organization. With the advent of information and communication technologies modern day marketers combine all the media channels including conventional press and electronic media like newspaper, magazines, television, radio, billboard, neon-sign, etc., as well as the online media like email, video conferencing, social media (e.g., facebook, twitter, orkut), blogging, online forum, search engine marketing, online advertising (e.g., google adwords, google adsense, adbrite, facebook advertising, free classified sites, etc.) Thus, a very extensive promotion of organizational products and services may be done which thereby enhance the brand image, sales volume and profitability of the organization resulting into business development. Role of company owned or hired service centers, call centers, franchisees, retailers, independent shops, etc. is very significant in the growth of the business volume and profitability of an organization. Moreover, since they directly interact with the final customers or users, it creates an opportunity for the service providing company to ensure a strong coordination among these service and distribution points. Forward integration, in this regard, can play a very significant role by integrating the conveniently located service centers and channel members.

So, it has been proved through factor analysis that 'Functionally Integrated Core Marketing Mix' is a significant component of integrated marketing that can effectively ensure sustainable development of the mobile telecom industry of Bangladesh.

Component 2: Integrated Value Chain

It is the second most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.153 and 11.528 respectively. This component contains 5 (five) variables, of which the first three variables IGM06, IGM07, IGM08 with component loading .620, .761 and .821 respectively have relevance to integration of the extended marketing mix (3Ps) while the last 2 (two) variables IGM09 and IGM10 with component loading .827 and .715 are respectively related to horizontal and backward integration. The examination of the impact of integrated marketing activities on sustainable development reveals that all these 5 (five) variables are significant [Table 6.55]. To be market oriented, an organization needs to be customer service oriented as well and to be so such organization requires integrated teamwork of its people. Thus, by maintaining a pool of service-minded and customer-oriented employees, investors, media and channel partners with

shared vision, a market driven organization can move towards the business growth in terms of the number of customers, sales volume and profitability. Every organization goes through a number of processes between its 'service and distribution points' and the 'customers'. In the competitive market scenario, the greater the level of such process integration, the higher the growth rate of business volume, profitability and market share. Thus, an integrated approach enables an organization like mobile telecom to maintain a well coordinated, simple, smart and fast service process to provide easy to use/operate, bill pay or, recharge, balance transfer, 24 hours service support, etc. Physical Evidence acts as a very important support as well as value addition in attracting customers towards the organizational distinctiveness. Such evidence may include attractive interior, appealing exteriors, and branding atmosphere at all the points of service and distribution. Thus, an organization can appeal to its target group with its distinctiveness and become successful in converting the prospects into final customers leading to the increased business volume, profitability and growth. In rendering services, sometimes good relationship with the rivals or competing organizations may also become essential. Horizontal integration may be an effective approach to develop such relationship. A mobile telecom company may implement this approach by maintaining an integrated network with the local and international operators to serve its customers. Thus, it can extend its network coverage, service range and meet customer requirements resulting into increased sales and business volume. No organization can ensure a stable and lasting growth without sound relationship or linkages with its suppliers. But even then independent suppliers are not a guarantee to business success. Therefore, 'Backward Integration' may be an effective formula to ensure uninterrupted and high quality product distribution and service delivery. Through such relationship with the suppliers of technologies (e.g., CDMA/GSM, 3G, etc.), SIM cards and networking tower, equipments, accessories, etc., a mobile telecom organization can also provide the best quality service. Thus, the growth and success rate of the business is further accelerated. So, it has been proved through factor analysis that 'Integrated Value Chain' is a significant component of integrated marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

From the above discussion, it is clearly evident that integrated marketing can ensure sustainable development through 'Functionally Integrated Core Marketing Mix', and 'Integrated Value Chain'.

6.6.2.7 To Calculate Component Scores

Following interpretation, component scores can be calculated to reduce the original set of variables to a smaller set of composite variables (component) for use in subsequent multivariate analysis like correlation and multiple regression.

Table 6.56: Component Score Coefficient Matrix
(Integrated Marketing and Sustainable Development)

	Component	
	1	2
IGM01	.330	-.150
IGM02	.335	-.150
IGM03	.355	-.173
IGM04	.230	-.031
IGM05	.182	.010
IGM06	-.022	.196
IGM07	-.091	.285
IGM08	-.163	.351
IGM09	-.173	.360
IGM10	-.110	.284

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Scores.

Source: SPSS v21 Analysis on Field Survey Data

6.6.2.8 To Determine the Model Fit

From the upper left triangle of the “Reproduced Correlations Matrix” of **Table 6.57**, it is seen that there are only 21 (46.0%) non-redundant residuals with absolute values greater than 0.05, indicating an acceptable model fit. From the above analysis, it is proved that integrated marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh.

Table 6.57: Reproduced Correlations (Integrated Marketing and Sustainable Development)

	IGM01	IGM02	IGM03	IGM04	IGM05	IGM06	IGM07	IGM08	IGM09	IGM10	
Reproduced Correlation	IGM01	.736 ^a	.754	.760	.718	.663	.469	.472	.405	.394	.404
	IGM02	.754	.772 ^a	.778	.736	.680	.483	.487	.419	.408	.417
	IGM03	.760	.778	.785 ^a	.735	.678	.470	.469	.397	.386	.399
	IGM04	.718	.736	.735	.735 ^a	.692	.548	.579	.530	.521	.508
	IGM05	.663	.680	.678	.692	.655 ^a	.537	.575	.536	.528	.508
	IGM06	.469	.483	.470	.548	.537	.529 ^a	.601	.600	.599	.547
	IGM07	.472	.487	.469	.579	.575	.601	.695 ^a	.706	.706	.636
	IGM08	.405	.419	.397	.530	.536	.600	.706	.732 ^a	.733	.652
	IGM09	.394	.408	.386	.521	.528	.599	.706	.733	.735 ^a	.652
	IGM10	.404	.417	.399	.508	.508	.547	.636	.652	.652	.585 ^a
Residual ^b	IGM01		-.041	-.058	-.084	-.093	-.084	-.011	.061	.043	.015
	IGM02	-.041		-.063	-.048	-.104	-.063	.024	.017	.013	.041
	IGM03	-.058	-.063		-.074	-.055	-.001	-.016	.027	.030	.007
	IGM04	-.084	-.048	-.074		.000	-.017	-.037	-.032	-.010	.015
	IGM05	-.093	-.104	-.055	.000		.065	-.006	-.050	-.031	-.088
	IGM06	-.084	-.063	-.001	-.017	.065		-.012	-.108	-.115	-.117
	IGM07	-.011	.024	-.016	-.037	-.006	-.012		-.053	-.100	-.112
	IGM08	.061	.017	.027	-.032	-.050	-.108	-.053		-.044	-.093
	IGM09	.043	.013	.030	-.010	-.031	-.115	-.100	-.044		-.055
	IGM10	.015	.041	.007	.015	-.088	-.117	-.112	-.093	-.055	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 21 (46.0%) nonredundant residuals with absolute values greater than 0.05.

Source: SPSS v21 Analysis on Field Survey Data

6.6.2.9 Integrated Marketing Model for Sustainable Development

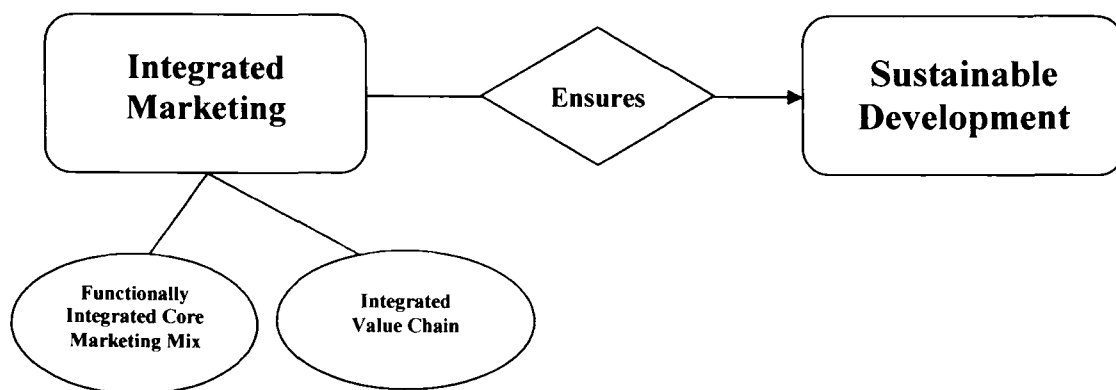


Figure 6.23: Research Model for Sustainable Development through Integrated Marketing

On the basis of the factor analysis results, a model of Integrated Marketing for Sustainable Development is proposed in the **Figure 6.23**. In the model, sustainable development is dependent variable and ‘Component 1: Functionally Integrated Core Marketing Mix’, and ‘Component 2: Integrated Value Chain’ Component’ are the independent variables.

The model has been derived on the basis of statistical evidence. Hence, it is validated. It can be further used and developed for similar other researches.

6.6.3 Correlations of Components

To determine whether the identified components are related, a simple correlation can be estimated using the component scores, the result of which is as follows:

Table 6.58: Correlations of Components

		Component 1: (Functionally Integrated Core Marketing Mix)	Component 2: (Integrated Value Chain)
Component 1: (Functionally Integrated Core Marketing Mix)	Pearson Correlation	1	.000
	Sig. (2-tailed)		1.000
	N	577	577
Component 2: (Integrated Value Chain)	Pearson Correlation	.000	1
	Sig. (2-tailed)	1.000	
	N	577	577

Source: SPSS v21 Analysis on Field Survey Data

Table 6.58 exhibits that there is no relationship between the components; which indicates that due to the use of orthogonal rotation strategy now the identified components of integrated marketing are unique.

6.6.4 Correlations of Integrated Marketing and Sustainable Development

Table 6.59: Correlations of Integrated Marketing and Sustainable Development

		Sustainable Development	Component 1: (Functionally Integrated Core Marketing Mix)	Component 2: (Integrated Value Chain)
Sustainable Development	Pearson Correlation	1	.646**	.577**
	Sig. (2-tailed)		.000	.000
	N	577	577	577
Component 1: (Functionally Integrated Core Marketing Mix)	Pearson Correlation	.646**	1	.000
	Sig. (2-tailed)	.000		1.000
	N	577	577	577
Component 2: (Integrated Value Chain)	Pearson Correlation	.577**	.000	1
	Sig. (2-tailed)	.000	1.000	
	N	577	577	577

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS v21 Analysis on Field Survey Data

A correlation coefficient measured the strength of a linear between two variables. In the present study, a correlation coefficient measured the strength of a linear between the sustainable development and two components (Functionally Integrated Core Marketing Mix and Integrated Value Chain) of integrated marketing. The correlation between sustainable development and two components is positive and is significant at the 0.01 level (2-tailed).

Table 6.59 shows the correlation between ‘sustainable development’ and ‘Functionally Integrated Core Marketing Mix’ (Component 1) is 0.646 ($p=0.000$) and the correlation between ‘sustainable development’ and ‘Integrated Value Chain’ (Component 2) is 0.577 ($p=0.000$). Therefore, the study exhibits that there seems to be a moderate correlation between integrated marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh.

Thus, the result of correlation rejects the null hypothesis (H_{0c}) that “Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1c}) that “Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.6.5 Multiple Regression Analysis

Multiple regression analysis has been used to examine whether integrated marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh or not. The dependent variable (sustainable development) has been regressed against each of the component scores (beta coefficients) of the two independent variables Component 1: Functionally Integrated Core Marketing Mix and Component 2: Integrated Value Chain derived from the factor analysis as orthogonal components.

The dependent variable, sustainable development, has been used as a surrogate indicator of respondents’ evaluation of the role of integrated marketing in assuring sustainable development of the mobile phone telecommunication industry of Bangladesh.

Sustainable Development and Integrated Marketing

The equation for sustainable development and integrated marketing is expressed in the following equation:

$$Y_{SD} = \beta_0 + B_1X_1 + B_2X_2$$

where,

Y_{SD} = Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh

β_0 = constant (coefficient of intercept)

X_1 = Functionally Integrated Core Marketing Mix

X_2 = Integrated Value Chain

B_1, \dots, B_2 = regression coefficient of Component 1 to Component 2.

Table 6.60:

Regression Results of Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh Based on the Integrated Marketing Dimensions (N=123)

Dependent Variable: Sustainable Development

Independent Variables: Two Components

Table 6.60a: Model Summary of Integrated Marketing and Sustainable Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.866 ^a	.750	.749	.39368

a. **Predictors:** (Constant), Component 2: Integrated Value Chain, Component 1: Functionally Integrated Core Marketing Mix

Source: SPSS v21 Analysis on Field Survey Data

Table 6.60b: ANOVA^a of Integrated Marketing and Sustainable Development

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
1 Regression	267.029	2	133.514	861.471	0.000 ^b
Residual	88.961	574	.155		
Total	355.990	576			

a. **Dependent Variable:** Sustainable Development

b. **Predictors:** (Constant), Component 2: Integrated Value Chain, Component 1: Functionally Integrated Core Marketing Mix

Source: SPSS v21 Analysis on Field Survey Data

Table 6.60c: Coefficients^a of Integrated Marketing and Sustainable Development

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig. (p-value)
	B	Std. Error	Beta		
(Constant)	3.132	.016		191.085	0.000
Component 1: Functionally Integrated Core Marketing Mix	.508	.016	.646	30.975	0.000
Component 2: Integrated Value Chain	.453	.016	.577	27.632	0.000

a. **Dependent Variable:** Sustainable Development

Source: SPSS v21 Analysis on Field Survey Data

Table 6.60 exhibits the results of the regression analysis. To predict the goodness-of-fit of the regression model, the Multiple Correlation Coefficient (R), Coefficient of Determination or, Square Multiple Correlation Coefficients (R₂), Adjusted R₂, F ratio and t-values with significance have been examined.

In Table 6.60a:

Firstly, the multiple correlation coefficients (R) of independent variables (two components, X_1 to X_2) on the dependent variable (Sustainable Development or, SD of the Mobile Phone Telecommunication Industry of Bangladesh, or Y_{SD}) is 0.866, which showed that Sustainable Development (SD) has positive input from the two components of Integrated Marketing. In other words, the R value 0.866 shows 86.6% multiple correlation coefficients which means that there is 86.6% correlation between the predictors or independent variables (Component 1: Functionally Integrated Core Marketing Mix and Component 2: Integrated Value Chain) and the dependent variable (Sustainable Development).

Secondly, the Square multiple correlation coefficients (R^2) is 0.750, suggesting that more than 75% of the variation or variance in the dependent variable (Sustainable Development) has been explained by the predictors or independent variables (Component 1: Functionally Integrated Core Marketing Mix and Component 2: Integrated Value Chain). This meets the assumption of non-zero variance based on the fact that the R^2 value the variance in the predictor values, which in this case is not equal to zero.

Thirdly, the adjusted R^2 value 0.749 is ideal to generalize the model well because this value is close to R^2 value with a small difference of 0.001 (0.750 - 0.749). This means that if the model were applied to the population, it would account for 0.1% less variance in outcome.

In Table 6.60b:

Firstly, the F ratio is 861.471, which is highly significant ($p < 0.001$) and this means that the model significantly improves the ability to predict the outcome variable. In this table, the p value is shown as 0.000 which is less than 0.05 indicating the model has a significant fit to the overall data.

So, the regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of Sustainable Development (SD) in relation to the two components, as measured by the above mentioned R , R^2 , Adjusted R^2 and F ratio. In other words, at least one of the two components is important in contributing to Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh.

In Table 6.60c:

The application of the b-values in the multiple regression model equation ($Y_{SD} = \beta_0 + B_1 + B_2$ Or, $= 3.132 + 0.508 + 0.453$) interprets this model to mean that for every increase of one unit in Component 1: Functionally Integrated Core Marketing Mix, assuming the effects of Component 2: Integrated Value Chain be held constant, Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh would increase by 0.508. Likewise, should the effects of Component 1: Functionally Integrated Core Marketing Mix be held constant, a single unit increase in Component 2: Integrated Value Chain would result in a 0.453 increase in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh.

Since the beta values are the standardized versions of the b-values and are directly comparable, these values may be used to infer regarding the relative importance of each predictor or component to the model. In other words, the beta coefficients could be used to

explain the relative importance of the two dimensions (independent variables) in contributing to the variance in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh (dependent variable). As far as the relative importance of the two integrated marketing dimensions is concerned, Component 1: (Functionally Integrated Core Marketing Mix, Beta=0.646, Sig.=0.000), followed by Component 2: (Integrated Value Chain, Beta=0.577, Sig.=0.000).

Again, since there are more than one predictors or components (independent variables), the magnitude of the t-value in conjunction with the significance has been considered to assess the overall contribution to the model. Based on the decision rule “the smaller the significance value and the greater the t-value, the greater the contribution of the predictor”, it is seen that Component 1: (Functionally Integrated Core Marketing Mix, $t=30.975$, Sig.=0.000) and Component 2: (Integrated Value Chain, $t=27.632$, Sig.=0.000) are both significant predictors or components of integrated marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh. In this regard, from the t-values it can be also concluded that Component 1: (Functionally Integrated Core Marketing Mix) has a greater impact on the outcome (i.e. SD) than Component 2: (Integrated Value Chain) are important in the sustainable development of the mobile telecom industry of Bangladesh.

In conclusion, it can be stated that all underlying dimensions are positive and therefore are significant. Thus, the result of multiple regression analysis rejects the null hypothesis (H_{0c}) that “Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1c}) that “Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.7. Performance Marketing and Sustainable Development

Hypothesis

H_{0d}: Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

H_{1d}: Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

6.7.1. Reliability Analysis

Table 6.61: Reliability Statistics (Performance Marketing and Sustainable Development)

Cronbach's Alpha	No. of Items
.869	21

Source: SPSS v21 Analysis on Field Survey Data

In the **Table 6.61**, the Cronbach's Alpha value of all the 16 items together is .869 which is greater than 0.7, indicating an overall higher reliability factors. Thus, it can safely be concluded by looking at **Table 6.61** that the reliability of this study is substantial in every perspective because the sample size and the data collected are reliable and also the reliability is shown to be good using all the 21 items.

6.7.2 Factor Analysis

6.7.2.1 To Formulate the Problem

i) **Objectives:** The objective of the factors analysis in this study is to determine how "Performance Marketing can ensure Sustainable Development of the Mobile Phone Telecommunication Industry of Bangladesh".

ii) Identification of Variables

Table 6.62: Identification of Variables (Performance Marketing and Sustainable Development)

Code	Variables	Code	Variables
p1	Digital Gap Minimization	p11	Recycling Program
p2	Investment on Technology	p12	Environment Friendly Services
p3	Tax and Duties	p13	Publicity on Environment Friendly Infrastructure
p4	Age & Gender-wise Services	p14	Publicity on Harmful Effects
p5	Socio-Cultural Service Packages	p15	Fair Acquisition of License
p6	Societal Welfare	p16	Information Transparency
p7	Latest Technologies	p17	Registered SIM Users
p8	Customers' Information Security	p18	Support in Legal Proceedings
p9	Transaction Updates	p19	Privacy of Customer Information
p10	Faster Communication	p20	Customer Permitted Campaign

Source: Literature Review

Based on the review of literature discussed earlier, **Table 6.62** exhibits 20 (twenty) independent variables which have been identified to conduct the factor analysis.

iii) **Sample size:** The number of valid samples for this set of variables is 577. With 577 samples and 20 variables, the ratio of cases to variables is 28.85 to 1, which exceeds the requirement for the ratio of cases to variables.

6.7.2.2 To Construct the Correlation Matrix

i) Correlation Matrix

The correlation matrix, constructed from the data obtained to understand how Performance Marketing can ensure Sustainable Development of the Mobile Phone Telecommunication Industry of Bangladesh is shown in the **Table 6.63** which exhibits sufficient coefficients above 0.3 to allow Factor Analysis. In the **Table 6.63**, there are 37 coefficients, the correlations of which are greater than 0.30 and they are highlighted in grey.

From the above correlation matrix it is also found that there are relatively high correlations between/among:

- a) p1 (Digital Gap Minimization), p2 (Investment on Technology) and p3 (Tax and Duties)
- b) p2 (Investment on Technology) and p3 (Tax and Duties)
- c) p3 (Tax and Duties), p7 (Latest Technologies), p8 (Customers' Information Security), p9 (Transaction Updates), p10 (Faster Communication), p16 (Information Transparency) and p18 (Support in Legal Proceedings)
- d) p5 (Socio-Cultural Service Packages) and p6 (Societal Welfare)
- e) p7 (Latest Technologies), p8 (Customers' Information Security), p9 (Transaction Updates) and p10 (Faster Communication)
- f) p8 (Customers' Information Security), p9 (Transaction Updates) and p10 (Faster Communication)
- g) p9 (Transaction Updates), p10 (Faster Communication) and p11 (Recycling Program)
- h) p10 (Faster Communication), p11 (Recycling Program) and p12 (Environment Friendly Services)
- i) p11 (Recycling Program) and p12 (Environment Friendly Services)
- j) p13 (Publicity on Environment Friendly Infrastructure), p14 (Publicity on Harmful Effects) and p15 (Fair Acquisition of License)
- k) p15 (Fair Acquisition of License), p16 (Information Transparency), p18 (Support in Legal Proceedings), p19 (Privacy of Customer Information) and p20 (Customer Permitted Campaign)
- l) p16 (Information Transparency), p17 (Registered SIM Users) and p18 (Support in Legal Proceedings)
- m) p17 (Registered SIM Users) and p18 (Support in Legal Proceedings)
- n) p18 (Support in Legal Proceedings) and p20 (Customer Permitted Campaign)
- o) p19 (Privacy of Customer Information) and p20 (Customer Permitted Campaign)

Table 6.63: Correlation Matrix of Performance Marketing Activities

	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11	p12	p13	p14	p15	p16	p17	p18	p19	p20		
Correlation	p1	1.000	.550	.349	.044	.084	.196	.108	.146	.167	.128	.070	.004	.167	.138	.183	.253	.178	.242	.105	.124	
	p2	.550	1.000	.506	.062	.029	.133	.171	.300	.262	.225	.109	.043	.091	.134	.137	.197	.176	.209	.086	.087	
	p3	.349	.506	1.000	.184	.160	.160	.305	.388	.372	.302	.140	.079	.090	.204	.222	.328	.298	.300	.199	.191	
	p4	.044	.062	.184	1.000	.268	.207	.146	.097	.103	.040	.193	.194	.212	.196	.261	.210	.205	.069	.262	.158	
	p5	.084	.029	.160	.268	1.000	.311	.222	.124	.171	.126	.140	.083	.268	.192	.222	.149	.208	.212	.165	.164	
	p6	.196	.133	.160	.207	.311	1.000	.177	.160	.154	.145	.132	.119	.264	.184	.220	.217	.181	.193	.194	.176	
	p7	.108	.171	.305	.146	.222	.177	1.000	.543	.497	.458	.274	.203	.130	.142	.134	.184	.183	.196	.108	.178	
	p8	.146	.300	.388	.097	.124	.160	.543	1.000	.669	.593	.267	.178	.164	.235	.164	.208	.154	.218	.150	.217	
	p9	.167	.262	.372	.103	.171	.154	.497	.669	1.000	.796	.387	.227	.158	.198	.138	.274	.257	.274	.199	.213	
	p10	.128	.225	.302	.040	.126	.145	.458	.593	.796	1.000	.501	.340	.099	.163	.047	.184	.191	.191	.093	.147	
	p11	.070	.109	.140	.193	.140	.132	.274	.267	.387	.501	1.000	.651	.177	.145	.147	.195	.191	.181	.185	.148	
	p12	.004	.043	.079	.194	.083	.119	.203	.178	.227	.340	.651	1.000	.193	.183	.104	.157	.086	.099	.167	.096	
	p13	.167	.091	.090	.212	.268	.264	.130	.164	.158	.099	.177	.193	1.000	.501	.401	.183	.241	.239	.261	.278	
	p14	.138	.134	.204	.196	.192	.184	.142	.235	.198	.163	.145	.183	.501	1.000	.410	.337	.266	.312	.353	.335	
	p15	.183	.137	.222	.261	.222	.220	.134	.164	.138	.047	.147	.104	.401	.410	1.000	.562	.489	.412	.351	.253	
	p16	.253	.197	.328	.210	.149	.217	.184	.208	.274	.184	.195	.157	.183	.337	.562	1.000	.584	.560	.294	.285	
	p17	.178	.176	.298	.205	.208	.181	.183	.154	.257	.191	.191	.086	.241	.266	.489	.584	1.000	.577	.263	.265	
	p18	.242	.209	.300	.069	.212	.193	.196	.218	.274	.191	.181	.099	.239	.312	.412	.560	.577	1.000	.252	.316	
	p19	.105	.086	.199	.262	.165	.194	.108	.150	.199	.093	.185	.167	.261	.353	.351	.294	.263	.252	1.000	.553	
	p20	.124	.087	.191	.158	.164	.176	.178	.217	.213	.147	.148	.096	.278	.335	.253	.285	.265	.316	.553	1.000	
Sig. (1-tailed)	p1		.000	.000	.145	.022	.000	.005	.000	.000	.001	.047	.462	.000	.000	.000	.000	.000	.000	.006	.001	
	p2	.000		.000	.068	.243	.001	.000	.000	.000	.000	.004	.153	.014	.001	.000	.000	.000	.000	.000	.020	.018
	p3	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.030	.015	.000	.000	.000	.000	.000	.000	.000	.000
	p4	.145	.068	.000		.000	.000	.000	.010	.007	.166	.000	.000	.000	.000	.000	.000	.000	.000	.050	.000	.000
	p5	.022	.243	.000	.000		.000	.000	.001	.000	.001	.000	.023	.000	.000	.000	.000	.000	.000	.000	.000	.000
	p6	.000	.001	.000	.000	.000		.000	.000	.000	.000	.001	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000
	p7	.005	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.001	.000	.001	.000	.000	.000	.000	.005	.000
	p8	.000	.000	.000	.010	.001	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	p9	.000	.000	.000	.007	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	p10	.001	.000	.000	.166	.001	.000	.000	.000	.000		.000	.000	.009	.000	.130	.000	.000	.000	.000	.013	.000
	p11	.047	.004	.000	.000	.000	.001	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	p12	.462	.153	.030	.000	.023	.002	.000	.000	.000	.000	.000		.000	.000	.006	.000	.020	.009	.000	.011	
	p13	.000	.014	.015	.000	.000	.000	.001	.000	.000	.009	.000	.000		.000	.000	.000	.000	.000	.000	.000	
	p14	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	
	p15	.000	.000	.000	.000	.000	.000	.001	.000	.000	.130	.000	.006	.000	.000		.000	.000	.000	.000	.000	
	p16	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	

p17	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.020	.000	.000	.000	.000	.000	.000	.000
p18	.000	.000	.000	.050	.000	.000	.000	.000	.000	.000	.000	.009	.000	.000	.000	.000	.000	.000	.000
p19	.006	.020	.000	.000	.000	.000	.005	.000	.000	.013	.000	.000	.000	.000	.000	.000	.000	.000	.000
p20	.001	.018	.000	.000	.000	.000	.000	.000	.000	.000	.000	.011	.000	.000	.000	.000	.000	.000	.000

Source: SPSS v21 Analysis on Field Survey Data

So, the highlighted coefficients in the **Table 6.63** exhibit that the above variables are correlated with each other. These variables may also be expected to correlate with the same factors.

ii) Testing the appropriateness of the Factor Model

The Bartlett Test of Sphericity and Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy were used to validate the use of factor analysis.

Table 6.64: KMO and Bartlett's Test (Performance Marketing and Sustainable Development)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.822
Approx. Chi-Square		4250.009
Bartlett's Test of Sphericity	df	190
Sig.		.000

Source: SPSS v21 Analysis on Field Survey Data

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy

Table 6.64 exhibits that the value of KMO is .822 which is ‘meritorious’ (Kaiser, 1974) suggesting the adequacy of the sample size for the factor analysis.

Bartlett's Test of Sphericity

From the results of the Bartlett's Test of Sphericity in the **Table 6.64**, it is seen that the approximate chi-square statistics is 4250.009 with 190 degrees of freedom, which is significant at the 0.05 level. Calculated value 4250.009 is greater than table value. This means that the null hypothesis that the population correlation matrix is an identity matrix, is rejected by Bartlett's test of sphericity. So, the result of Bartlett's test of sphericity is significant suggesting that the population was not an identity matrix. Therefore, the Bartlett's Test of Sphericity is significant.

6.7.2.3 To Determine the Method of Factor Analysis

i) Communalities:

The ‘Initial’ column of the **Table 6.65** exhibits that the communality for each variable, p1 to p20, is 1.0 as unites which were inserted in the diagonal of the correlation matrix. Moreover, the **Table 6.64** also exhibits that the average communality of the variables after extraction is above 0.50 except .414, .474 and .497 respectively for the variable p4, p6 and p13 which is highlighted in grey.

Table 6.65: Communalities (Performance Marketing and Sustainable Development)

	Initial	Extraction
p1	1.000	.700
p2	1.000	.776
p3	1.000	.556
p4	1.000	.414
p5	1.000	.626
p6	1.000	.474
p7	1.000	.576
p8	1.000	.719
p9	1.000	.792
p10	1.000	.782
p11	1.000	.802
p12	1.000	.813
p13	1.000	.497
p14	1.000	.512
p15	1.000	.599
p16	1.000	.724
p17	1.000	.716
p18	1.000	.650
p19	1.000	.630
p20	1.000	.653

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

ii) Initial Eigenvalues

In the **Table 6.66**, “Initial Eigenvalues” in column B exhibits the eigenvalues in its sub column entitled “Total”. The eigenvalues for the components are exhibited in decreasing order of magnitude from component 1 to component 20. The eigenvalue for a component indicates the total variance attributed to that component. The total variance accounted for by all twenty (20) components is 20.00, which is equal to the number of variables (i.e., 20). Each of the 20 variables has a sample variance in column entitled “% of Variance”, the sum of which equals the total variance in column entitled “Cumulative %”. According to the eigenvalues criterion, the exact number of components is 20 which in **Table 6.66**.

Table 6.66: Total Variance Explained (Performance Marketing and Sustainable Development)

A	B			C			D		
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.429	27.146	27.146	5.429	27.146	27.146	2.937	14.685	14.685
2	2.318	11.592	38.739	2.318	11.592	38.739	2.575	12.873	27.558
3	1.741	8.703	47.442	1.741	8.703	47.442	2.143	10.714	38.273
4	1.249	6.245	53.686	1.249	6.245	53.686	1.905	9.527	47.800
5	1.171	5.857	59.544	1.171	5.857	59.544	1.731	8.655	56.455
6	1.103	5.516	65.059	1.103	5.516	65.059	1.721	8.605	65.059
7	.959	4.794	69.853						
8	.845	4.227	74.080						
9	.691	3.456	77.535						
10	.595	2.974	80.509						
11	.575	2.875	83.384						
12	.528	2.639	86.023						
13	.488	2.438	88.461						
14	.412	2.061	90.522						
15	.407	2.035	92.558						
16	.389	1.944	94.501						
17	.337	1.683	96.184						
18	.315	1.573	97.757						
19	.281	1.406	99.163						
20	.167	.837	100.000						

Extraction Method: Principal Component Analysis.

Source: SPSS v21 Analysis on Field Survey Data

6.7.2.4 To Determine the Number of Factors

Table 6.66: Initial Eigenvalues (Column B) exhibits that:

- i) the eigenvalue greater than 1.0 (default option) results in 3 (three) components being extracted
- ii) from the cumulative percentage of variance accounted for, it is seen that the first 6 (six) components account for 65.059% of the variance, and that the gain achieved in going to seven (7) components is marginal. Thus, the 6 (six) factors appear to be reasonable in this situation.
- iii) the scree plot in the following Figure exhibits that a distinct break occurs at 7 (seven) components.

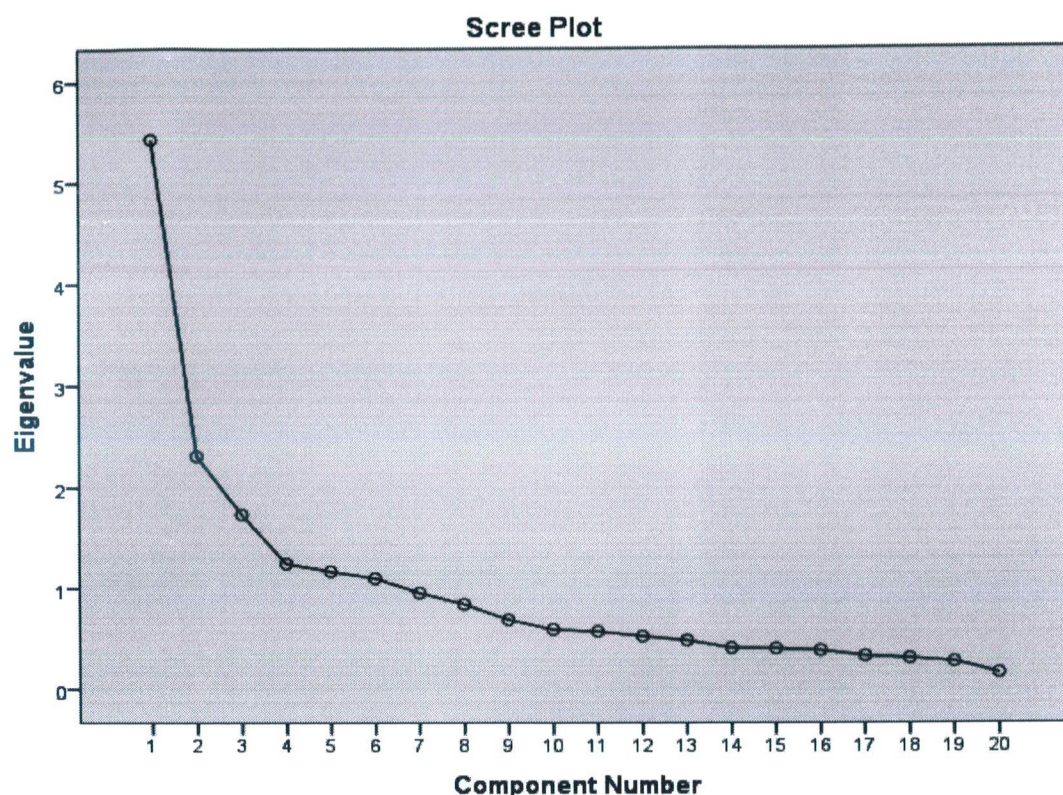


Figure 6.24: Scree Plot (Performance Marketing and Sustainable Development)
Source: SPSS v21 Analysis on Field Survey Data

The scree plots in the above **Figure 6.24** exhibits the components extracted from all independent variables used in this study. Starting with the first components, the plot slopes steeply downward initially and then slowly becomes an approximately horizontal line. The cut-off point at which the curve first begins to straighten out is considered to indicate the maximum number of factors to extract. Here, the first 6 components would qualify. As a general rule, the scree test results include at least one or sometimes two or three factors more to consider for inclusion than does the eigenvalue criterion.

As demonstrated in **Table 6.66: Initial Eigenvalues (Column B)** and supported by the scree plot in the above **Figure 6.7**; six (6) components with eigenvalues greater than 1.0 were extracted using the factor loading of 0.50 as the cut-off point. The total variance explained by each component extracted is as follows: The first principal component (component 1) accounted for 27.146% of the total variance, the second principal (component 2) component, accounted for 11.592%, the third principal (component 3) component, accounted for 8.703%, the fourth principal (component 4) component, accounted for 6.245%, the fifth principal (component 5) component, accounted for 5.857% while the sixth principal (component 6) component, accounted for 5.516%. The cumulative proportion of variance criterion, which says that the extracted components should together explain at least 60% of the variation, shows that the 6 extracted components cumulatively accounted for 65.059% of the variation in the data set. Scores are numbers that express the influence of an eigenvector on a specific sample.

Table 6.66: Extraction Sums of Squared Loadings (Column C) exhibits the variances associated with the factors that are retained. So, the other 14 variables have been dropped and the variances associated with them are also not explained here.

The percentage variance accounted for by a factor is determined by dividing the associated eigenvalue with the total number of factors (variables) and multiplying by 100 (Malhotra and Dhas, 2011: 596). Thus, the 'Component 1' accounts for a variance of 5.429, which is $(5.429/20) \times 100$ or 27.146% of the total variance. Likewise, 'Component 2' accounts for $(2.318/20) \times 100$ or, 11.592% of the total variance. Similarly, 'Component 3' accounts for $(1.741/20) \times 100$ or, 8.703% of the total variance. In the same way, 'Component 4' accounts for $(1.249/20) \times 100$ or, 6.245% of the total variance, 'Component 5' accounts for $(1.171/20) \times 100$ or, 5.857% of the total variance and 'Component 6' accounts for $(1.103/20) \times 100$ or, 5.516% of the total variance. Thus, the first 6 (six) components combined (i.e., cumulative) account for 65.059% of the total variance.

6.7.2.5 To Rotate Factors/Components

i) Factor/Component Matrix (i.e., correlation between the factors and variables)

In **Table 6.67: "Component Matrix"**, Component 1 is correlated with all the 20 variables (an absolute value of factor loading greater than 0.3). Likewise, Component 2 is at least somewhat correlated with 11 of the 20 variables. Similarly, Component 3 is at least somewhat correlated with 5 of the 20 variables. In the same way, Component 4 is at least somewhat correlated with 7 of the 20 variables, Component 5 is at least somewhat correlated with 5 of the 20 variables and Component 6 is at least somewhat correlated with 4 of the 20 variables. Moreover, variables p7, p8, p9, p10, p11, p13, p14, p15, p16 and p19 load at least somewhat on both the components 1 and 2 whereas variables p1, p2, p3, p11, p12 load at least somewhat on both the components 1 and 3. Likewise, variables p4, p5, p6, p13, p16, p17 and p18 load at least somewhat on both the components 1 and 4. In the same way, variables p1, p8, p11, p12 and p20 load at least somewhat on both the components 1 and 5 while variables p5, p6, p19 and p20 load at least somewhat on both the components 1 and 6.

The variable p11 loads commonly on both the components 2 and 3. Again, the variables p13, p16, p17 and p18 load commonly on both the components 2 and 4. In the same way, the variables p8, p11, p12 and p20 load commonly on both the components 2 and 5 while the variables p19 and p20 load commonly on both the components 2 and 6.

Similarly, the variables p1, p11 and p12 load commonly on both the components 3 and 5.

So, it is seen that the "Component Matrix" in the **Table 6.67** is not ideal option to properly interpret the components. Instead it is difficult to interpret or seldom results in components that can be interpreted.

Table 6.67: Component Matrix^a (Performance Marketing and Sustainable Development)

	Component					
	1	2	3	4	5	6
p1	.388	.047	-.568	.288	.330	.179
p2	.424	-.148	-.615	.257	.288	.218
p3	.567	-.125	-.448	.122	.049	.024
p4	.362	.198	.273	.321	.166	-.197
p5	.388	.149	.187	.385	-.100	-.510
p6	.409	.140	.064	.435	.049	-.304
p7	.530	-.418	.032	.066	-.256	-.223
p8	.604	-.496	-.081	.037	-.317	.011
p9	.662	-.541	-.015	-.095	-.225	-.030
p10	.583	-.646	.082	-.114	-.073	-.009
p11	.497	-.348	.446	-.129	.458	.094
p12	.384	-.258	.533	-.066	.533	.166
p13	.478	.312	.255	.305	-.022	.111
p14	.546	.306	.160	.106	-.127	.260
p15	.576	.483	.013	-.144	.051	-.099
p16	.641	.322	-.149	-.394	.117	-.135
p17	.604	.326	-.125	-.406	.061	-.248
p18	.611	.276	-.187	-.384	-.001	-.134
p19	.500	.323	.215	.061	-.213	.424
p20	.502	.255	.136	.019	-.374	.422

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

Source: SPSS v21 Analysis on Field Survey Data

ii) Rotation of Factors/Components

By comparing the **Table 6.66: Extraction Sums of Squared Loadings (Column C)** with the **Table 6.66: Rotation Sums of Squared Loadings (Column D)**, it is seen that:

- e) Rotation does not affect the communalities and the percentage of total variance explained.
- f) However, the percentage of variance accounted for by each factor does change.

iii) Rotated Component Matrix

Now, by comparing the **Table 6.68: Rotated Component Matrix** with the **Table 6.67: Initial or Unrotated Matrix (titled "Component Matrix")**, it is seen that how rotation achieves simplicity and enhances interpretability. From the comparison, it is seen that whereas all variables correlated with Component 1 in the unrotated matrix, only variables p7 (Latest Technologies), p8 (Customers' Information Security), p9 (Transaction Updates) and p10 (Faster Communication) correlate highly with Component 1. Likewise, p15 (Fair Acquisition of License), p16 (Information Transparency), p17 (Registered SIM Users) and p18 (Support in Legal Proceedings) correlate highly with Component 2. Similarly, p13 (Publicity on Environment Friendly Infrastructure), p14 (Publicity on Harmful Effects), p19 (Privacy of Customer Information) and p20 (Customer Permitted Campaign) correlate highly with Component 3. Again, p1 (Digital Gap Minimization), p2 (Investment on Technology)

and p3 (Tax and Duties) correlate highly with Component 4. While p4 (Age & Gender-wise Services), p5 (Socio-Cultural Service Packages) and p6 (Societal Welfare) correlate highly with Component 5. In the same way, p11 (Recycling Program) and p12 (Environment Friendly Services) correlate highly with Component 6. Furthermore, no variable commonly correlates highly with all the 6 factors. This can be clearly seen in the “Table 10: Component Loadings”.

Table 6.68: Rotated Component Matrix^a (Performance Marketing and Sustainable Development)

	Component					
	1	2	3	4	5	6
p1	.001	.128	.070	.818	.093	.011
p2	.176	.074	.032	.859	.000	.031
p3	.368	.246	.088	.583	.106	-.037
p4	-.025	.097	.167	.033	.570	.223
p5	.178	.135	.040	-.063	.753	-.062
p6	.104	.086	.100	.168	.646	.019
p7	.713	.087	.030	.032	.237	.038
p8	.809	.052	.171	.172	.054	.026
p9	.844	.155	.114	.124	.022	.164
p10	.807	.071	.019	.095	-.018	.340
p11	.296	.120	.066	.022	.084	.830
p12	.124	.029	.106	-.011	.095	.881
p13	-.003	.105	.525	.079	.428	.145
p14	.078	.224	.631	.095	.200	.095
p15	-.044	.633	.334	.081	.273	.057
p16	.102	.803	.167	.155	.076	.102
p17	.119	.818	.105	.067	.126	.044
p18	.171	.756	.173	.132	.043	.002
p19	.058	.166	.765	.034	.073	.087
p20	.183	.162	.769	.015	.001	-.045

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 7 iterations.

Source: SPSS v21 Analysis on Field Survey Data

6.7.2.6 To Interpret Factors

The rotated factor/component matrix forms the basis for interpretation of the components.

Component Loadings

In this study, loadings of 0.50 or more are considered practically significant.

In the rotated component matrix of **Table 6.68**:

i) Component 1 has high coefficients for variables: p7 (Latest Technologies), p8 (Customers' Information Security), p9 (Transaction Updates) and p10 (Faster Communication). Therefore, this component may be labeled or named as 'Technological Environment' Component. Thus,

performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by technological support.

ii) Component 2 is highly related with variables: p15 (Fair Acquisition of License), p16 (Information Transparency), p17 (Registered SIM Users) and p18 (Support in Legal Proceedings). Therefore, this component may be labeled or named as 'Legal Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through legal support.

iii) Component 3 has high coefficients for variables: p13 (Publicity on Environment Friendly Infrastructure), p14 (Publicity on Harmful Effects), p19 (Privacy of Customer Information) and p20 (Customer Permitted Campaign). Therefore, this component may be labeled or named as 'Ethical Approach' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through ethical approach.

iv) Component 4 has high coefficients for variables: p1 (Digital Gap Minimization), p2 (Investment on Technology) and p3 (Tax and Duties). Therefore, this component may be labeled or named as 'Political & Economic Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through ethical approach.

v) Component 5 is highly related with variables: p4 (Age & Gender-wise Services), p5 (Socio-Cultural Service Packages) and p6 (Societal Welfare). Therefore, this component may be labeled or named as 'Social Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through socio-cultural support.

vi) Component 6 has high coefficients for variables: p11 (Recycling Program) and p12 (Environment Friendly Services). Therefore, this component may be labeled or named as 'Prevention of Environmental Pollution' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through prevention of environmental pollution.

Table 6.69: Component Loadings (Performance Marketing and Sustainable Development)

Name of Components	Variables	Component Loading*	Eigenvalue **	Component Interpretation (% of Variance Explained)**
Component 1: Technological Environment	p7: Latest Technologies	.713	5.429	27.146
	p8: Customers' Information Security	.809		
	p9: Transaction Updates	.844		
	p10: Faster Communication	.807		
Component 2: Legal Environment	p15: Fair Acquisition of License	.633	2.318	11.592
	p16: Information Transparency	.803		
	p17: Registered SIM Users	.818		
	p18: Support in Legal Proceedings	.756		
Component 3: Ethical Approach	p13: Publicity on Environment Friendly Infrastructure	.525	1.741	8.703
	p14: Publicity on Harmful Effects	.631		
	p19: Privacy of Customer Information	.765		
	p20: Customer Permitted Campaign	.769		
Component 4: Political & Economic Environment	p1: Digital Gap Minimization	.818	1.249	6.245
	p2: Investment on Technology	.859		
	p3: Tax and Duties	.583		
Component 5: Social Environment	p4: Age & Gender wise Services	.570	1.171	5.857
	p5: Socio-Cultural Service Packages	.753		
	p6: Societal Welfare	.646		
Component 6: Prevention of Environmental Pollution	p11: Recycling Program	.830	1.103	5.516
	p12: Environment Friendly Services	.881		
Total Variance				65.059

Source: * Table 6.68, ** Table 6.66

From the above findings of this study it is evident that sustainable development of the mobile phone telecom industry of Bangladesh is ensured through Performance Marketing for six reasons namely 'Technological Environment', 'Legal Environment', 'Ethical Approach', 'Political & Economic Environment', 'Social Environment' and 'Prevention of Environmental Pollution'. Components loading of the variables and percentage (%) of variance of the components as exhibited in **Table 6.69** rejects the null hypothesis (H_{0d} : Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh) and proved the alternative hypothesis (H_{1d} : Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh). The following is a brief discussion of each component in the order of its contribution to the total variance.

Component 1: Technological Environment

It is the most important component since the eigenvalue and percentage (%) of variation explained by this component are 5.429 and 27.146 respectively. This component contains 4 (four) variables (p7, p8, p9 and p10) with component loading .713, .809, .844 and .807 respectively which are related to technological environment. The examination of the impact of performance marketing activities on sustainable development reveals that all these four variables are significant [**Table 6.69**]. Latest technologies, for example, are considered as a competitive advantage of an organization like mobile telecom service provider in rendering prompt and responsive customer oriented service. The new generation technologies like 3G,

4G, etc., are remarkable examples in this regard which have brought dramatic changes in the life style of people by replacing text based message through audio-video call. Due to the latest form of technologies many customers get interested in the mobile telecom operators which may lead such companies to greater business volume and growth. Likewise, information security of customers is also a major concern. Many customers switch to alternative service providers or organizations only because of feeling insecurity regarding their personal and transactional information. This is the reason, organizations adopt the latest technological know-how to protect and secure users information which help in retaining existing customers and attracting new ones and thus enhance sales volume, profitability and business growth. Similarly, transaction updates is now mostly favored by the customers to know the current status of the transaction. It is now a common requirement and so not a value added service. Therefore, customer driven organizations promptly update the customers about their transaction information (balance recharge or bill pay) through user friendly confirmation short message service (SMS). This feature attracts many customers to be interested for the service of the concerned organization and therefore they start availing of this service frequently which results into greater business volume and growth. Faster Communication has become an essential service provided by many organizations which is sought by the modern day customers to communicate with the peer-groups uninterruptedly. Customers favor those mobile telecom service providers which offer faster communication. Therefore, organizations like mobile telecom operators launch latest technology (e.g., 3G) based service platform to ensure faster speed of communication.

So, it has been proved through factor analysis that ‘Technological Environment’ is a significant component of performance marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

Component 2: Legal Environment

It is the second most important component since the eigenvalue and percentage (%) of variation explained by this component are 2.318 and 11.592 respectively. This component contains 4 (four) variables, namely p15, p16, p17 and p18 with component loading .633, .803, .818 and .756 respectively which are related to legal environment. The examination of the impact of performance marketing activities on sustainable development reveals that all these 4 (four) variables are significant [Table 6.69]. Fair acquisition of license by the concerned company, for example, gives itself a respectable position in the eyes of customers. It is because mobile telecom companies launch various services by acquiring permission or license of 3G, VOIP, etc., in fair and transparent way through the due legal process. This form of legal practice enables a company in the long run to grow phenomenally in market capital as well as share. Likewise, ‘information transparency’ is also a legal provision for the legal entities like private and public limited companies. Such organizations are required to audit their financial transactions or statements, approve the same in the board meeting and publicly disclose for information of the all concerned. Besides this such companies also properly inform their services and products including the terms and conditions and other features to their target customers. Being limited companies, mobile telecom service providers are also found in this group which discloses all billing information, terms and conditions to customers in advance including all charges like local and international taxes and tariffs, hidden and inter-operators charges, etc. Such approach motivates the customers to be a regular user or client of the concerned organization which is vital for its long lasting growth and higher rate of profitability. It is important for every organization to abide by the prevailing rules and regulations in the country in order to operate its business successfully. There are some organizations which need to maintain the record of the customers for public

security as per the provision of the concerned law. The users of mobile telecom are included in this kind. Hence, it is important for a legal entity like mobile telecom company to register the complete details of their all SIM users. Such law obeying business entities generally do not face any legal penalty, restrictions, etc., and grow potentially in the long run. An organization is also tremendously favored for its cooperation to the customers in the hours of their necessity. Supporting the customers by the concerned company in any legal proceedings, for example, creates a massive word of mouth which thereby creates a loyal group of customers resulting into growth in sales volume and profitability. Therefore, the mobile telecom companies provide necessary information and support to protect the customer or the affected party or victim in case of customer's request or police and legal investigation against any criminal offence. So, it has been proved through factor analysis that 'Legal Environment' is a significant component of performance marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

Component 3: Ethical Approach

This is the third most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.741 and 8.703 respectively. This component contains 4 (four) variables p13, p14, p19 and p20 with component loading .525, .631, .765 and .769 respectively have relevance to the 'Ethical Approach' of the company. The examination of the impact of performance marketing activities on sustainable development reveals that all these 4 (four) variables are significant [Table 6.69]. Being ethical is rewarding for a business entity in the long run, publicity on environment friendly infrastructure, for example, makes a fair image of an organization in the eyes of public. For this many organizations undertake mass publicity on their environment friendly product, services and initiatives for the greater welfare of the customers in particular people and the society in general. The mobile telecom companies, thus, undertake publicity about their environment friendly policies and environment compliant telecom infrastructures to prevent the environment from the adverse effect of electromagnetic radiation from the telecommunication networks. In the long run such publicity enables the concerned mobile telecom operators in getting customer acceptance which is very positive sign for their profitability and growth. Similarly, the environment friendly organizations also conduct awareness programs to protect one of the most elements of the environment i.e., human being. Such organizations also gain much acceptance from the customers through strong publicity on the harmful effects of any product or service on the customers' health and hygiene. The mobile telecom companies are also not an exception in this regard which undertake strong publicity about the harmful effects of mobile phone usage on health and children, and risks of using while driving. Such initiatives of the companies take them to a long way to the growth and profitability of their business. Criticism of a business organization for the disclosure of private and confidential information of the customers to the third parties, business rivals or in public, etc., makes a damage to the reputation of the concerned. Such approach adversely affects the bright prospect of a company even though it is dynamic in its operation. Therefore, maintaining privacy of customer information, for example, is a sensitive issue to avoid the risk of reputation for a market oriented business organization. Thus, the mobile telecom service providing companies strictly maintain confidentiality of customer information and do not share them with anyone or, for any marketing campaign unless there is any legal obligation or permission from the concerned customers. Permission marketing has become a popular aspect of modern marketing where prior permission is taken from the customers. Such form of ethical approach in marketing enables an organization to ensure maximization of customer satisfaction resulting into maximization of their purchase which is converted into greater sales volume and profitability

for the selling organization. The mobile telecom companies, therefore, take permission from customers before sending any promotional message and SMS advertisement to them.

In support to the aforesaid discussion, the **Table 6.69** proves that performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through ethical measures in providing mobile telecom service where all the identified 4 (four) variables are significant.

Component 4: Political & Economic Environment

This is the fourth most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.249 and 6.245 respectively. This component contains 3 (three) variables, (p1, p2 and p3) with component loading .818, .859 and .583 respectively have relevance to the Political & Economic Environment. The examination of the impact of performance marketing activities on sustainable development reveals that all these 3 (three) variables are significant [**Table 6.69**]. Among the three variables, the first one is related to political environment while the remaining two are related to economic environment. No proper development of any country including its people and business entities is possible without a political vision. In this regard, a vision relating to proliferation of information and communication technologies to minimize digital gap may act as a landmark for stable growth. This is because, the mobile telecom service providing company adheres to the political vision of the Government of Bangladesh known as “Digital Bangladesh” of minimizing the digital gap through its various services. Therefore, a favorable political vision of such type may be an inspiring guidance for the sustainable development of a business organization. Similarly, ‘Investment on Technology’ by the Government ensures digital connectivity all over the country which accelerates the rate of overall development. From this perspective, investment on technology by the business organization will enable the concerned entity in adding itself to the mainstream of development which is important for its own business growth. The mobile telecom companies, therefore, invest handsomely in acquiring licenses for mobile phone operating, new technologies, and building network. In the same way, economic issues like payment of taxes and duties regularly and in proper amount creates a positive image of the company to the customers, which is essential for the stable growth of the concerned. Moreover, payment of such taxes and duties increase revenue of the Government. So, without such payment no business entity can operate. The mobile telecom companies also pay handsome amount of various types of taxes and duties like income tax, value added tax, import duties, etc. Therefore, as a major economic issue such payment is directly related to the permission of commercial operation which is essential in the survival of the concerned organization.

In support to the aforesaid discussion, the **Table 6.69** proves that performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through positive influence of political & economic environmental factors where all the identified 3 (three) variables are significant.

Component 5: Social Environment

This is the fifth most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.171 and 5.857 respectively. This component contains 3 (three) variables, (p4, p5 and p6) with component loading .570, .753 and .646 respectively have relevance to the Social Environment. The examination of the impact of performance marketing activities on sustainable development reveals that all these 3 (three) variables are significant [**Table 6.69**]. This has been evident in the years of marketing

literature development that without societal welfare no holistic approach of marketing can be ensured. Since a society is the gathering of a diverse group of people with varied cultures and ethnic origins, a business organization specially needs to thoroughly segment its market so that it can take and implement necessary marketing strategies for brand and business development. In this regard, 'age and gender wise telecom services' launched by some mobile operators is remarkable. Such form of service enables a company in gaining greater market share which results into handsome profitability and market expansion. Likewise, 'Socio-Cultural Service Packages', for example, enable a business organization in attracting the customers with their balanced offer which is compatible with personal, professional, family, and social life style of customers. Such offer includes customer's culture wise benefits such as more discount and free talk time or bonus for the mobile users during varied festive occasions. Again, cheaper call rates for the corporate connection to attract a professional association or society. Similarly, 'Societal Welfare' is now officially felt as corporate social responsibility (CSR) by the leading organizations to be reputed entities in the society where they operate. In fact, now-a-days CSR is considered as a marketing strategy, too, to survive in the fiercely competitive market. Major CSR initiatives include financial help to the poor, rehabilitation of the people affected by the natural calamity or men made incidents. The mobile telecom companies, for example, have already developed good reputation for donations, sponsorship, charity, philanthropic support and commitment for the welfare of local communities, and underprivileged social groups. Thus, a society friendly positive image can be developed which is a prerequisite for sustainable development of the concerned organization. In support to the aforesaid discussion, the **Table 6.69** proves that performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through positive influence of social environmental factors where all the identified 3 (three) variables are significant.

Component 6: Prevention of Environmental Pollution

It is the sixth most important component since the eigenvalue and percentage (%) of variation explained by this component are 1.103 and 5.516 respectively. This component contains 2 (two) variables p11 and p12 with component loading .830 and .881 respectively which are related to 'Prevention of Environmental Pollution'. The examination of the impact of performance marketing activities on sustainable development reveals that both these 2 (two) variables are significant [**Table 6.69**]. In order to ensure sustainability many organizations have become concerned about the protection of environment from the severe effects of men made pollution and most often prevention measures seem to be very effective. Recycling program, for example, acts as a viable prevention method of environment pollution which ensures a stable growth of the concerned organization in the long run. The mobile telecom companies, therefore, undertake recycling program to encourage customers to dispose their mobile handsets, accessories and battery in a safe and responsible way through the recycling points in its outlets. In preventing the pollution, there are some companies which though have no direct measures or program plan, often maintain environment friendly approach. Such companies do not go for anything which is/are environmentally hazardous. It is because if an organization goes with an environment friendly approach, it can grow in terms of profits and market share as it faces neither any penalty from the law enforcing agency nor any customer dissonance. Keeping this in view, mobile telecom companies have also been found in offering mobile commuting, mobile conferencing services, etc., through which work-related travelling via vehicles and paper based wastages can be reduced which further reduce environmental pollution. Thus, in the long run a company can grow itself as a green company. So, it has been proved through factor analysis that 'Prevention of Environmental Pollution' is a

significant component of performance marketing that plays positive role in the sustainable development of the mobile telecom industry of Bangladesh.

From the above discussion, it is clearly evident that performance marketing can ensure sustainable development through the positive influence of the ‘technological environment’, ‘legal environment’ ‘ethical approach’, ‘political and economic environment’, ‘social environment’ and ‘prevention of environmental pollution’.

6.7.2.7 To Calculate Component Scores

Following interpretation, component scores can be calculated to reduce the original set of variables to a smaller set of composite variables (component) for use in subsequent multivariate analysis like correlation and multiple regression.

Table 6.70: Component Score Coefficient Matrix (Performance Marketing and Sustainable Development)

	Component					
	1	2	3	4	5	6
p1	-.126	-.058	-.012	.500	.016	.037
p2	-.049	-.084	-.018	.513	-.048	.032
p3	.073	.016	-.033	.282	.008	-.077
p4	-.085	-.050	-.024	.003	.363	.109
p5	.067	-.015	-.136	-.109	.532	-.135
p6	-.009	-.071	-.074	.061	.439	-.049
p7	.298	-.025	-.067	-.095	.132	-.116
p8	.327	-.077	.062	-.012	-.031	-.129
p9	.323	-.001	-.001	-.052	-.065	-.038
p10	.289	-.021	-.048	-.042	-.078	.098
p11	-.025	.012	-.057	-.003	-.032	.512
p12	-.104	-.037	-.010	.014	-.018	.575
p13	-.074	-.111	.241	.022	.197	.041
p14	-.033	-.046	.327	.009	-.002	.001
p15	-.094	.249	.037	-.035	.066	.001
p16	-.042	.385	-.084	-.019	-.078	.031
p17	-.013	.413	-.133	-.082	-.026	-.017
p18	.013	.362	-.061	-.041	-.092	-.048
p19	-.030	-.085	.454	-.019	-.110	-.003
p20	.055	-.081	.474	-.052	-.158	-.113

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Scores.

Source: SPSS v21 Analysis on Field Survey Data

6.7.2.8 To Determine the Model Fit

From the upper left triangle of the “Reproduced Correlations Matrix” of **Table 6.71**, it is seen that there are only 52 (27.0%) non-redundant residuals with absolute values greater than 0.05, indicating an acceptable model fit. From the above analysis, it is proved that internal marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh.

Table 6.71: Reproduced Correlations Matrix (Performance Marketing and Sustainable Development)

	p1	p2	p3	p4	p5	p6	p7	p8	p9	p10	p11	p12	p13	p14	p15	p16	p17	p18	p19	p20	
Reproduced Correlation	p1	.700*	.715	.525	.107	.037	.216	.063	.165	.134	.091	.055	.021	.156	.171	.197	.250	.179	.221	.111	.087
	p2	.715	.776*	.585	.044	-.014	.173	.162	.300	.275	.240	.108	.046	.096	.135	.122	.219	.144	.205	.079	.081
	p3	.525	.585	.556*	.101	.147	.234	.329	.430	.427	.357	.135	.033	.157	.213	.243	.345	.305	.346	.154	.186
	p4	.107	.044	.101	.414*	.428	.401	.140	.055	.066	.058	.249	.268	.377	.264	.290	.175	.178	.128	.204	.130
	p5	.037	-.014	.147	.428	.626*	.509	.314	.186	.174	.113	.081	.047	.342	.208	.288	.174	.223	.164	.111	.088
	p6	.216	.173	.234	.401	.509	.474*	.244	.170	.151	.103	.121	.102	.353	.237	.274	.173	.186	.150	.151	.112
	p7	.063	.162	.329	.140	.314	.244	.576*	.606	.634	.594	.276	.150	.132	.148	.103	.175	.192	.207	.101	.166
	p8	.165	.300	.430	.055	.186	.170	.606	.719*	.737	.684	.287	.146	.133	.212	.084	.186	.176	.232	.199	.289
	p9	.134	.275	.427	.066	.174	.151	.634	.737	.792*	.762	.417	.267	.117	.204	.125	.268	.258	.299	.183	.262
	p10	.091	.240	.357	.058	.113	.103	.594	.684	.762	.782*	.531	.401	.064	.129	.038	.191	.175	.208	.105	.160
	p11	.055	.108	.135	.249	.081	.121	.276	.287	.417	.531	.802*	.786	.204	.189	.157	.232	.188	.161	.167	.087
	p12	.021	.046	.033	.268	.047	.102	.150	.146	.267	.401	.786	.813*	.225	.185	.124	.149	.099	.066	.176	.069
	p13	.156	.096	.157	.377	.342	.353	.132	.133	.117	.064	.204	.225	.497*	.461	.373	.231	.206	.199	.465	.415
	p14	.171	.135	.213	.264	.208	.237	.148	.212	.204	.129	.189	.185	.461	.512*	.417	.333	.295	.313	.550	.533
	p15	.197	.122	.243	.290	.288	.274	.103	.084	.125	.038	.157	.124	.373	.417	.599*	.599	.590	.552	.386	.350
	p16	.250	.219	.345	.175	.174	.173	.175	.186	.268	.191	.232	.149	.231	.333	.599	.724*	.711	.678	.287	.275
	p17	.179	.144	.305	.178	.223	.186	.192	.176	.258	.175	.188	.099	.206	.295	.590	.711	.716*	.672	.238	.234
	p18	.221	.205	.346	.128	.164	.150	.207	.232	.299	.208	.161	.066	.199	.313	.552	.678	.672	.650*	.275	.288
	p19	.111	.079	.154	.204	.111	.151	.101	.199	.183	.105	.167	.176	.465	.550	.386	.287	.238	.275	.630*	.622
	p20	.087	.081	.186	.130	.088	.112	.166	.289	.262	.160	.087	.069	.415	.533	.350	.275	.234	.288	.622	.653*
Residual ^b	p1		-.165	-.176	-.063	.046	-.019	.045	-.019	.033	.037	.015	-.017	.011	-.033	-.014	.003	-.002	.020	-.005	.037
	p2	-.165		-.080	.018	.043	-.040	.009	.000	-.013	-.015	.001	-.003	-.005	-.001	.015	-.022	.032	.004	.007	.007
	p3	-.176	-.080		.083	.013	-.074	-.024	-.043	-.055	-.055	.005	.046	-.067	-.008	-.022	-.017	-.008	-.046	.045	.005
	p4	-.063	.018	.083		-.160	-.193	.005	.041	.037	-.018	-.056	-.074	-.165	-.068	-.029	.036	.027	-.059	.058	.027
	p5	.046	.043	.013	-.160		-.198	-.092	-.062	-.003	.014	.059	.036	-.075	-.016	-.066	-.025	-.015	.049	.055	.076
	p6	-.019	-.040	-.074	-.193	-.198		-.067	-.010	.003	.042	.010	.017	-.090	-.054	-.054	.044	-.005	.043	.043	.064
	p7	.045	.009	-.024	.005	-.092	-.067		-.063	-.138	-.136	-.002	.053	-.002	-.006	.031	.010	-.009	-.011	.007	.012
	p8	-.019	.000	-.043	.041	-.062	-.010	-.063		-.068	-.091	-.020	.031	.031	.022	.080	.022	-.022	-.014	-.048	-.073
	p9	.033	-.013	-.055	.037	-.003	.003	-.138	-.068		.035	-.030	-.040	.041	-.006	.013	.006	.000	-.025	.017	-.049
	p10	.037	-.015	-.055	-.018	.014	.042	-.136	-.091	.035		-.030	-.061	.035	.034	.009	-.007	.016	-.017	-.012	-.013
	p11	.015	.001	.005	-.056	.059	.010	-.002	-.020	-.030	-.030		-.135	-.027	-.044	-.010	-.037	.003	.020	.018	.061
	p12	-.017	-.003	.046	-.074	.036	.017	.053	.031	-.040	-.061	-.135		-.032	-.002	-.020	.008	-.013	.033	-.009	.027
	p13	.011	-.005	-.067	-.165	-.075	-.090	-.002	.031	.041	.035	-.027	-.032		.040	.027	-.048	.035	.040	-.204	-.137
	p14	-.033	-.001	-.008	-.068	-.016	-.054	-.006	.022	-.006	.034	-.044	-.002	.040		-.007	.004	-.028	-.001	-.198	-.198
	p15	-.014	.015	-.022	-.029	-.066	-.054	.031	.080	.013	.009	-.010	-.020	.027	-.007		-.038	-.101	-.140	-.034	-.097
	p16	.003	-.022	-.017	.036	-.025	.044	.010	.022	.006	-.007	-.037	.008	-.048	.004	-.038		-.127	-.118	.007	.009

p17	-.002	.032	-.008	.027	-.015	-.005	-.009	-.022	.000	.016	.003	-.013	.035	-.028	-.101	-.127		-.095	.025	.031
p18	.020	.004	-.046	-.059	.049	.043	-.011	-.014	-.025	-.017	.020	.033	.040	-.001	-.140	-.118	-.095		-.024	.028
p19	-.005	.007	.045	.058	.055	.043	.007	-.048	.017	-.012	.018	-.009	-.204	-.198	-.034	.007	.025	-.024		-.069
p20	.037	.007	.005	.027	.076	.064	.012	-.073	-.049	-.013	.061	.027	-.137	-.198	-.097	.009	.031	.028	-.069	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 52 (27.0%) nonredundant residuals with absolute values greater than 0.05.

Source: SPSS v21 Analysis on Field Survey Data

6.7.2.9 Performance Marketing Model for Sustainable Development

On the basis of the factor analysis, a model of Performance Marketing for Sustainable Development is proposed in the Figure 6.25. In the model, sustainable development is dependent variable and ‘Component 1: Technological Environment’, ‘Component 2: Legal Environment’ and ‘Component 3: Ethical Approach’, ‘Component 4: Political & Economic Environment’, ‘Component 5: Social Environment’ and ‘Component 6: Prevention of Environmental Pollution’ are the independent variables.

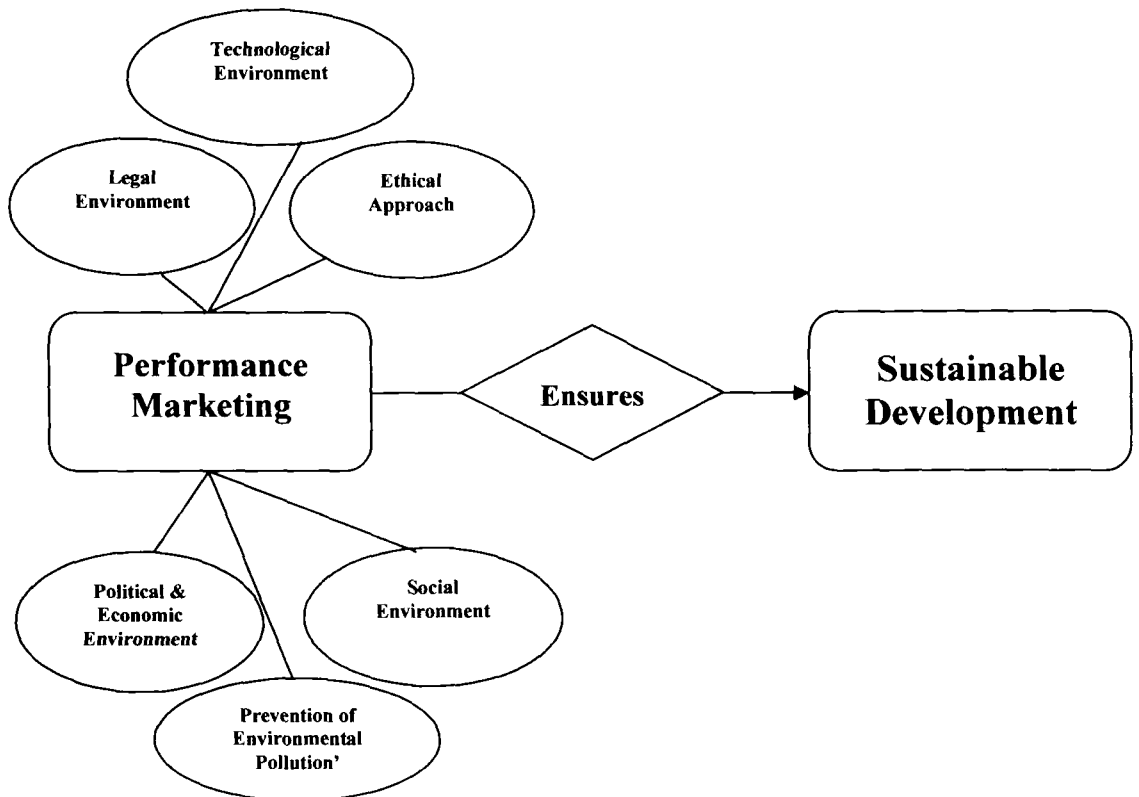


Figure 6.25: Research Model for Sustainable Development through Performance Marketing

The model has been derived on the basis of statistical evidence. Hence, it is validated. It can be further used and developed for similar other researches.

6.7.3 Correlations of Components

To determine whether the identified components are related, a simple correlation can be estimated using the component scores, the result of which is as follows:

Table 6.72: Correlations of Performance Marketing Components

	Component 1: (Technological Environment)	Component 2: (Legal Environment)	Component 3: (Ethical Approach)	Component 4: (Political & Economic Environment)	Component 5: (Social Environment)	Component 6: (Prevention of Environmental Pollution)
Component 1: (Technological Environment)	Pearson Correlation	1	.000	.000	.000	.000
	Sig. (2-tailed)		1.000	1.000	1.000	1.000
	N	577	577	577	577	577
Component 2: (Legal Environment)	Pearson Correlation	.000	1	.000	.000	.000
	Sig. (2-tailed)	1.000		1.000	1.000	1.000
	N	577	577	577	577	577
Component 3: (Ethical Approach)	Pearson Correlation	.000	.000	1	.000	.000
	Sig. (2-tailed)	1.000	1.000		1.000	1.000
	N	577	577	577	577	577
Component 4: (Political & Economic Environment)	Pearson Correlation	.000	.000	.000	1	.000
	Sig. (2-tailed)	1.000	1.000	1.000		1.000
	N	577	577	577	577	577
Component 5: (Social Environment)	Pearson Correlation	.000	.000	.000	.000	1
	Sig. (2-tailed)	1.000	1.000	1.000	1.000	
	N	577	577	577	577	577
Component 6: (Prevention of Environmental Pollution)	Pearson Correlation	.000	.000	.000	.000	.000
	Sig. (2-tailed)	1.000	1.000	1.000	1.000	1.000
	N	577	577	577	577	577

Source: SPSS v21 Analysis on Field Survey Data

Table 6.72 exhibits that there is no relationship between the components; which indicates that due to the use of orthogonal rotation strategy now the identified components of relationship marketing are unique.

6.7.4 Correlations of Performance Marketing and Sustainable Development

A correlation coefficient measured the strength of a linear between two variables. In the present study, a correlation coefficient measured the strength of a linear between the sustainable development and six components (Technological Environment, Legal Environment, Ethical Approach, Political & Economic Environment, Social Environment and Prevention of Environmental Pollution) of performance marketing. The correlation between sustainable development and six components is positive and is significant at the 0.01 level (2-tailed).

Table 6.73: Correlations of Performance Marketing and Sustainable Development

	Sustainable Development	Component 1: (Technological Environment)	Component 2: (Legal Environment)	Component 3: (Ethical Approach)	Component 4: (Political & Economic Environment)	Component 5: (Social Environment)	Component 6: (Prevention of Environmental Pollution)
Sustainable Development	Pearson Correlation	1	.486**	.406**	.442**	.150**	.124**
	Sig. (2-tailed)		.000	.000	.000	.000	.003
	N	577	577	577	577	577	577
Component 1: (Technological Environment)	Pearson Correlation	.486**	1	.000	.000	.000	.000
	Sig. (2-tailed)	.000		1.000	1.000	1.000	1.000
	N	577	577	577	577	577	577
Component 2: (Legal Environment)	Pearson Correlation	.406**	.000	1	.000	.000	.000
	Sig. (2-tailed)	.000	1.000		1.000	1.000	1.000
	N	577	577	577	577	577	577
Component 3: (Ethical Approach)	Pearson Correlation	.442**	.000	.000	1	.000	.000
	Sig. (2-tailed)	.000	1.000	1.000		1.000	1.000
	N	577	577	577	577	577	577
Component 4: (Political & Economic Environment)	Pearson Correlation	.150**	.000	.000	.000	1	.000
	Sig. (2-tailed)	.000	1.000	1.000	1.000		1.000
	N	577	577	577	577	577	577
Component 5: (Social Environment)	Pearson Correlation	.124**	.000	.000	.000	.000	1
	Sig. (2-tailed)	.003	1.000	1.000	1.000	1.000	
	N	577	577	577	577	577	577
Component 6: (Prevention of Environmental Pollution)	Pearson Correlation	.268**	.000	.000	.000	.000	.000
	Sig. (2-tailed)	.000	1.000	1.000	1.000	1.000	1.000
	N	577	577	577	577	577	577

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS v21 Analysis on Field Survey Data

Table 6.73 shows the correlation between ‘sustainable development’ and ‘Technological Environment’ (Component 1) is 0.486 ($p=0.000$); the correlation between ‘sustainable development’ and ‘Legal Environment’ (Component 2) is 0.406 ($p=0.000$); the correlation between ‘sustainable development’ and ‘Ethical Approach’ (Component 3) is 0.442 ($p=0.000$); the correlation between ‘sustainable development’ and ‘Political & Economic Environment’ (Component 4) is 0.150 ($p=0.000$); the correlation between ‘sustainable development’ and ‘Social Environment’ (Component 5) is 0.124 ($p=0.000$) and the correlation between ‘sustainable development’ and ‘Prevention of Environmental Pollution’ (Component 6) is 0.268 ($p=0.000$). Therefore, the study exhibits that there seems to be a positive correlation between performance marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh.

Thus, the result of correlation rejects the null hypothesis (H_{0d}) that “Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1d}) that “Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

6.7.5 Multiple Regression Analysis

Multiple regression analysis has been used to examine whether performance marketing can ensure sustainable development of the mobile phone telecommunication industry of Bangladesh or not. The dependent variable (sustainable development) has been regressed against each of the component scores (beta coefficients) of the six independent variables (Component 1: Technological Environment, Component 2: Legal Environment, Component 3: Ethical Approach, Component 4: Political & Economic Environment, Component 5: Social Environment and Component 6: Prevention of Environmental Pollution) derived from the factor analysis as orthogonal components. The dependent variable, sustainable development, has been used as a surrogate indicator of respondents' evaluation of the role of performance marketing in assuring sustainable development of the mobile phone telecommunication industry of Bangladesh.

Sustainable Development and Performance Marketing

The equation for sustainable development and performance marketing is expressed in the following equation:

$$Y_{SD} = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6$$

Where,

Y_{SD} = Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh

β_0 = constant (coefficient of intercept)

X_1 = Technological Environment

X_2 = Legal Environment

X_3 = Ethical Approach

X_4 = Political & Economic Environment

X_5 = Social Environment

X_6 = Prevention of Environmental Pollution

B_1, \dots, B_6 = regression coefficient of Component 1 to Component 6

Table 6.74

Regression Results of Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh Based on the Performance Marketing Dimensions (N=123)

Dependent Variable: Sustainable Development

Independent Variables: Six Components

Table 6.74a: Model Summary of Performance Marketing & Sustainable Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.840 ^a	.705	.702	.44239

a. **Predictors:** (Constant), Component 6: Prevention of Environmental Pollution, Component 5: Social Environment, Component 4: Political & Economic Environment, Component 3: Ethical Approach, Component 2: Legal Environment, Component 1: Technological Environment

Source: SPSS v21 Analysis on Field Survey Data

Table 6.74b: ANOVA^a of Performance Marketing & Sustainable Development

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	267.123	6	44.521	227.480	.000 ^b
Residual	111.556	570	.196		
Total	378.679	576			

a. **Dependent Variable:** Sustainable Development

b. **Predictors:** (Constant), Component 6: Prevention of Environmental Pollution, Component 5: Social Environment, Component 4: Political & Economic Environment, Component 3: Ethical Approach, Component 2: Legal Environment, Component 1: Technological Environment

Source: SPSS v21 Analysis on Field Survey Data

Table 6.74c: Coefficients^a of Performance Marketing & Sustainable Development

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.201	.018		173.808	.000
Component 1: Technological Environment	.394	.018	.486	21.360	.000
Component 2: Legal Environment	.329	.018	.406	17.848	.000
Component 3: Ethical Approach	.358	.018	.442	19.439	.000
Component 4: Political & Economic Environment	.122	.018	.150	6.615	.000
Component 5: Social Environment	.101	.018	.124	5.459	.000
Component 6: Prevention of Environmental Pollution	.217	.018	.268	11.776	.000

a. **Dependent Variable:** Sustainable Development

Source: SPSS v21 Analysis on Field Survey Data

Table 6.74 exhibits the results of the regression analysis. To predict the goodness-of-fit of the regression model, the Multiple Correlation Coefficient (R), Coefficient of Determination or, Square Multiple Correlation Coefficients (R^2), Adjusted R^2 , F ratio and t-values with significance have been examined.

In Table 6.74a: Model Summary of Performance Marketing & Sustainable Development:

Firstly, the multiple correlation coefficients (R) of independent variables (six components, X_1 to X_6) on the dependent variable (Sustainable Development or, SD of the Mobile Phone Telecommunication Industry of Bangladesh, or Y_{SD}) is 0.840, which showed that Sustainable Development (SD) has positive input from the six components of Performance Marketing. In other words, the R value 0.840 shows 84.0% multiple correlation coefficients which means that there is 84.0% correlation between the predictors or independent variables or, 6 components (Component 1: Technological Environment, Component 2: Legal Environment,

Component 3: Ethical Approach, Component 4: Political & Economic Environment, Component 5: Social Environment and Component 6: Prevention of Environmental Pollution) and the dependent variable (Sustainable Development).

Secondly, the Square multiple correlation coefficients (R^2) is 0.705, suggesting that more than 70.5% of the variation or variance in the dependent variable (Sustainable Development) has been explained by the predictors or independent variables or, 6 components (Component 1: Technological Environment, Component 2: Legal Environment, Component 3: Ethical Approach, Component 4: Political & Economic Environment, Component 5: Social Environment and Component 6: Prevention of Environmental Pollution). This meets the assumption of non-zero variance based on the fact that the R^2 value the variance in the predictor values, which in this case is not equal to zero.

Thirdly, the adjusted R^2 value 0.702 is ideal to generalize the model well because this value is close to R^2 value with a small difference of 0.003 (0.705 - 0.702). This means that if the model were applied to the population, it would account for 0.3% less variance in outcome.

In Table 6.74b: ANOVA^a of Performance Marketing & Sustainable Development:

Firstly, the F ratio is 227.480, which is highly significant ($p < 0.001$) and this means that the model significantly improves the ability to predict the outcome variable. In this table, the p value is shown as 0.000 which is less than 0.05 indicating the model has a significant fit to the overall data.

So, the regression model achieved a satisfactory level of goodness-of-fit in predicting the variance of Sustainable Development (SD) in relation to the six components, as measured by the above mentioned R , R^2 , Adjusted R^2 and F ratio. In other words, at least one of the six components is important in contributing to Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh.

In Table 6.74c: Coefficients^a of Performance Marketing & Sustainable Development:

The application of the b-values in the multiple regression model equation ($Y_{SD} = \beta_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6$ Or, = 3.201 + 0.394 + 0.329 + 0.358 + 0.122 + 0.101 + 0.217) interprets this model to mean that for every increase of one unit in Component 1: Technological Environment, assuming the effects of Component 2: Legal Environment, Component 3: Ethical Approach, Component 4: Political & Economic Environment, Component 5: Social Environment and Component 6: Prevention of Environmental Pollution be held constant, Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh would increase by 0.394. Likewise, for every increase of one unit in Component 2: Legal Environment, assuming the effects of Component 1: Technological Environment, Component 3: Ethical Approach, Component 4: Political & Economic Environment, Component 5: Social Environment and Component 6: Prevention of Environmental Pollution be held constant, Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh would increase by 0.329 and so on.

Since the beta values are the standardized versions of the b-values and are directly comparable, these values may be used to infer regarding the relative importance of each predictor or component to the model. In other words, the beta coefficients could be used to

explain the relative importance of the six (6) dimensions (independent variables) of performance marketing in contributing to the variance in Sustainable Development (SD) of the Mobile Phone Telecommunication Industry of Bangladesh (dependent variable). As far as the relative importance of the six (6) performance marketing dimensions is concerned, Component 1: (Technological Environment, Beta=0.486, Sig.=0.000), followed by Component 3: (Ethical Approach, Beta=0.442, Sig.=0.000), Component 2: (Legal Environment, Beta=0.406, Sig.=0.000), Component 6: (Prevention of Environmental Pollution, Beta=0.268, Sig.=0.000), Component 4: (Political & Economic Environment, Beta=0.150, Sig.=0.000) and Component 5: (Social Environment, Beta=0.124, Sig.=0.000) are all important in the sustainable development of the mobile telecom industry of Bangladesh.

Again, since there are more than one predictors or components (independent variables), the magnitude of the t-value in conjunction with the significance has been considered to assess the overall contribution to the model. Based on the decision rule “the smaller the significance value and the greater the t-value, the greater the contribution of the predictor”, it is seen that Component 1: (Technological Environment, $t=21.360$, Sig.=0.000), followed by Component 3: (Ethical Approach, $t=19.439$, Sig.=0.000), Component 2: (Legal Environment, $t=17.848$, Sig.=0.000), Component 6: (Prevention of Environmental Pollution, $t=11.776$, Sig.=0.000), Component 4: (Political & Economic Environment, $t=6.615$, Sig.=0.000) and Component 5: (Social Environment, $t=5.459$, Sig.=0.000) are all significant predictors or components of performance marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh. In this regard, from the t-values it can be also concluded that Component 1: (Technological Environment) has a greater impact on the outcome (i.e. SD) than all other components.

In conclusion, it can be stated that all underlying dimensions are positive and therefore are significant. Thus, the result of multiple regression analysis rejects the null hypothesis (H_{0d}) that “Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh” and proves or accepts the alternative hypothesis (H_{1d}) that “Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh”. So, there is a relationship as expected.

RECOMMENDATIONS

CHAPTER 7

RECOMMENDATIONS

This chapter provides a brief introduction to the proposed recommendations in the section 7.1. The, based on the components of each dimension of holistic marketing identified from the findings and analysis chapter, the recommendations have been placed to ensure sustainable development of the mobile phone telecommunication industry of Bangladesh through relationship marketing, internal marketing, prominent models of relationship & internal marketing, integrated marketing and performance marketing in the sections 7.2, 7.3, 7.4, 7.5 and 7.6 respectively.

7.1 Introduction

Based on the components of each dimension of holistic marketing identified from the findings and analysis chapter, the following recommendations may be placed so that sustainable development of the mobile phone telecommunication industry of Bangladesh can be ensured.

7.2 Effective Relationship Marketing to ensure Sustainable Development**7.2.1 Trustworthy and Committed Service**

7.2.1.1) Sincere and prompt resolution of customer complaints: Being service oriented, mobile telecom companies receive numerous inquiries and requests from customers. It is, therefore, the concerned manager(s), supervisor(s) and/or the customer service high official(s) of each customer service points and call centers of the mobile telecom companies in Bangladesh should pay more intensive attention and advice to the customers so that their complaints related to network problem, SIM blockage, SIM registration, improper listening of the ring tones or tunes (song, poem, speech, etc.) while making or receiving a call, internet browsing, post paid billing, easy load service, contract handling and amendments, etc., can immediately be resolved. In this regard, the existing customer database may effectively be utilized to preserve the decisions and procedures followed in the previous cases to resolve complaints and problems in case of future need.

7.2.1.2) Accurate and reliable billing system: Since billing is a sensitive issue, the concerned operators should take care of this issue by providing the customers an “Itemized Bill” with the call details including information such as date, time, duration and various charges like tariffs, discounts, taxes, etc. Besides this, to ensure ease in the bill payment process of the post paid package customers, the operators may continue to offer the current services like “Scratch card” to enable the customer to pay their bill at their convenience through various denominations, “Online Bill” to enable customers’ in the payment of their monthly bill at their fingertips. Such customers may also be given password through SMS to view their previous months’ bills through the internet anywhere and anytime. Customers of mobile telecom service may also be provided “E- Bill” service to enable them to get and check their monthly bill through email. In addition, the other variety of bill payment mechanisms such as payment at Customer Care Centers, Auto Debit from the customer’s designated bank account, etc., may be ensured to enable uninterrupted telecommunication of customers.

7.2.1.3) Safety, security and privacy of customer communications or transactions: The concerned companies should apply necessary security protocols and a relational database to protect the safety, security and privacy of customer communications or transactions. Apart from regular bill payment, transactions like mobile internet, mobile banking, mobile commerce, mobile shopping, etc., also require tight security to prevent the chance of fraud, errors, hacking, data corrupt, or any unauthorized use.

7.2.1.4) Quality service: The satisfaction of the customers in using service mostly depends on quality service. In case of mobile telecom it is quality service which is ensured through instant connection with the recipients to whom the call is made. But this is enhanced when network connectivity is improved in the form of coverage and frequency. In this regard, the concerned mobile telecom operators may continue their efforts on the development of network coverage and frequency by enhancing solutions to the hilly areas, high places and high rise buildings of prime locations in the major cities across the country. Moreover, to improve the network monitoring such operators also require establishing integrated and centralized Network Management Center. Besides this, on the basis of an internal study it is felt that the installation of more microwave backbones for Dhaka-Sylhet, Dhaka-Khulna and Dhaka-Bogura will improve the self-sufficiency and reliability of mobile telecom transmission. In order to provide uninterrupted but high quality call with clear voice and video signal, the companies from now may think of new technologies like 4G provided that for the concerned operator it should also be financially viable.

7.2.1.5) Polite, courteous, friendly, nice, caring and helpful services to the customer: There is a growing trend of committed approach among the mobile operators to provide total customer satisfaction. In this regard, the concerned operators should ensure development of their people, products and services of the highest quality to meet the very needs of the customers. It should also be borne in mind that the commitment of the concerned companies in meeting customer needs and statutory and regulatory requirements is/are clearly embodied in their mission statements and objectives for quality. The mission statement, policy and objectives for quality may be displayed openly as a sign of their pride and commitment, and clear reminder of their vision and direction. This information also has to be presented and continuously reinforced by management to their current and new employees in their training in order to ensure a polite, courteous, friendly, nice, caring and helpful service approach, understanding and commitment at appropriate levels within the concerned companies.

7.2.1.6) Individual attention to understand customer or customer specific needs: To know about the customer requirements and expectations and ensure continued support, the management of the operating companies may follow the STP (Segmentation, Targeting and Positioning) approach of marketing so that they can develop sound relationship to make more loyal customers, more efficiently and effectively than their counterparts. As a part of their customer related process, mobile operators may use the following methods to identify customer requirements: a) direct conversations, b) surveys, c) members of product/service development teams, d) customer satisfaction data, e) design reviews, f) market research, etc. In addition, the top management of the mobile telecom service providing companies ensures that customer needs and expectations are determined, converted to requirements, and fulfilled according to the policies such as the determination of requirements related to the product/service, review of requirements related to the product/service, customer satisfaction, monitoring and measurement of product/service performance. The top management of the companies should also ensure, through management reviews and communication with their employees, that customer satisfaction is a continuous focus of their committed efforts. In this

regard, the companies should focus that they are committed to achieving leadership in customer satisfaction by continually improving their processes, products and services to ensure they consistently exceed customers' requirements.

7.2.2 Interactive and Affordable Communication

7.2.2.1) Information about new services/products: To ensure the convenience of the customers, the Marketing, Sales, Customer Care, Call Center personnels may arrange all communications with customers through conversations (tele/direct), web sites, brochure, TVC, etc., pertaining to product/service information. In addition, the concerned operators may also send printed mail and/or e-mail notices to the corporate and retail customers regarding any update about new products/services. Thus, they may ensure accuracy, preciseness and timeliness of their information.

7.2.2.2) Responsiveness to customers: Customers often lodge complaints and make queries to collect necessary information regarding service or handset features provided by the operator, call rates and charges, billing issue, SIM registration, SIM replacement, blocking irritating calls or lost SIMs, switching procedures from one package to another, etc. But in responding to such customer queries or resolving their complaints, the management of the concerned mobile phone telecom service provider needs to ensure professionalism in every phase of its service delivery so that no customer is unnecessarily kept waiting. Instead, a positive image can be created by rendering quality service in a very prompt, responsive and courteous manner with hearty care of the well groomed employee.

7.2.2.3) Adequate number of customer service centers/points: There are many customers who feel discomfort in contacting call centre as such contact seems to be bit difficult to them. Again, there are some customers who give priority in face to face contact in resolving their service related problems. For both of them, physical visit to the Customer Service Centre may be a feasible solution. This is why, to provide instant support and assistance to such customers, each of the mobile telecom service providers should have a very good number of customer service centers and points all over the country. In addition, toll free dedicated Helpline numbers have to be provided by the competent customer service staffs to guide the customers through the services to ensure that their needs are met.

7.2.2.4) Round The Clock (24/7) Service: The customer service through call center needs to be 24 hours a day, 7 days a week and 365 days a year so that a customer can be provided round the clock service to call at anytime to make their queries or resolve any complaint or service related problem. Each of the call has to be considered with high priority and for future course of actions such voice call has to be recorded and maintained into the database so that whenever a technical service is required, the recorded file may be transferred to the logistics unit of customer service which can ensure correction without wasting time for listening to the customer's problem. Thus, both customer's and call centre's time may be saved.

7.2.2.5) Attractive Call Rates and Charges: To survive in the hyper competitive mobile telecom industry, the operators may keep their call rates attractive by pursuing the present cost strategies like service package specific call rates, second-wise pulse, etc., in every service package.

7.2.3 Caring and Customized Value Proposition

7.2.3.1) Attractive rewards: Under this scheme, heavy users of various mobile telecom services may be offered some 'Scoring Points' after a certain limit of their usage and based on that a particular percentage of reward discount may be offered at many reward partners' outlets including restaurants, hotels, home décors, car décors, medical services, fitness clubs, fashion houses, beauty parlor, entertainment places, mega shops, technological supports, transport facilities, etc., available almost everywhere in Bangladesh. The hotels, fast food shops, restaurants, fashion houses, beauty parlors, fitness centers, furniture, mega shops, hospitals and medical stores, etc., may also be brought under reward partnership program through some contractual bindings. The mobile telecom operators may also offer attractive loyalty/promotional rewards and gift items like free SMS, emergency balance, best customer award, benefits like free talk time for reactivation of unused SIM, printed catalogs, diaries, colorful, mug, tea shirts, punjabis, etc. A number of events like EID Reunion, Customer Service Day with lottery/super draw and attractive prizes, etc., may also be organized.

7.2.3.2) Greeting customers: To motivate mobile users, the concerned operator(s) may greet their customers by sending "Thank you" letters and "Emails" for their loyalty or regular usage, sometimes on the eve of any festive occasion, customer's birthday, etc.

7.2.3.3) Advising customers: In the present cell phone based telecom market of high competition in Bangladesh, it is important to launch well planned customer advisory services which can make balance between promise and performance of particular service(s). This is because the concerned officials of such service must restrain themselves from overpromising in their advertisement, personal selling and through physical evidence cues. In fact, they should advise and promise to customers what is possible and change advertisement message with the redesigning and development of new services.

7.2.3.4) Customized Services: Customers cannot be retained if they are not loyal and loyal customers cannot be developed if they lack proper knowledge about the company products and services, which may influence the satisfaction level of the customers. This is because the concerned brand at different levels of its corporate and retail sales may take initiative of providing customized services rather than the general offers, usage benefits, etc. Such services may be provided based on the specific requirements of customers.

7.3 Effective Internal Marketing to Ensure Sustainable Development

7.3.1 Employee Training and Motivation

7.3.1.1) Employee welfare for good working environment and job security with work/life balance: In order to retain the loyal and competent employees various welfare measures including provision of provident fund, gratuity, insurance coverage, housing facilities or house rent, health, hygiene and family care benefits, cafeteria with multi-cuisine food, various types of leave including sick leave, casual leave, earned leave, maternity leave, etc., may be taken by the concerned mobile telecom operators. Thus, good working environment and job security of the employees with perfect balance between work and family life may also be ensured which encourage them to serve with dedication and creative contribution being free from anxiety.

7.3.1.2) Employees are resources: There are various types of employees in each mobile telecom company. Among them some are “Customer Care Service Specialists” who competently resolve customer queries and provide administrative support & alternative solutions (e.g., filing, reporting) to the department, “Network and Telecom Engineers” who support the customers and internal staffs with effective phone system/voicemail management, operational telecommunications network support, “Value Added Service (VAS) Team” who enhance(s) employee orientation and pleasant customer experience through innovative communication plans and emerging technologies, “**Documentation Management Team**” who adhere to strict compliance through regular follow up of channel members and sales team, reduction in non compliance cases and monitoring the timely completion of audit, data entry, scanning, upload and dispatch; “Billing Delivery Team” who assist both the sales and customer service team in timely bill preparation, sending through SMS or email, or, printing and dispatch, alignment of the courier and postal agency to ensure timely bill delivery, monitor and audit the performance of the concerned agency, plan campaign for e-bill promotion, etc.; “Human Resource Management (HRM) team” who enable service quality improvement through selection, training and development, performance appraisal, promotion, financial and non financial benefits and rewards, policy supports, etc.; “Sales Team” who aim to increase customer and revenue market share through customer and employee driven relationship marketing, new leads from existing subscribers, cross-selling and up-selling, etc.; “Marketing Management Team” who increase the service mindset of the employees and customers satisfaction level through the integrated 7Ps marketing planning and strategies; “Financial Management Team” who provide necessary supports including short, mid and long term financing as per budget requirements of the unit so that all internal and external expenditures can be met. All these and many other such employees play very important role by contributing their valued opinions, and extending their efficient service. So, the capabilities of such resourceful employees may be properly utilized by the mobile telecom companies in Bangladesh.

7.3.1.3) Training and Development: Training of various types such as ‘on the job’ and ‘off the job’ training, etc., have to be organized to effectively communicate the vision and mission of such companies to develop result oriented employees. Since there are a good number of diversified services namely mobile telephony, mobile internet, mobile conferencing, mobile banking, mobile commerce, etc., a handsome budget amount has to be allocated and necessary measures with logistic support have to be provided to train the employees of the concerned mobile telecom employees with technical knowhow. Besides this, training on customer service and communication & soft skill development, brand management, database management, human resource management, difficult customer management, stress management and positive attitude development, etc., also has/have to be provided. Moreover, being telecom technology oriented company, the mobile operators should invest handsomely to improve “E-culture” within their work environment through automation by the installation of broadband and WiFi networking devices and various software packages to handle complex internal business processes. Thus, the concerned company may enhance the productivity and development of their employees.

7.3.1.4) Good Communication at all levels of management: Effective communication through a cultured, cordial, polite, positive, proactive, precise, relevant, acceptable, written and voiced communication may reduce confusions, manipulations and misunderstandings in one hand and develop a healthy relationship with the employees of mobile telecom through transparent, happy and satisfactory environment on the other hand. In this regard, the

following communication tools may be utilized by the concerned mobile telecom companies to increase employee loyalty and commitment:

7.3.1.4.1 Email: Besides the Official report, letters and performance appraisal forms by HR Department, Email as the cheapest, fastest and effective way may be used to reach the target group with an email account. Now-a-days it is also becoming very popular as common tool of internal marketing communication. By containing attached files, newsletters, updated information, etc., an email is an efficient way to contact every employee within the organization even without leaving their own seat. Further, because of the widest uses of mobile for instant and on the move uninterrupted communication employees choose email as it allows them to collaborate among themselves, give access to resources on the organization's intranet, send links to resources using 'really simple syndication' (RSS) feeds, etc.

7.3.1.4.2 E-Communication including telephones, mobiles, PCs, web sites, knowledge networks, e-learning, etc., may be used utilized for internally effective communication.

7.3.1.4.3 Intranet may extensively be used to connect almost instantly to any employee within an organization irrespective of their geographical presence through electronically held information such as reports, letters and other official document attachments with high confidentiality. Intranet as an information system includes the name, email address and other details of the employees and hence anyone whose name is recorded within organizational database can be connected with name only instead of putting his/her whole email address in sending messages.

7.3.1.4.4 Blogs may be a convenient and very effective platform for mobile operating company to enable an open discussion by allowing its employees to post their views and opinions. Being an online diary it may include the content such as graphics, pictures, sound and video clip, links to various web resources, and the other relevant topics under discussion about company posted by the employees which engage the readers by alluring them to make comments, contribute with new and innovative ideas in one hand and enable the R&D professionals to monitor the progress of their project. Such blogs may also be advantageous to make the company news, audit notes, any new development (e.g., new accounting standards), message from the CEO or Directors or other high officials, knowledge networking available to the all concerned (David and Neil, 2008).

7.3.1.4.5 Wikis being a relational database management system include(s) all similar contents, resources, and links of a common theme in a very professional and elaborate manner. Wikis are of various types namely i) internal control and compliance wikis which records policy and compliance related data; ii) project team wikis that records views and experiences of project team members; iii) year-end wikis that records all the audit reports, agenda, meetings and their minutes, and the likes; iv) technical issues wikis that preserves information on tax, security, enterprise resource planning data, etc. Hence, being database such wikis may be used as the store house of necessary internal information that encourages knowledge sharing (David and Neil, 2008).

7.3.1.4.6 Web conferencing as a rigorously developed innovative tool of Information & Communication Technology (ICT) allows both audio and video conferencing, training programs, forecasting and reviews, interviewing, board meeting, product launching, presentation and document sharing, file transfer, web browser and database sharing, etc..

Thus, multiple users from employee groups may simultaneously access to the internal environment from multiple locations. Though initially it was costlier, with the advent of free web conferencing tools like Skype, Google Talk, Time Viewer, etc., it has now become very cost effective to communicate internally within organization and its branches or subsidiaries scattered at different locations.

7.3.1.4.7 Short Message Service (SMS) as a very convenient and interactive tool of internal marketing communication enables the employees to contact with one another at very low cost with instant delivery and confirmation features. Thus, employees may be updated instantly by the concerned regarding information related to market research, branding, etc.

7.3.1.4.8 Meetings of various types may allow employees to proactively interact, contribute their creative ideas, resolve unsettled issues and implement development programs.

7.3.1.4.9 Job Entry and Exit interview may enable the concerned operator to attract and retain the resourceful employees with exclusive agreement

7.3.1.5) Strengthening HRM Policy with Performance based Pay: Since the resourceful employees are the assets or competitive advantages of an organization for their commitment, efficiency, skill and expertise, a good Human Resource Management (HRM) policy with performance based pay has to be strengthened as a tool of internal marketing so that they can be retained with due rewards and necessary motivation.

7.3.1.6) Rewards and Recognition: To ensure a friendly and satisfactory working environment for the employees, the mobile telecom companies may provide financial benefits such as handsome salary, performance bonuses, allowances, commissions on sales target achievement, company shares or stocks, etc., and non-financial benefits or, fringe benefits such as vacation, sick leave, medical plan and retirement benefits, sponsoring in their higher studies, world-class fitness center and spa facility in office, grocery shopping center, sabbatical policy to allow 6 months personal leave and up to 1 year for higher education, day care center facility to support working parents, positive organizational culture, opportunities for training and development, etc. Besides this, recognition and rewards such as acknowledgement of employees' valuable contributions through appreciation, well equipped office with separate desk and/or room and other logistic support, promotions, new responsibilities through defined job description, etc., may also be pursued to encourage the employees. Strict compliance to ensure discrimination free equal employment opportunity may also be value added recognition of employment in such companies.

7.3.1.7) Provision for career progression: To retain resourceful, experienced and best performing deserving employees, sufficient provisions for their future career progression shall have to be ensured with all necessary facilities. In this regard, job rotations and promotions in/to different positions may motivate them and thereby develop a good relationship with them.

7.3.2 Secured, Enjoyable and Balanced Work/Life for All

7.3.2.1) Good workplace: An organization whether it is product or service based cannot sustainably develop its business until and unless it can provide a good workplace to its employees. It is because a good workplace is the determining factor of employee's satisfaction and thereby retention of them. This has already been proved in case of the mobile

telecom industry of Bangladesh through statistical evidence. Hence, the concerned mobile telecom service provider needs to adhere to ensure a good workplace where a healthy working environment will prevail. This can be ensured by keeping the place clean and hygienic, safe with all logistic and management support, free from smoking, pollution, negative reaction, chaos, stress and conflict. Besides these, productive, flexible and live work environment with freedom of work or job autonomy also have to be ensured to maintain a good workplace for the employees.

7.3.2.2) Balanced Work/Life: No business can sustain without healthy workforce. A sound physical as well as psychological health is a precondition for effective and efficient engagement of an employee in his/her job. But an employee with an imbalance between his/her professional work and personal life can neither become an effective nor an efficient service provider for his/her employer. This is because the concerned mobile telecom service provider should emphasize on a balanced work/life for its each employee so that the latter can serve the customers with positive mood, attitudes, emotions, etc., which may further enhance the skills, self efficacy, etc., of the concerned. To ensure a good balance between the professional work assignments and personal lives of the employees, duty roasters, weekly off-day, office timings, etc., may be scheduled with as much flexibility as possible. Weekly two holidays, finalizing duty roasters for additional assignments with one week ahead, schedule may be effective in assuring satisfactory balance between the work and personal life of its employees so that they can proactively serve the customers.

7.3.2.3) Recreation facilities: Recreation and relaxation facilities such as organizing sports day, celebration of religious events, entertainment, annual cultural and sports functions and picnic, product launch parties, holiday parties, birthday parties, christmas parties, new year parties, lunch/dinner parties, inter-departmental get together, award ceremonies to acknowledge the top performers and loyal employees, etc., may motivate the employees, increase intimacy between the concerned company, and the employees and strengthen their bonding further.

7.3.2.4) Equal Employment Opportunity (EEO): Since effective and successful sustainable development of the mobile telecom service providers greatly depends on employees, they should not in any way be discriminated in the workplace. Instead, all sorts of efforts have to be endeavored to ensure EEO by providing fair pay, sufficient leave, etc., through standard policy for all. In this regard, the concerned mobile operator must take all necessary measures to ensure equity in recruitment and selection, training and development, placement, promotion, annual increment, etc., based on merit and ability of performance so that the concerned employees can engage themselves to the true and lasting development with their all dedication.

7.3.2.5) Well defined Job Description: For the sustainable development of a service based organization like mobile telecom, work spirit of the individual employees as well as team is very important. To enhance this spirit, reward and recognition have to be linked with employees and their team performance, duties and responsibilities have to be delegated with necessary authority so that the concerned can play their roles with due diligence. The mobile telecom service provider(s) can do the same by assigning a well defined job description to their each employee which may ensure(s) good corporate governance through desired corporate culture and empowered employees.

7.3.3 Participative Management and Logistic Support

7.3.3.1) Dynamic, non-bureaucratic and participative decision making: By sitting and discussing with the employees where a wrong is going on may be identified and a correction may also be done. In this regard, necessary adjustments and compromise may be done to convince the said resourceful employees. In this regard, a committed team can be developed to listen to the employees' opinions, feedback, suggestions, etc., to identify shortcomings in the current facilities and make necessary adjustments to fulfill requirements and expectations. This helps in assigning (i.e., not imposing) responsibilities and delegating decision making authority to the deserving employees. Thus, they feel important and indispensable for the company, get encouraged to share their work with each other, tend to talk and discuss things more among themselves and increase their comfort level through effective decision.

7.3.3.2) Logistic Support: Serving customers of a dynamic organization like mobile telecom is really a challenging job. In a competitive environment like Bangladesh, it is more challenging to satisfy diverse group of customers with varied demand for telecom service. Hence, each employee should be properly assisted with various types of logistic support like computer/laptop, cell phone, internet connectivity, vehicle, furnished office, etc., so that they can properly serve the communication requirements of the customers and thereby contribute in the sustainable development of the mobile telecom service provider in particular and the concerned industry in general.

7.3.3.3) Positive Interpersonal Relationship: Since the mobile telecom service providers employ people of multi-cultural and multi-educational background like local and expatriates, engineers, consultants, administrative personnel, etc., developing and maintaining positive interpersonal relationship among them is very important for the sustainable development of their business. Therefore, each mobile telecom company should give emphasis on developing and enhancing excellent relationship among the superiors, subordinates and colleagues at all levels and departments within their workplace. In this regard, regular meeting, lunch at a common place, tea break, etc., may be introduced. Moreover, each employee's terminal may be connected to his/her superior, subordinate or coworker through local area network, intranet, etc., so that uninterrupted communication can be ensured.

7.4 Adoption of prominent models of Relationship & Internal Marketing

Since sustainable development of the business depends on the maximization of profitability, customer satisfaction, quality, employee satisfaction, etc., the mobile telecom service providing companies in Bangladesh should give emphasis on the adoption of the 'Service Profit Cycle' model proposed by Reichheld and Sasser (1990) and the Service Profit Chain (SPC) model proposed by Heskett et al. (1994) in their business process.

7.4.1 Reichheld's Service Profit Cycle model

This model may be effectively used by the mobile telecom service providing companies in:

- achieving profitable growth, satisfaction of customers is needed.
- ensuring customers satisfaction, better quality service needs to be rendered.
- rendering better quality service, loyal employees may be engaged.
- creating loyal employees, heavy investment is required on employee recruitment, training, development, recognition and rewards.

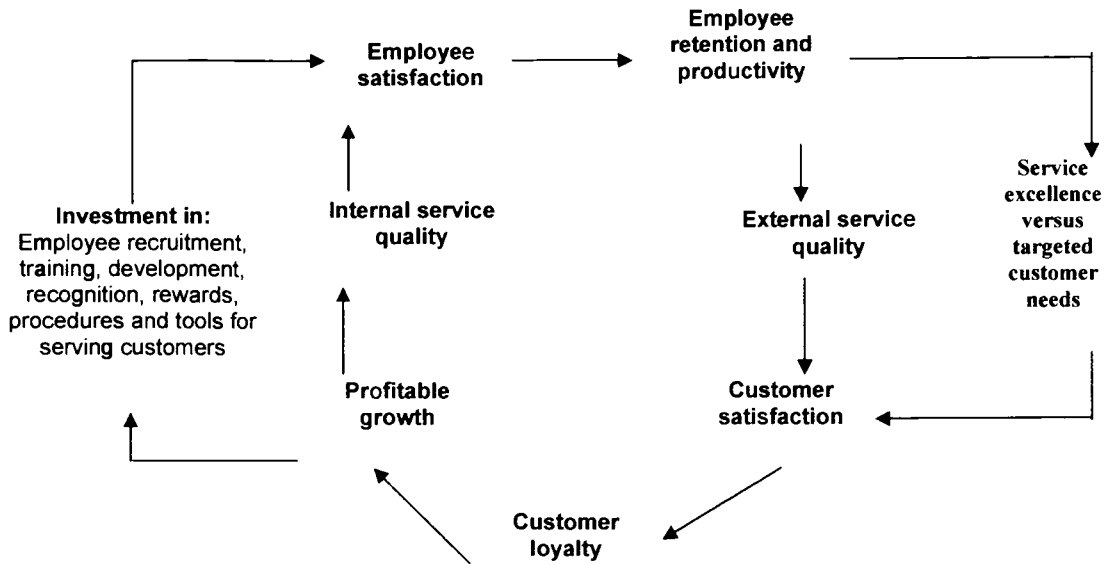


Figure 7.1: Reichheld's Service Profit Cycle model (Source: Reichheld and Sasser, 1990)

The Service Profit Cycle in the above **Figure 7.1** may enable the mobile telecom service providing companies in Bangladesh to ensure their sustainable development through the following procedure:

- the company invests in the selection, training, development and rewarding the productive employees to retain them
- the satisfied employees happily serve excellence so that no defect exists
- thus, customers become happy and regularly use Airtel service and make the company profitable and
- thus, satisfied shareholders reinvest on employee development and satisfaction and the cycle begins again

The model may be recommended for the concerned companies to ensure sustainable development by making investment on employee welfare and loyalty to reduce their defects and improve quality and thus, maximize customers' satisfaction for better relationship and greater sales leading to the rise in profit.

7.4.2 Service Profit Chain (SPC) model

The Service Profit Chain model of relationship marketing may be effectively used by the mobile telecom service providing companies as a framework for linking service operations to customer's assessments and in turn linking those customers' assessments to the organization's bottom line – profitability in most cases (Heskett et al., 1994). In this model, it was hypothesized that revenues are driven by service quality perceptions, which in turn are driven by operational inputs and employee efforts (Heskett et al., 1994). In the model, all links are interrelated and therefore independent. The links in the chain are to be seen as sequential: each component of the SPC is influenced primarily by the previous component in the chain (Harris, Neil and Julia, 2008).

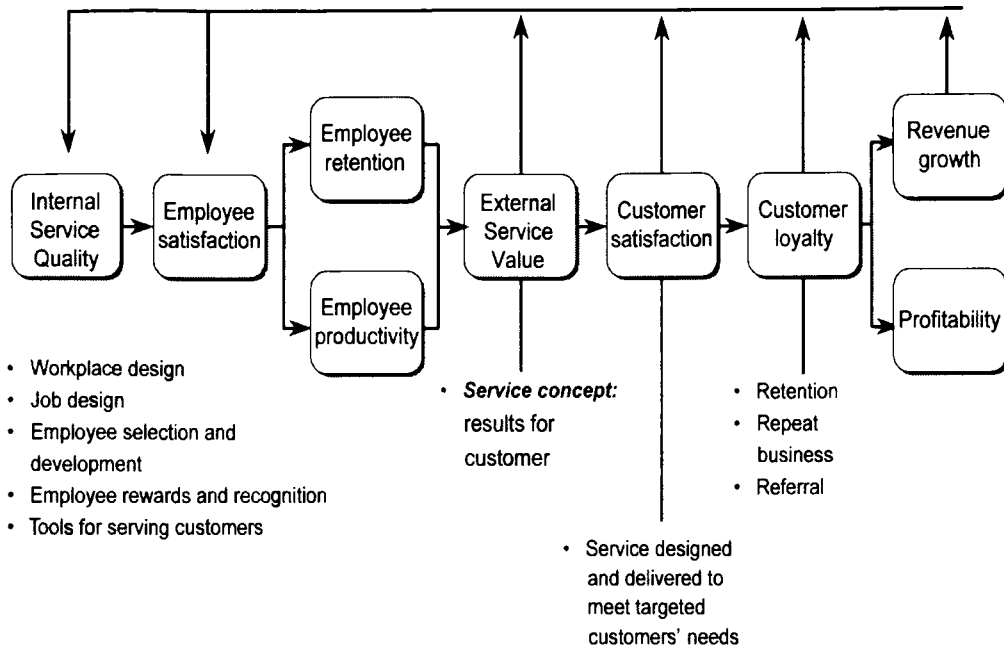


Figure 7.2: The Service Profit Chain (Source: Heskett et al., 1994)

The links are as follows:

- Profit and growth are stimulated primarily by customer loyalty.
- Loyalty is a direct result of customer satisfaction.
- Satisfaction is largely influenced by the value of services provided to customers.
- Value is created by satisfied, loyal, and productive employees.
- Employee satisfaction, in turn, results primarily from high-quality support services and policies that enable employees to deliver results to customers.

The first link of the SPC in the above **Figure 7.2** is viewed as the starting point which constitutes the internal service quality. Then, keeping this in priority the main focus is solely kept on employee satisfaction which, in turn has a direct influence on employee retention and productivity (Harris, Neil and Julia, 2008). At this point, the productive and loyal employees engage themselves in enhancing service value to the external customers which, in turn has a direct influence on customer satisfaction and loyalty leading to revenue growth and profitability.

Investments in operational inputs (i.e. investments in telecom technology, additional customer care units and/or call centers for service delivery, etc.) may improve the way mobile telecom services are rendered. As a useful circular framework SPC may help organizations like the mobile telecom service providing companies in Bangladesh in improving their operational infrastructure, customer perceptions, and the bottom line (Kamakura et al., 2002). Thus, their operational investments in service quality are linked to customer perceptions and behaviors, resulting into profits.

The adoption of the Service Profit Chain model may be recommended for the concerned companies in this study because this model emphasizes on hiring of employees with right attitude and links pay and other motivational incentives with

their performance to ensure their satisfaction, loyalty and productivity. So, the application of this model on the said companies is justified to build customer satisfaction and loyalty through satisfied employees to achieve ultimate goals of profit and growth and successful company management.

7.5 Effective Integrated Marketing to Ensure Sustainable Development

7.5.1 Functionally Integrated Core Marketing Mix

7.5.1.1) Functional Integration: Effective delivery of mobile telecom service depends on the integrated contribution and assistance of the specialists from the various departments of the concerned operator. In this regard, cross-functional team may be developed with the specialists from the departments like Customer Service, Network and Telecom Engineering, Value Added Service (VAS), **Documentation Management**, Billing Delivery, Human Resource Management (HRM), Sales, Marketing, Finance, etc., so that any technical or business process related problem can be resolved and necessary services can be rendered at ease, high speed and with zero defect and care.

7.5.1.2) Integrated Services/Products: Since mobile operators have already launched segment wise unique service packages, some of such services may be incorporated together in the form of combo or integrated offer to further their business. This in one hand will position the package among the users of multi services to serve their very purpose while the other users who want individual package of unique service would be happy with such current service offer. In this regard, the concerned mobile operators may launch combo package of all services such as basic mobile telephony (e.g., conversation, instant messaging), mobile internet (e.g., web access, emails, chat), mobile commerce (e.g., hotel and travel ticket booking, stock trading, shopping), mobile banking, location finding through Quick Response (QR) codes, etc., through the same connection of one single SIM. Besides this, compatible handset with all latest technological support and facilities may also be included in this package.

7.5.1.3) Integrated Pricing: Currently there are unique call rates for individual service packages. But for the above recommended package an integrated but affordable price (e.g., flat rate at peak and off peak hours, free call to the users of the same operators' numbers) may be fixed as part of special benefit offer. In addition to this, the currently prevailing varied country specific international call rates may be brought to a common or lump sum but affordable charge so that volume of users' communication activities can substantially be increased resulting into greater amount of revenue for the operating company.

7.5.1.4) Integrated Marketing Communication (IMC): Integrated promotional campaigns through all forms of communication tools such as:

7.5.1.4.1 Advertising via television, radio, mobile SMS, mobile Apps, newspaper, magazine, poster, banner, social media, etc., has to be undertaken to create mass awareness of mobile telecom service. In launching an advertising campaign through electronic media the detailed schedule with sufficient budget allocation has to be ensured so that maximum television and radio channels with their popular programs may be utilized. Similarly newspapers, tabloids, specialty magazines with their prominent pages, supplementaries, special editions, etc., have to be covered. The extensive use of SMS advertising may also have to be effectively conducted to reach the target users directly with more personalized message. The celebrity

endorsement for the service package may also be very effective for of promotion for the mobile operators. In this regard, popular celebrities with fair image and pleasing personalities may be hired as advertising model or opinion leader such as brand ambassador to endorse or recommend the service package of the concerned mobile operator.

7.5.1.4.2 Sales promotion (SP) measures for customers such as gift items, free offers such as free talk time, free SMS, emergency balance, etc., and handsome commission and allowances for the distributors, sales personnel, advertisement support to the middlemen, risk coverage or replacement of the damaged SIM, etc., have to be continued with more facilitative approach so that brand switching may be reduced and usage quantity may be increased through the enhancement of brand loyalty among the current users.

Segment-wise marketing also have to be pursued through **personal selling and direct marketing** campaigns including visit by the sales teams to the campuses of academic institutions to approach students and teachers, employees at workplace of varied organizations like garments factories, banks, clinics, tourism and travel agencies, etc.; people at railway stations, bus stops, restaurants, park, museums, markets, etc., wherever there is big gathering of mass people. In this regard,

- 1) the sales teams of the mobile operator may set up some stalls in each of the college and university campus to organize a daylong or weeklong marketing campaign to attract the students, teachers and staffs by offering special rates and benefits such as Free SIM.
- 2) the stalls have to be decorated by the professional designers with colorful festoon, and attractive furniture.
- 3) selective handsome male and beautiful female students of the college and university have to be assigned as company representatives with necessary training, pay and rewards. Thus, the students are motivated to organize presentation ceremony on the various mobile telecom services of the concerned operator, demonstration of uses and benefits.
- 4) common as well as individual interactive customer query and service sessions have to be organized in which various service packages, their detailed features and benefits have to be visually highlighted. The advertisements of their services which are telecasted through TV, You Tube, etc., also have to be displayed through multimedia projector.
- 5) an IQ test on mobile telecom service packages may also be organized after the demonstration and display. Finally, the winners have to be awarded with memento and certificates from the company.

It is expected that a daylong or weeklong marketing campaign of such kind may bring the following outcome:

- 1) increased rate of queries, calls, participation, etc., by the current and prospective individual users. It is because in such campaign, individual users like students, teachers, and staffs of the colleges or universities may know in detail regarding the various packages and

their suitability like call rate, talk time, free SMS quantity, emergency balance feature, intra and inter operator call rate, etc.

- 2) attract mass gathering and participation in the service presentation session. An effective presentation may encourage many to take a new mobile telecom connection or add new features in their current or old connection. Satisfied users also convey the message and learning through positive word of mouth. Thus, many individual users may be assisted in their buying decision.

Together with the above, the other promotional campaigns such as *publicity* (e.g., press conference, retailers conference, press release), *public relations* (e.g., event marketing), *sponsorship* (e.g., sponsoring academic, corporate, festive, national and social events), *participation in trade fairs*, etc., also have to be undertaken on regular basis to ensure mass marketing.

7.5.1.5) Place/Forward Integration: The customer service centers and distributors which/who are scattered all over the country play the role of forwarding or delivering the service. They all have to be brought under an integrated system so that from their respective locations they can satisfactorily and uninterruptedly serve the local customers with the same level of mobile telecom service standard. In this regard, various services like SIM registration, mobile banking, mobile telephony, mobile internet problem resolution, etc., have to be ensured with the same level of efficiency and support from any of these points.

7.5.2 Integrated Value Chain

7.5.2.1) Integrated team commitment of key People: Since there is acute competition in the mobile telecom industry of Bangladesh, there is no alternative to customer service orientation for the survival of a mobile operator. Towards this end, an integrated approach of marketing among the key people representing employees, investors, media and distributors is essential so that the joint effort of these stakeholders can ensure maximum customer satisfaction. In this regard, rewarding benefits for the performance excellence of the employees and distributors, important contractual terms and conditions for the investors to prioritize their investment on the state of the art technology and extensive use of media may be emphasized so that everyone may be engaged with a common and unified objective to think about customers and serve them with excellence.

7.5.2.2) Integrated Process: In order to provide all services from one location or one device through a simple, smart, fast and easy process, an integrated management system of service delivery has to be developed by the concerned mobile telecom companies. As part of this, all services including bill pay, balance recharge, balance transfer, interactive communication, 24 hours call center support, mobile banking, SMS confirmation after every transaction, etc., may efficiently be rendered which may ensure convenience of the customers.

7.5.2.3) Integrated Physical Evidence: The mobile telecom operators can apply the same colored furniture and fittings, similar decoration, interior and exterior, atmosphere, etc., in every customer service center and sole distribution points so that a long lasting and strong brand image may be positioned. In addition to this, the concerned companies now may pursue co-branding through partnering with the other brands. For example, Robi -Grameen, Robi -Banglalink packages for the customers may be offered by integrating the distinctive advantages of each brand.

7.5.2.4) Horizontal Integration: The rising flow of communication has increased the volume of cross border economic activities, labor mobilization, technology transfer, etc., which have altogether created a new momentum in the local, regional and global economies. This has already been proved as a tremendous business opportunity for the mobile telecom companies. But different users use the mobile telecom services of different operators. Hence, the inter-operator network sharing with both the local and foreign operators needs to be increased. Though currently such network sharing is seen among the local operators and foreign operators of some countries, it has to be increased with maximum foreign operators for better connectivity all over the world so that the users can connect with their target recipients' at any time and to any destination. In this regard, the concerned operators have to ensure necessary legal formalities, network logistic establishments, etc. The supportive and proactive role of Government will also be required for which lobbying to the concerned department of Government has to be pursued.

7.5.2.5) Backward Integration: In order to keep the promises of best quality service to the customers made by the mobile operators, selection of right suppliers and development of good and sound relationship with the same should be highly prioritized. Since there are various types of suppliers for SIM card, phone set, different types of technologies, mobile tower equipments and other accessories which are directly related to mobile telecom service, an integrated system to monitor and control their performance is highly required so that service excellence can be ensured through the integrated supply of all the necessary requirements.

7.6 Effective Performance Marketing to Ensure Sustainable Development

7.6.1 Political Environment (P)

7.6.1.1) Minimizing Digital Gap: The political commitment of the present Government in Bangladesh is to minimize digital gap by liberalizing the information and communication technologies all over the country. This has also been described in the election manifesto of the present Government as “Digital Bangladesh” vision to connect the country with the state-of-the-art technology in order to foster her overall development. So, the mobile operators of Bangladesh should take this as opportunity to offer almost every form of telecom service including mobile telephony, mobile commerce, mobile banking, mobile shopping, etc., so that they can cover mass people by converting the unbanked into banked, untransacted into transacted, unshopped into shopped, etc. Thus, further market expansion and thereby greater revenue generation can be made by these operators by fulfilling the unmet requirements of mass people of the country.

7.6.2 Economic Environment (E)

7.6.2.1) Investment on Technology: Continuous innovation of mobile technology has greatly influenced the life styles of telecom users. Today customers want to use the fastest technologies such as 3G, 4G, WiFi, etc., for their telephonic conversation to video call, listening music to browsing internet, downloading documents and holding live video conferencing, webinar, etc. Though acquiring license for such technologies and installing network equipments is/are very costly issue, the mobile telecom companies of Bangladesh should invest handsomely for this so that maximum network coverage with the fastest technologies can be offered to meet the demand of the customers. The initiative and necessary provisions of enlisting these companies in the stock exchanges of Bangladesh may

seem to be very effective in raising more capital through IPO which may be utilized for the cause of the said investment.

7.6.2.2) Payment of tax and duty: Maintaining legal requirement is essential to operate in a country. This not only ensures compliance issues of good corporate governance but also enhances the fair image of the operating organization. From this perspective, the concerned mobile telecom company should make regular payment of various taxes and duties such as income tax, value added tax, import duty, etc., in order to develop a fair image and get necessary legal support for uninterrupted and successful operation.

7.6.3 Social Cultural Environment (S)

7.6.3.1) Age and gender-wise packages: Young generations represent a good percentage of the population of Bangladesh while due to the improvement of medical treatment facilities the percentage of the aged population is also on the rise. In addition, women who represent the half of the population are also gradually participating in the mainstream economic activities. Considering this diversity as big business opportunity, the mobile telecom companies may launch various service packages based on age and gender of the target group which may further increase their business potentials to a great extent.

7.6.3.2) Socio-Cultural Service Packages

7.6.3.2.1 Maintaining cultural norms and values

Since Bangladesh is a country with multi-religious and ethnic cultures and sub-cultures, varied local customs and dialects, six seasons with many festive occasions and many more diversities; it is very important for the mobile operators to keep the trade off among all these by maintaining accuracy of information, clarity of message in advertisements, sensitivity to the religious, ethnic, local and seasonal cultural norms and values.

7.6.3.2.2 Life style compliance service

In order to further enhance business performance, the mobile telecom operators may launch new service packages as well as new facilities for the current service packages such as stock trading, online education, foreign remittance collection, bulk video conferencing from mobile for family and corporate users and the likes. To make such services compatible with the personal, occupational, family and social life styles of the customers, the mobile operators of Bangladesh may engage themselves in the understanding or terms and conditions through contract or Memorandum of Understanding (MoU) with the concerned corporate bodies such as the Security & Exchange Commission (SEC), Dhaka Stock Exchanges (DSE), Chittagong Stock Exchanges (CSE), various universities at home and abroad under the guidelines of the University Grant Commission (UGC), various commercial banks under the guidelines of the central bank (i.e., Bangladesh Bank), etc.

7.6.3.3) Societal Welfare

7.6.3.3.1 Support to the underprivileged

As part of corporate social responsibility (CSR), the concerned mobile telecom operators should engage themselves to the supportive programs like donation and financial support to the underprivileged in the local community, socially oppressed and suppressed groups especially women and children, autistic and handicapped people, scholarship or grant for the

meritorious students, rehabilitation for the affected people due to natural calamities, etc. This may ultimately create a favorable image of the concerned companies to the public.

7.6.4 Technological Environment (T)

7.6.4.1) Latest Technologies: Mobile telecom service users of the present day are no more satisfied with the text based analog services of telecom. High speed text, voice, video, multimedia, mobile TV, internet access, email, file transfer, audio-video conferencing, etc., have become common services for the users of this era. Hence, new generation 3G mobile service has been launched and in many countries the next generation system 4G has also been launched. On the other hand, extensive research is being conducted regarding the potentials of 5G system. In such a situation, any mobile telecom service provider of the country if fails to adopt the latest technology by keeping pace with its rivals, the existence of the concerned in the competitive market may be threatened. Therefore, the concerned operators should develop necessary infrastructure and technological support to launch such technologies so that the users can enjoy the best telecom service within their affordability. This may enable them to ensure sustainable development of their companies in particular and the concerned industry in general.

7.6.4.2) Customers' Information Security: Each of the mobile telecom operators in Bangladesh has very good clientele. So, to keep the personal and business data of these customers, the concerned operators should give more emphasis on database security. In this regard, they can use data mining, data warehouse, digital certificates, private and public key, message encryption and various types of networking technologies with several backup system servers so that data security can be ensured by preventing any form of unauthorized access through hacking or data corruption through virus, malware, spy ware spreading.

7.6.4.3) Transaction Updates: Since each of the mobile telecom service providers offers various types of services like mobile telephony, mobile banking, shopping through mobile, telemedicine or mobile health tips and many other value added services, the concerned should give emphasis on communicating the updates of each transaction to its clients or users. Such update may include whether the transaction is successful or failed, whether any amount is charged or debited and if so how much or what amount is debited with the detailed heads of accounts, etc. The concerned mobile operator may send such updates through SMS or MMS to ensure status of the transaction.

7.6.4.4) Faster Communication: Switching tendency may develop among the users if they perceive the communication service provided by their mobile operator is inferior to the other operators in the market. This may adversely affect the sustainability of the concerned mobile telecom. It is, therefore, mobile telecom operators in Bangladesh for their sustainable performance should take necessary measures to develop and time to time upgrade their network capacities to avoid congestion in one hand and ensure faster communication by increasing more bandwidth on the other hand so that users can enjoy all sorts of audio, video and multimedia applications.

7.6.5 Prevention of Environmental Pollution (E)

7.6.5.1) Recycling Program: For sustainable business development, it is important that a mobile telecom service providing company should act as a good corporate citizen. While a good corporate citizen is committed to societal development and protection of the natural

environment. But due to the lack of any awareness program regarding the disposal of the heavy waste of old mobile phone handsets, batteries and accessories, there is a negative impact on natural environment including contamination of soil and air pollution. In this regard, the concerned mobile telecom operators can act as good corporate citizen by undertaking transparent, viable and sustainable mobile phone recycling campaign to encourage customers to deposit their old or unused mobile handsets, accessories and batteries in a safe and responsible way through recycling points in their outlets. Thus, waste can be collected and recycled for re-use which may prevent environmental pollution.

7.6.5.2) Environment Friendly Services: There are many routine official, commercial, academic and personal activities that people perform by traveling from one place to another. As a result, they use vehicles which discharge smoke and thus, environment gets polluted. By offering all those mainstream communication activities through mobile telecom service, the concerned operators can render banking, buying, selling, various types of payment, information seeking and giving, admission into academic institutions as well as hospitals, complaint lodging, meeting or conferencing, chatting, telephony, etc., through mobile.

7.6.6 Legal Environment (L)

7.6.6.1) Fair Acquisition of License: Government officials and politicians in many countries have been criticized and accused of corruption for taking bribe in the process for allocating licenses. Such activities not only defame the government officials and politicians concerned in the process but also negatively affect the goodwill and brand image and thereby sustainability of the mobile telecom company which bribes. It is, therefore, mobile telecom companies should maintain fairness in the acquisition of license of any new technology or commencing a new operation. This may increase a fair brand image of the company and its services in the minds of customers.

7.6.6.2) Information transparency: For a fair business image, the concerned operators should maintain transparency of their transactions with customers whether it is a mere bill pay, balance recharge, etc., or, it is a mobile banking transaction like fund transfer. In any of these cases, the operators may update or inform the customers about the successful transaction through a user friendly SMS, or, auto generated receipt or acknowledgement. They should also clearly and in plain language clarify all billing information, terms and conditions to customers in advance including all charges like local and international taxes and tariffs, service charges, hidden charges, inter-operators charges, etc. Being ethical and transparent in the due legal process of acquiring permission or license of 3G, 4G, VOIP, WiMax, etc., may also establish themselves as branded company with fair image.

7.6.6.3) Registered SIM users: Now-a-days mobile is a common mode of communication among the mass people due to its popular features such as convenience, portability, etc. As a result, there are many evidences of mobile uses and abuses in routine and non-routine activities. For example, mobile is extensively used in commercial transactions and official and personal engagement, it is also abused in the unlawful or socially harmful activities like kidnapping, trafficking, terrorism, eve teasing, etc. The main reasons behind such abuses are flexibility in the registration of SIM. Since it is not mandatory to complete registration of SIM with photo identity and address proof prior to use, many offenders collect such easily available SIM and commit offence without any resistance from the law enforcing agencies. Thus, they can hide their identities. It is, therefore, being a socially responsible entity a mobile telecom company should strictly maintain the registration process before the

activation of the SIM. Due to such approach though the conversion rate of new users from prospects may fall in the initial phases, eventually this will be stable and compliance will be ensured which will positively contribute in the sustainable development of the mobile phone telecom industry.

7.6.6.4) Support in legal proceedings: In case of supporting the customers, law enforcing agencies or any other compliance authority, the recording of the conversation such as threat to the customer may seem to be very effective. Since it is a very costly effort but most important aspect of customer security, the mobile telecom operators should think for a feasible solution or alternative in consultation with the concerned stakeholders and experts or specialists.

In order to check the criminal offences such as threatening, teasing, hijacking, looting, robbery, kidnapping, or, abduction, murder, etc., where mobile is used, tracking system such as GIS (Global Information System) may seem to be very effective. The concerned mobile operators may launch such service to help the law enforcing agencies in the legal investigation regarding customer security issues. During this course, they may help enormously by blocking the unsolicited, anonymous and unwanted calls and texts message subject to the customer's request; providing informative support about unsolicited calls and messages, inappropriate content like violent games and gambling, details of the senders or content owners, tracking their SIM location, recorded conversation, etc.

7.6.6 Ethical Approach (E)

7.6.6.1) Publicity on Environment Friendly Infrastructure: Since mobile telecom companies operate in the society where their users live, they need to take necessary precautions to safeguard the health and safety issues of the society's people. They should prioritize on such tower and infrastructure which are not vulnerable to people who live close to the same. Instead, the concerned mobile telecom companies should undertake very intensive publicity by highlighting the environment friendliness of their tower and infrastructures.

7.6.6.2) Publicity on harmful effects: It is often said that the mobile telecom products, equipments, towers, and other establishments have harmful effect on the health of the users in particular and the public in general due to electromagnetic radiation. Furthermore, there is lack of awareness regarding the risks of using mobile phones while driving. In these cases, no mobile telecom operator is generally found to undertake any strong publicity or social advertisement to make awareness among the mass people. In this regard, the experience of tobacco industry where Government has made it mandatory to write or print the message of harmful effect of smoking on the packet of cigarette to discourage the smokers is noteworthy. It is, therefore, with this experience the Government may conduct thorough studies and come forward with some policy guidelines for the mobile telecom companies so that the operators can improve their public image in one hand and customers may be protected from the harmful effects on the other hand. The operators can also play effective role in reducing environmental pollution by positioning its mobile telephony and conferencing service which may indirectly reduce the use of paper and transportation of the customers.

7.6.6.3) Maintaining privacy of customer information: Customers private data are very sensitive. Since customers are the deciding factors for business success in a fiercely competitive market such as mobile telecom service, high confidentiality of their private

information should be maintained and such information should not be disclosed or shared to any third party for any marketing campaign unless there is any legal obligation or customer's permission. The concerned operators should also take prior permission from the customers before sending any telecom promotional message, SMS advertisement, etc., to them.

7.6.6.4) Customer Permitted Campaign: Invasion of customer's privacy through spamming or junk message is considered as an offence in many countries. This is because taking permission from the customers prior to send any promotional message or advertisement in the form of SMS to them is a legal requirement in those countries. However, due to less strict legal approach in the countries like Bangladesh, SMS advertisement to the mobile users without prior permission has become a common practice which is not positive for the sustainable development of the mobile phone telecom business because it may irritate and frustrate the customers and by doing so no business can succeed. It is, therefore, mobile phone telecom operators should take permission from customers before sending any promotional message and SMS advertisement to them.

8

CONCLUSION

CHAPTER 8

CONCLUSION

This chapter provides theoretical and statistical conclusions on the findings of the study. In this regard, a set of four research questions and hypotheses which have been developed during the phase of research design have been answered and proved based on the findings and finally, the research contributions to knowledge has/have also been considered.

8.1 Theoretical Conclusion

The theoretical underpinning of this study was based on literature from sustainable development and holistic marketing components. The aim and process of sustainable development have been widely advocated in the literature review (Airtel's Sustainability Report, 2012; Axiata Group's Sustainability Report, 2012; Berry, 1981; Bhattacharya, Sen, Korschun, 2007; Crane and Matten, 2004; Dumitrescu et al., 2012; Epstein and Roy, 2003; Fida Muhammad, 2002; Gummesson, 1999; Hitt et al., 2006; Maignan and Ferrell 2004; Maignan et al. 2005; Mária Vágási et al., 2012; Polonsky and Ottman 1998; Roseland, Conelly, 2005; Schultz and Kitchen, 2011; Telenor's Sustainability Report, 2012; UNEP 2005;). In this regard, holistic marketing approach has been considered as a multifaceted strategy to ensure sustainable development of the mobile telecom industry of Bangladesh. Based on the findings of the previous researchers, it may be concluded that to ensure sustainable development four aspects of holistic marketing which are also the four integral parts of any business entity may be adopted or implemented including: i) relationship marketing to satisfy the existing customers and turn them into loyal client by providing value added services and maintaining sound relationship with them, ii) internal marketing to develop, motivate and retain the skilled, efficient, competent and committed employees, iii) integrated marketing to integrate the extended marketing mix or 7Ps (Product/Service, Price, Place, Promotion, Process, People, Physical Evidence) together with functional, forward, backward and horizontal linkages and iv) excellence in performance marketing by successfully coping with and managing PESTEL factors. With this base of extensive literature survey, an analytical model has been developed to examine its functionality in the context of the sustainable development of the mobile phone telecom industry of Bangladesh through holistic marketing.

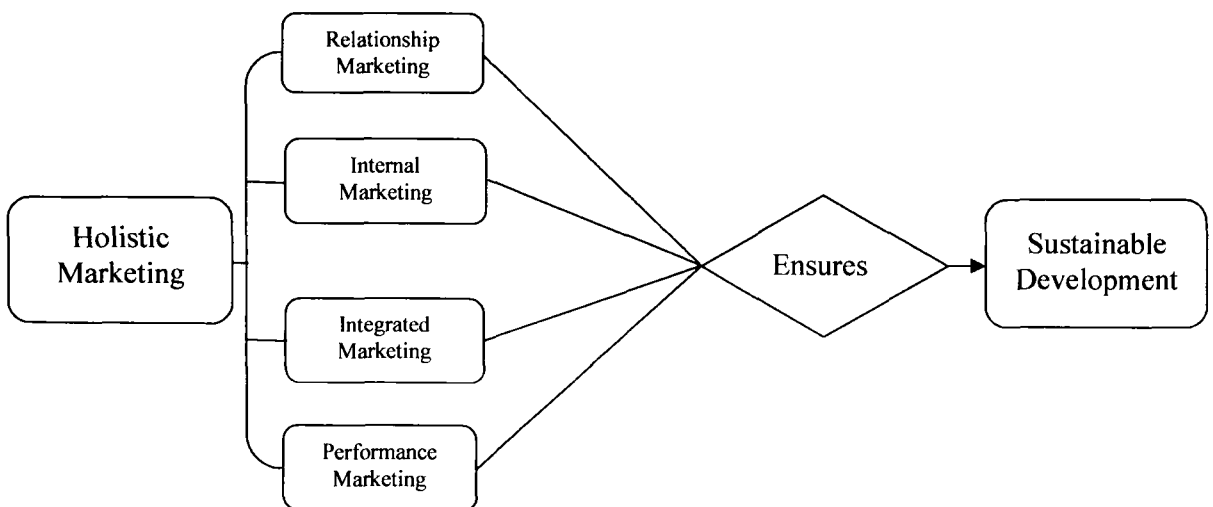


Figure 5.5 (Repeat): Research Model of Sustainable Development through Holistic Marketing

8.2 Statistical Conclusion

This study aimed to explore the understanding of the role of holistic marketing approach in the sustainable development of the mobile phone telecom industry of Bangladesh. Towards this end, a set of four research questions and hypotheses have been developed based on the extensive literature review. In this section, the findings on each of the research questions and hypotheses will be considered.

i) Research Question, Null and Alternative Hypothesis 1

Research Question 1

“Can relationship marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”

Null Hypothesis 1

H_{0a}: Relationship marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

Alternative Hypothesis 1

H_{1a}: Relationship marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

The research question 1 and thereby null and alternative hypotheses 1 have been developed to examine the view of customers of the six mobile telecom operators in Bangladesh regarding the correlation between relationship marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh. The findings of this section showed that three components of relationship marketing namely i) trustworthy & committed service, ii) interactive & affordable communication and iii) caring & customized value proposition influence the sustainable development of the mobile phone telecommunication industry of Bangladesh. For example, the ‘trustworthy & committed service’ component includes sincere service, accurate billing, customer security, quality service, cooperative employees and attention to customers while the ‘interactive & affordable communication’ component includes informative services, responsiveness to customers, service centers, 24 hours service and attractive rates & charges. Similarly, the ‘caring & customized value proposition’ component includes attractive rewards, greeting customers, advising customers and customized services. Thus, the functionality of the said components of relationship marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh has been examined and found effective in the positive result of correlation and multiple regression analysis.

ii) Research Question, Null and Alternative Hypothesis 2

Research Question 2

“Can internal marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”

Null Hypothesis 2

H_{0b}: Internal marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh

Alternative Hypothesis 2

H_{1b}: Internal marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh

The research question 2 and thereby null and alternative hypotheses 2 have been developed to examine the view of employees of the six mobile telecom operators in Bangladesh regarding the correlation between internal marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh. The findings of this section showed that three components of internal marketing namely i) employee training & motivation, ii) secured, enjoyable & balanced work/life for all and iii) participative management & logistic support influence the sustainable development of the mobile phone telecommunication industry of Bangladesh. For example, the 'employee training & motivation' component includes employee welfare, employees as resources, investment on training, proactive interpersonal communication, performance based pay, recognition & appreciation and promotion & career growth while the 'secured, enjoyable & balanced work/life for all' component includes good workplace, balanced work/life, recreation facilities, equal employment opportunity and well defined job description. Similarly, the 'participative management & logistic support' component includes participative management, logistic support and positive interpersonal relationship. Thus, the functionality of the said components of internal marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh has been examined and found effective in the positive result of correlation and multiple regression analysis.

*iii) Research Question, Null and Alternative Hypothesis 3***Research Question 3**

"Can integrated marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?"

Null Hypothesis 3

H_{0c}: Integrated marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

Alternative Hypothesis 3

H_{1c}: Integrated marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

The research question 3 and thereby null and alternative hypotheses 3 have been developed to examine the view of customers and employees of the six mobile telecom operators in Bangladesh regarding the correlation between integrated marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh. The findings of this section showed that two components of integrated marketing namely i) functionally integrated core marketing mix and ii) integrated value chain influence the sustainable development of the mobile phone telecommunication industry of Bangladesh. For example, the 'functionally integrated core marketing mix' component includes functional integration, integrated service/product, integrated pricing, IMC and forward integration. Similarly, the 'integrated value chain' component includes integrated teamwork, integrated process, integrated physical evidence, horizontal integration and backward integration. Thus, the functionality of the said components of integrated marketing in the sustainable development

of the mobile phone telecommunication industry of Bangladesh has been examined and found effective in the positive result of correlation and multiple regression analysis.

iv) Research Question, Null and Alternative Hypothesis 4

Research Question 4

“Can performance marketing approach ensure sustainable development of mobile phone telecommunication industry of Bangladesh?”

Null Hypothesis 4

H_{0d} : Performance marketing cannot ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

Alternative Hypothesis 4

H_{1d} : Performance marketing can ensure sustainable development of mobile phone telecommunication industry of Bangladesh.

The research question 4 and thereby null and alternative hypotheses 4 have been developed to examine the view of customers and employees of the six mobile telecom operators in Bangladesh regarding the correlation between performance marketing and sustainable development of the mobile phone telecommunication industry of Bangladesh. The findings of this section showed that six components of performance marketing namely i) technological environment, ii) legal environment, iii) ethical approach, iv) political & economic environment, v) social environment and vi) prevention of environmental pollution influence the sustainable development of the mobile phone telecommunication industry of Bangladesh. For example, the ‘technological environment’ component includes latest technologies, customers’ information security, transaction updates and faster communication while the ‘legal environment’ component includes fair acquisition of license, information transparency, registered SIM users and support in legal proceedings. Similarly the ‘ethical approach’ component includes publicity on environment friendly infrastructure, publicity on harmful effects, privacy of customer information and customer permitted campaign. Again, the ‘political & economic environment’ component includes digital gap minimization, investment on technology and tax and duties. Likewise, the ‘social environment’ component includes age & gender-wise services, socio-cultural service packages and societal welfare. Finally, the ‘prevention of environmental pollution’ component includes recycling program and environment friendly services. In this way, the functionality of the said components of performance marketing in the sustainable development of the mobile phone telecommunication industry of Bangladesh has been examined and found effective in the positive result of correlation and multiple regression analysis.

Thus, on the basis of the statistical evidence the proposed analytical model has been proved which is exhibited through the Figure 8.1. Hence, it is validated and can be further used and developed for similar other researches.

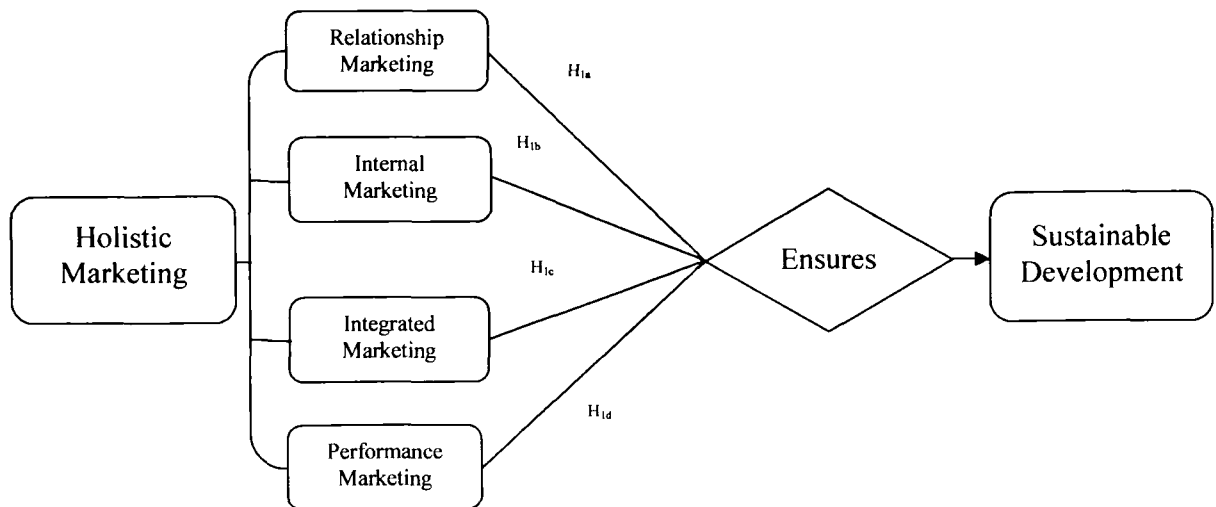


Figure 8.1: Research Model of Sustainable Development through Holistic Marketing

Having provided answers to the research questions and proved the hypotheses based on the findings of the study, the contribution to knowledge of this study will be considered next.

8.3 Contributory Conclusion

The sustainability report of the leading mobile telecommunication service providing companies, relevant research works of the eminent scholars in the form of articles published in the referred journals, M.Phil and PhD thesis, etc., have been the important source of this study. Together with these, the recent statistics of Bangladesh Multiple Indicator Cluster Survey (MICS) conducted by the Bangladesh Bureau of Statistics (BBS) and cited in the Daily Janakantha (June 25, 2014; p. 1) mentioned that there is 85.9% families in Bangladesh which has/have come under the mobile telecom coverage. This information has also been acted as an inspiration to feel the importance of this study. Therefore, it is useful to find out how and why holistic marketing is important to ensure sustainable development of mobile phone telecommunication industry of Bangladesh. The important contributions of this study are as follows:

- i) This study has significantly contributed to the marketing literature by providing statistically proven model(s) through the empirical research findings. In this regard, it is worthy to mention that this study has contributed through statistically proven four individual models for each component of holistic marketing and one complete model for holistic marketing itself which individually as well as together exhibit(s) the sustainable development of the mobile phone telecom industry of Bangladesh.
- ii) Although previous research studies have found the practices of individual dimensions of holistic marketing for the successful business, this study fills the gap existing in the holistic marketing literature by establishing a significant relationship between holistic marketing and sustainable development. This indicates that marketing policy makers and practitioners should put more effort into implementing holistic marketing approach to ensure sustainable development of the business.
- iii) An important contribution of this study is to exhibit how relationship with customers and employees, integration of total marketing system and excellence in performance can

altogether be ensured, developed, maintained and sustained over different arenas in the mobile telecommunication industry.

iv) This study has also significantly contributed to the marketing literature by identifying the impact of macro environmental factors namely PESTEL on the sustainable development of the mobile phone telecommunication industry of Bangladesh in particular and any form of business in general.

8.4 Overall Conclusion

From the light of the overall theoretical and statistical findings, analysis, discussion and contribution of this study, it can be concluded that if the proposed recommendations are properly and proactively implemented then sustainable development of the mobile phone telecommunication industry of Bangladesh can be ensured.

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APPENDICES

APPENDICES

Appendix 1: The Questionnaire for Customers (English Version)

Appendix 2: The Questionnaire for Customers (Bengali Version)

Appendix 3: The Questionnaire for Employees (English Version)

Appendix 4: The Questionnaire for Employees (Bengali Version)

**APPENDIX 1: THE QUESTIONNAIRE FOR CUSTOMERS
(ENGLISH VERSION)**

SURVEY ON CUSTOMER PERCEPTIONS OF MOBILE PHONE TELECOM INDUSTRY OF BANGLADESH

Dear Participant,

We are conducting this survey on customers to know their perceptions about the effect of relationship, integrated and performance marketing activities on the **sustainable development** of the mobile phone telecom industry of Bangladesh.

“Sustainable development involves the continuous improvement of the economic/financial, environmental and the wellbeing of the organizational and society’s people by reducing risks, avoiding waste, creating new innovative products and services, improving the levels of living standards and above all increasing efficiency and profitability.”

The following questionnaire is a part of PhD thesis, and your kind participation in filling this will be very helpful in the successful completion of the research project.

Your responses will be kept highly confidential. Please attempt to answer all the questions.

Your participation in the study will be highly appreciated.

PART A: DEMOGRAPHIC PROFILE

1. Write Your Name :
2. Write Your Address :
3. What is your gender? (Choose one response only)
 1. Male
 2. Female
4. Which of the following categories includes your age? (Choose one response only)
 1. Under 18 years
 2. 18 – 24 years
 3. 25 – 29 years
 4. 30 – 34 years
 5. 35 – 39 years
 6. 40 – 44 years
 7. 45 – 49 years
 8. 50 years or above
 9. Don’t know
5. What is your current marital status? (Choose one response only)
 1. Married
 2. Widowed
 3. Divorced
 4. Separated
 5. Single, never married
 9. Don’t know
6. Your Mobile Number
7. Your Email Address

CUSTOMER CLASSIFICATION

8. Which is your current mobile operator? (Choose one response only)
1. Grameen Phone
 2. Robi
 3. Bangla Link
 4. Airtel
 5. City Cell
 6. TeleTalk
9. Which of the following best describes your employment status? (Choose one response only)
1. Full Time
 2. Part Time
 3. Contractual
 4. Retired
 5. Student
 6. Homemaker
 7. Unemployed
 8. Businessperson
 9. Prefer not to answer
10. What is the highest level of education you have completed? (Choose one response only)
1. Less than or, up to Primary School
 2. High School/Secondary
 3. College/Higher Secondary
 4. Graduate
 5. Post-Graduate
 6. Doctorate/PhD
11. Which of the following connection of this operator do you use? (Choose one response only)
1. Pre-Paid
 2. Post-Paid
12. Which of the following product(s), or, service(s) of this operator do you use? (You may choose multiple responses)
1. Mobile Telephony (Local, National and International phone) service
 2. Mobile Internet service
 3. Mobile Conferencing service
 4. Mobile Banking service
 5. Mobile Commerce service
 6. Mobile Phone Handset
 7. Mobile Internet Modem
13. Since how long you are using services of this operator? (Choose one response only)
1. 0-1 year
 2. 1-2 years
 3. 2-3 years
 4. More than 3 years

PART B: RELATIONSHIP MARKETING

The following is a list of relationship marketing activities that the mobile phone operators generally undertake to satisfy and retain their customers for the **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 1 and Table 2 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 8** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 1: Relationship Marketing Activities

Relationship Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company shows sincere interest in solving customer problems	1	2	3	4	5
The billing system of this company is accurate and reliable.	1	2	3	4	5
This company strictly maintains safety, security and privacy of customer communications or transactions.	1	2	3	4	5
This company keeps its promises to consistently offer best and excellent quality telecom service standard through uninterrupted network and latest technology	1	2	3	4	5
Employees of this company are always polite, courteous, friendly, nice, caring and willing to help customer.	1	2	3	4	5
This company gives individual attention to understand customer or customer specific needs	1	2	3	4	5
This company provides accurate, precise and timely information about its new services/products.	1	2	3	4	5
This company promptly responds to customer queries, and requests	1	2	3	4	5
This company has adequate number of customer service centers/points.	1	2	3	4	5
This company provides 24hours customer service through call center	1	2	3	4	5
This company offers attractive rates and charges based on more usage.	1	2	3	4	5
This company offers attractive loyalty/promotional rewards (free SMS, emergency balance, best customer award, benefits like free talk time for reactivation of unused SIM, EID Reunion, Customer Service Day, Lottery/Super Draw with attractive prizes)	1	2	3	4	5
This company (employees) uses personalized greetings in correspondence with customers and at service in person	1	2	3	4	5
This company (employees) provides useful suggestions and advice to customers	1	2	3	4	5
This company (employees) provides flexible and personalized services as per customer requirements	1	2	3	4	5

Table 2: Sustainable Development through Relationship Marketing Activities

Sustainable Development through Relationship Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Relationship Marketing activities can ensure sustainable development of this company by satisfying customer and increasing business volume, profitability and growth.	1	2	3	4	5

PART C: INTEGRATED MARKETING

The following is a list of integrated marketing activities that the mobile phone operators undertake to improve functional & managerial coordination in providing quality service for **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 3 and Table 4 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 8** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 3: Integrated Marketing Activities

Integrated Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company provides best customer service through cross-functional employee teams including specialists from its various departments	1	2	3	4	5
This company maintains a balanced combination of SIM, handsets, basic telephony, mobile commerce, mobile banking, mobile internet, etc., as part of its varied service packages	1	2	3	4	5
This company maintains integrated and competitive call rates and charges for all of its service packages like mobile telephony, mobile internet, etc.	1	2	3	4	5
This company undertakes promotional campaigns through the use of integrated marketing communication channels like traditional broadcast & electronic media with modern online, & social networks	1	2	3	4	5
This company serves customers with an integrated management of the conveniently located service centres and channel members (e.g., customer service centers, call centers, dealers, franchisees, independent shops, etc.)	1	2	3	4	5
This company maintains a pool of service-minded and customer-oriented employees, investors, media and channel partners with shared vision	1	2	3	4	5
This company maintains well coordinated, simple, smart and fast service process (e.g., easy to use/operate, pay bill/ recharge, transfer balance, 24 hours support)	1	2	3	4	5
This company maintains same attractive interior, appealing exteriors, and branding atmosphere at all of its service points.	1	2	3	4	5
This company maintains an integrated network with the local and international operators to serve its customers	1	2	3	4	5
This company provides best quality service through an integrated relationship with the suppliers of technologies (e.g., CDMA/GSM, 3G, etc.), SIM cards and networking tower, equipments, accessories, etc.	1	2	3	4	5

Table 4: Sustainable Development through Integrated Marketing Activities

Sustainable Development through Integrated Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Integrated Marketing activities can ensure sustainable development of this company by providing benefits to all and increasing business volume, profitability and growth.	1	2	3	4	5

PART D: PERFORMANCE MARKETING

The following is a list of performance marketing activities that the mobile phone operators generally undertake to continuously improve the marketing performance by mitigating political, economic, social, technological, environmental and legal challenges for the **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 5 and Table 6 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 8** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 5: Performance Marketing Activities

Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company adheres to the political vision “Digital Bangladesh” of minimizing the digital gap through its various services.	1	2	3	4	5
This company invested handsomely in acquiring licenses for mobile phone operating, new technologies, and building network.	1	2	3	4	5
This company pays handsome amount of various types of taxes and duties like income tax, value added tax, import duties, etc.	1	2	3	4	5
This company has launched special mobile packages and facilities for the users of varied age and gender groups.	1	2	3	4	5
This company service packages and facilities are compatible with personal, professional, family, and social life style of customers.	1	2	3	4	5
This company has good reputation for donations, sponsorship, charity, philanthropic support and commitment for the welfare of local communities, and underprivileged social groups.	1	2	3	4	5
This company offers mobile telecom services through the latest technologies (e.g., 3G)	1	2	3	4	5
This company uses latest technological know-how to protect and secure users information.	1	2	3	4	5
This company promptly updates the customers about their transaction information (balance recharge or bill pay) through user friendly confirmation SMS	1	2	3	4	5
The latest technology (e.g., 3G) launched by this company ensures faster speed of communication.	1	2	3	4	5

Continued

PERFORMANCE MARKETING (Continued)

Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company has recycling program to encourage customers to dispose their mobile handsets, accessories and battery in a safe and responsible way through the recycling points in its outlets.	1	2	3	4	5
This company offers to help in reducing environmental pollution due to work-related travelling via vehicles and paper based wastages through mobile commuting, mobile conferencing services, etc.	1	2	3	4	5
This company undertakes publicity about its environment friendly policy and environment compliant telecom infrastructure to prevent the environment from the adverse effect of electromagnetic radiation from the telecommunication networks.	1	2	3	4	5
This company undertakes strong publicity about the harmful effects of mobile phone usage on health and children, and risks of using while driving.	1	2	3	4	5
This company launched various services by acquiring permission or license of 3G, VOIP, etc., in fair and transparent way through the due legal process.	1	2	3	4	5
This company clearly discloses all billing information, terms and conditions to customers in advance including all charges like local and international taxes and tariffs, hidden and inter-operators charges	1	2	3	4	5
This company registers complete user details for all of its issued SIMs	1	2	3	4	5
This company provides necessary information and support to protect the customer or the affected party or victim in case of customer's request or police and legal investigation against any criminal offence.	1	2	3	4	5
This company strictly maintains confidentiality of customer information and does not share them with anyone or, marketing campaign unless there is any legal obligation/customer's permission.	1	2	3	4	5
This company takes permission from customer before sending any promotional message and SMS advertisement to them	1	2	3	4	5

Table 6: Sustainable Development through Performance Marketing Activities

Sustainable Development through Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Performance Marketing activities can ensure sustainable development of this company by enhancing business performance, volume, profitability and growth.	1	2	3	4	5

Thank you for taking your valuable time to complete the survey questionnaire.

**APPENDIX 2: THE QUESTIONNAIRE FOR CUSTOMERS
(BENGALI VERSION)**

বাংলাদেশ মোবাইল ফোন টেলিকম শিল্পের টেকসই/দীর্ঘস্থায়ী উন্নয়নে ফ্রেতা/ব্যবহারকারীদের মতামতের উপর সমীক্ষা

প্রিয় অংশগ্রহণকারী,

আমরা সম্পর্ক বিপণন (Relationship Marketing), সমন্বিত বিপণন (Integrated Marketing) ও কার্য সম্পাদন মূলক বিপণন (Performance Marketing) কার্যাবলীর মাধ্যমে বাংলাদেশের মোবাইল ফোন টেলিকম শিল্পের টেকসই/দীর্ঘস্থায়ী উন্নয়নের ব্যাপারে মোবাইল সেবা প্রদানকারী কোম্পানীগুলোর ফ্রেতা/ব্যবহারকারীদের মতামত জানার জন্য এই সমীক্ষা চালাচ্ছি।

“টেকসই/দীর্ঘস্থায়ী উন্নয়ন বলতে ঝুঁকি কমানো, অপচয় রোধ, নতুন পণ্য ও সেবার উন্নয়ন, কর্মচারীদের কল্যাণ, ফ্রেতার সন্তুষ্টি বিধান ও জীবনমান উন্নয়ন এবং সর্বোপরি কার্য- সম্পাদনে দক্ষতা ও ব্যবসায়িক লাভ নিশ্চিত করার মাধ্যমে একটি চলমান আর্থিক, পরিবেশগত, প্রাতিষ্ঠানিক এবং সামাজিক কল্যাণমূলক উন্নয়নকেই বোঝানো হয়।”

নিম্নোক্ত প্রশ্নাবলী পি এইচডি থিসিসের একটি অংশ এবং এটি পূরণে আপনার সহায়তা এই গবেষণা প্রকল্পের সার্থক সম্পাদন নিশ্চিত করবে :

আপনার সব তথ্য গোপনীয় রাখা হবে। অনুগ্রহপূর্বক সব প্রশ্নগুলোর উত্তর দিন।

এই সমীক্ষায় আপনার অংশগ্রহণের জন্য আমরা কৃতজ্ঞ।

১। আপনার নাম :

২। আপনার ঠিকানা :

৩। আপনি _____ (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. পুরুষ

২. মহিলা

৪। নীচের শ্রেণীগুলোর মধ্যে কোনটিতে আপনার বয়স অন্তর্ভুক্ত? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. ১৮ বৎসরের নীচে

২. ১৮-২৪ বৎসর

৩. ২৫-২৯ বৎসর

৪. ৩০-৩৪ বৎসর

৫. ৩৫- ৩৯ বৎসর

৬. ৪০-৪৪ বৎসর

৭. ৪৫-৪৯ বৎসর

৮. ৫০ বৎসর বা ততোধিক

৯. জানি না

৫। আপনার বর্তমান বৈবাহিক অবস্থা কি? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. বিবাহিত

২. বিধবা

৩. তালাক প্রাপ্ত

৪. বিচ্ছেদ

৫. অবিবাহিত

৯. জানি না

৬। আপনার মোবাইল নম্বর :

৭। আপনার ই-মেইল ঠিকানা :

চলমান পাতা

ব্যবহারকারী/ক্ষেত্রের শ্রেণী বিন্যাস:

৮। আপনি বর্তমানে কোন মোবাইল ফোন কোম্পানীর সেবা গ্রহণ করেন? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. গ্রামীণফোন
২. রবি
৩. বাংলালিংক
৪. এয়ারটেল
৫. সিটিসেল
৬. টেলিটক

৯। নীচের কোনটি আপনার কর্মসংস্থান অবস্থাকে বোঝায়? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. পূর্ণকালীন
২. খন্ডকালীন
৩. চুক্তিভিত্তিক
৪. অবসরপ্রাপ্ত
৫. শিক্ষার্থী/ছাত্র-ছাত্রী
৬. গৃহস্থ/গৃহিনী
৭. বেকার
৮. ব্যবসায়ী
৯. জানি না/উত্তর প্রদানে অনিচ্ছুক

১০। আপনার সর্বোচ্চ শিক্ষাগত যোগ্যতা কি? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. প্রাথমিক বিদ্যালয় পর্যন্ত বা নিম্নমান
২. মাধ্যমিক
৩. উচ্চ মাধ্যমিক
৪. স্নাতক
৫. স্নাতকোত্তর
৬. ডক্টরেট/পিএইচডি

১১। আপনি কোন ধরনের মোবাইল সংযোগ ব্যবহার করেন? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. প্রি-পেইড (ব্যবহারের পূর্বে বিল প্রদান ব্যবস্থা সংবলিত সংযোগ)
২. পোস্ট পেইড (ব্যবহারের পরে বিল প্রদান ব্যবস্থা সংবলিত সংযোগ)

১২। আপনার মোবাইল অপারেটরের নিম্নোক্ত কোন সেবাটি আপনি ব্যবহার করেন? (এক/একাধিক উত্তর নির্ধারণ করুন)

১. মোবাইল ফোনলাপ (স্থানীয়, জাতীয় ও আন্তর্জাতিক কল/Call)
২. মোবাইল ইন্টারনেট সেবা
৩. মোবাইল কনফারেন্সিং
৪. মোবাইল ব্যাংকিং
৫. মোবাইল কমার্স
৬. মোবাইল ফোন সেট
৭. মোবাইল ইন্টারনেট মডেম

১৩। আপনি কতদিন ধরে এই মোবাইল ফোন অপারেটরের সেবা ব্যবহার করছেন? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. ০-১ বছর
২. ১-২ বছর
৩. ২-৩ বছর
৪. ৩ বছরের বেশী

চলমান পাতা

Relationship Marketing (সম্পর্ক বিপনন)

ক্রেতাদের সন্তুষ্টি বিধান করে তাদেরকে স্থায়ীভাবে ধরে রাখার মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানীগুলো সাধারণত: যে সব রিলেশনশীপ মার্কেটিং (সম্পর্ক বিপনন) কার্যাবলী সম্পাদন করে থাকে তা নীচের সারণীতে উল্লেখ করা হলো।

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ দ্বিমত ২ = দ্বিমত ৩ = নিরপেক্ষ/ জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী -১ঃ সম্পর্ক বিপননের কার্যাবলী

Relationship Marketing (সম্পর্ক বিপনন) কার্যাবলী	১ = সম্পূর্ণ দ্বিমত	২ = দ্বিমত	৩ = নিরপেক্ষ/ জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
এই কোম্পানী ক্রেতাদের সমস্যা সমাধানে আন্তর্ভিকভাবে চেষ্টা করে।	১	২	৩	৪	৫
এই কোম্পানীর বিলিং পদ্ধতি সঠিক এবং নির্ভরযোগ্য।	১	২	৩	৪	৫
এই কোম্পানী ক্রেতাদের যোগাযোগ এবং লেনদেনের তথ্য অত্যন্ত নিরাপদে এবং গোপনীয়ভাবে সংরক্ষণ করে।	১	২	৩	৪	৫
এই কোম্পানী অব্যাহত নেটওয়ার্ক, সম্পূর্ণ নতুন প্রযুক্তি এবং চমৎকার মানের সেবা প্রদানের প্রতিশ্রুতি রক্ষা করে।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারীরা সর্বদা ক্রেতাদের প্রতি ভদ্র, বিনয়ী, বন্ধুত্বপূর্ণ, মার্জিত, যত্নবান এবং সাহায্য সহযোগিতার মনোভাবাপন্ন	১	২	৩	৪	৫
ক্রেতাদের সুনির্দিষ্ট চাহিদার প্রতি এই কোম্পানী সজাগ দৃষ্টি রাখে।	১	২	৩	৪	৫
এই কোম্পানী ইহার নতুন সেবা/পন্য সম্পর্কে ক্রেতাদেরকে সঠিক, সুনির্দিষ্ট এবং সময়মত তথ্য প্রদান করে থাকে।	১	২	৩	৪	৫
এই কোম্পানী দ্রুততার সাথে ক্রেতাদের প্রশ্ন এবং অনুরোধের উত্তর প্রদানে সদা সচেষ্ট।	১	২	৩	৪	৫
এই কোম্পানীর যথেষ্ট পরিমাণ ক্রেতা সেবা প্রদান কেন্দ্র আছে।	১	২	৩	৪	৫
এই কোম্পানীর কল সেন্টারগুলো ক্রেতাদের ২৪ ঘন্টা সেবা প্রদান করে থাকে।	১	২	৩	৪	৫
অধিকতর ব্যবহারের পরিমাণের উপর ভিত্তি করে এই কোম্পানী ক্রেতাদের আকর্ষণীয় কল রেট এবং চার্জ সুবিধা প্রদান করে।	১	২	৩	৪	৫
এই কোম্পানী স্থায়ী এবং বিশ্বশুভ্র ক্রেতাদের আকর্ষণীয় সুযোগ-সুবিধা এবং পুরস্কার প্রদান করে থাকে (যেমন: ফ্রি এসএমএস, ইমারজেন্সী ব্যালেন্স, সর্বোৎকৃষ্ট ক্রেতার পুরস্কার, অব্যবহৃত সিম চালু করার জন্য অতিরিক্ত সুবিধা, ঈদ পূর্নমিলনী, ক্রেতা সেবা দিন উদ্‌যাপন, লটারী/ সুপার ড্রয়ের মাধ্যমে আকর্ষণীয় পুরস্কার প্রদান।)	১	২	৩	৪	৫
এই কোম্পানীর কর্মকর্তারা চিঠিপত্রের মাধ্যমে ও সরাসরি সেবা প্রদানের ক্ষেত্রে ক্রেতাদের শুভেচ্ছা জ্ঞাপন করেন।	১	২	৩	৪	৫
এই কোম্পানীর কর্মকর্তারা ক্রেতাদের প্রয়োজনীয় উপদেশ প্রদান করে থাকেন।	১	২	৩	৪	৫
এই কোম্পানীর কর্মকর্তারা ক্রেতাদের চাহিদা বা প্রয়োজনমুখিক সেবা প্রদান করে থাকেন।	১	২	৩	৪	৫

সারণী -২ঃ সম্পর্ক বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

সম্পর্ক বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
সম্পর্ক বিপননের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা ক্রেতা সন্তুষ্টি, ব্যবসার পরিমাণ, মুনাফা ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

চলমান পাতা

Integrated Marketing (সমন্বিত বিপণন)

সকল কার্যাবলী এবং সেবার সমন্বয় সাধনের মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানী গুলো সাধারণত: যেসব Integrated Marketing (সমন্বিত বিপণন) কার্যাবলী সম্পাদন করে থাকে তা নীচের সারণীতে উল্লেখ করা হলো।

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ দ্বিমত ২ = দ্বিমত ৩ = নিরপেক্ষ/ জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী -৩ : সমন্বিত বিপণনের কার্যাবলী

Integrated Marketing (সমন্বিত বিপণন) কার্যাবলী	১ = সম্পূর্ণ দ্বিমত	২ = দ্বিমত	৩ = নিরপেক্ষ/ জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
ব্যবহারকারীদের ভাল সেবা প্রদান করার জন্য এই কোম্পানী প্রয়োজনে তার বিভিন্ন বিভাগের দক্ষ কর্মকর্তাদের নিয়ে দলগতভাবে সেবা প্রদান করে থাকে।	১	২	৩	৪	৫
এই কোম্পানীর সেবা প্যাকেজগুলো সিম, হ্যাণ্ডসেট, মোবাইল ফোনালাপ, মোবাইল কমার্স, মোবাইল ব্যাংকিং, মোবাইল ইন্টারনেট, ইত্যাদির এক সমন্বিত আয়োজন।	১	২	৩	৪	৫
এই কোম্পানীর সব সেবার কল রেট বা চার্জ সমন্বিতভাবে প্রতিযোগিতামূলক/অপেক্ষাকৃত কম।	১	২	৩	৪	৫
প্রচার চালানোর জন্য এই কোম্পানী সব ধরনের প্রচার মাধ্যমের সমন্বিত ব্যবহার করে। (যেমন: পত্রিকা, ম্যাগাজিন, টেলিভিশন, রেডিও, ইন্টারনেট, পোস্টার, ব্যানার, পাবলিসিটি, গন সংযোগ, সরাসরি বিপণন, স্পন্সরশিপ, শিল্প ও বাণিজ্য মেলায় অংশগ্রহণ, ইত্যাদি)	১	২	৩	৪	৫
সহজে যোগাযোগযোগ্য স্থানে অবস্থিত ক্রেতা সেবাদান কেন্দ্রগুলো ও বিতরণকারীদের সাথে এই কোম্পানী সমন্বিত ব্যবস্থাপনার ভিত্তিতে কাজ করে থাকে।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারী, বিনিয়োগকারী, মিডিয়া এবং বিতরণ অংশীদার/ পার্টনার সবাই ক্রেতা সেবা কেন্দ্রিক দর্শনের অনুসারী অর্থাৎ ক্রেতার সন্তুষ্টি বিষানে সচেতন।	১	২	৩	৪	৫
এই কোম্পানী একটি যথাযথভাবে সমন্বিত, সহজ, আধুনিক এবং দ্রুত (যেমন: সহজে বিল প্রদান/রিচার্জ/ব্যালেন্স স্থানান্তর, দ্রুত যোগাযোগ, ২৪ ঘন্টা কল সেন্টার সেবা সুযোগ) সেবা প্রদান প্রক্রিয়া অনুসরণ করে।	১	২	৩	৪	৫
এই কোম্পানীর সব সেবাদান কেন্দ্রগুলোর ভেতর এবং বাইরের ব্র্যান্ডেড ডিজাইন ও পরিবেশ একই রকম। (যেমন একই রকমের রং, আসবাবপত্র, ফিটিংস ইত্যাদি।	১	২	৩	৪	৫
দেশী এবং বিদেশী মোবাইল অপারেটরদের সাথে সমন্বিত নেটওয়ার্কের মাধ্যমে এই কোম্পানীর ব্যবহারকারীরা সহজে যোগাযোগ করতে পারেন।	১	২	৩	৪	৫
প্রযুক্তি, সিম কার্ড, ফোন সেট এবং মোবাইল নেটওয়ার্ক টাওয়ার ও আনুসংগিক যন্ত্রপাতির সরবরাহকারীদের সমন্বয় সাধনের মাধ্যমে এই কোম্পানী উন্নত সেবা প্রদান করে।	১	২	৩	৪	৫

সারণী -৪: সমন্বিত বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

সমন্বিত বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
সমন্বিত বিপণনের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা সবাইকে সুবিধা প্রদান, ব্যবসার পরিমান, মুনাফা ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

চলমান পাতা

Performance Marketing (কার্যসম্পাদনমূলক বিপনন)

রাজনৈতিক, অর্থনৈতিক, সামাজিক, প্রযুক্তিগত, পরিবেশগত এবং আইনগত সমস্যার সমাধান করার মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানীগুলো সাধারণত: যেসব Performance Marketing এর কার্যাবলী সম্পাদন করে, তা নীচের সারণীতে উল্লেখ করা হলো।

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ দ্বিমত ২ = দ্বিমত ৩ = নিরপেক্ষ/ জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী -৫ঃ কার্যসম্পাদনমূলক বিপননের কার্যাবলী

Performance Marketing (কার্যসম্পাদনমূলক বিপনন) কার্যাবলী	১ = সম্পূর্ণ দ্বিমত	২ = দ্বিমত	৩ = নিরপেক্ষ/ জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
এই কোম্পানী তার বিভিন্ন সেবার মাধ্যমে ডিজিটাল দূরত্ব বা Gap কমানোর রাজনৈতিক দর্শন অনুসরণ করছে।	১	২	৩	৪	৫
মোবাইল ফোন সেবা, নতুন প্রযুক্তি এবং ভাল নেটওয়ার্ক গড়ে তোলার লাইসেন্স পেতে এই কোম্পানী যথেষ্ট পরিমাণে বিনিয়োগ করে থাকে।	১	২	৩	৪	৫
এই কোম্পানী যথেষ্ট পরিমাণে বিভিন্ন রকমের কর (Tax) ও শুল্ক (Duty) প্রদান করে (যেমন- ইনকাম ট্যাক্স, মূল্য সংযোজন কর, আমদানী শুল্ক, ইত্যাদি।	১	২	৩	৪	৫
বিভিন্ন বয়সের পুরুষ এবং মহিলা ব্যবহারকারীদের জন্য এই কোম্পানী বিশেষ মোবাইল প্যাকেজ চালু করেছে।	১	২	৩	৪	৫
এই কোম্পানীর সেবা প্যাকেজ এবং সুবিধাগুলো ক্রেতাদের ব্যক্তিগত, পেশাগত, পারিবারিক এবং সামাজিক জীবন যাত্রার সাথে সামঞ্জস্যপূর্ণ।	১	২	৩	৪	৫
স্থানীয় কমিউনিটি বা সম্প্রদায় এবং অবহেলিত সামাজিক গোষ্ঠীর জন্য অনুদান ও অন্যান্য সাহায্য সহযোগীতা প্রদানে এই কোম্পানীর সুনাম রয়েছে।	১	২	৩	৪	৫
অত্যন্ত উন্নত এবং সর্বাধুনিক প্রযুক্তির মাধ্যমে (যেমন 3G) এই কোম্পানী সেবা প্রদান করে থাকে।	১	২	৩	৪	৫
ব্যবহারকারীদের তথ্যের নিরাপত্তা নিশ্চিত করতে এই কোম্পানী সর্বাধুনিক প্রযুক্তি ব্যবহার করে থাকে।	১	২	৩	৪	৫
এই কোম্পানী ব্যবহারকারীদের লেনদেনের তথ্য (যেমন ব্যালেন্স রিচার্জ বা বিল পে) দ্রুত এসএমএস এর মাধ্যমে জানিয়ে দেয়।	১	২	৩	৪	৫
এই কোম্পানীর সর্বশেষ চালুকৃত প্রযুক্তির মাধ্যমে দ্রুত যোগাযোগ করা সম্ভব	১	২	৩	৪	৫

চলমান পাতা

Performance Marketing (কার্যসম্পাদনমূলক বিপণন) কার্যাবলী	১ = সম্পূর্ণ বিমত	২ = বিমত	৩ = নিরপেক্ষ/জানি	৪ = একমত	৫ = সম্পূর্ণ একমত
পরিবেশের উপর ক্ষতিকর প্রভাব কমাতে পুরানো মোবাইল ব্যাটারী, ফোনসেট ও অন্যান্য আনুষঙ্গিক যন্ত্রপাতি পুনঃ প্রক্রিয়াকরণের (Recycling)-এর জন্য কোম্পানীর নির্দিষ্ট ঠিকানায় জমা দিতে এই কোম্পানী ব্যবহারকারীদের উৎসাহ প্রদান করে।	১	২	৩	৪	৫
মোবাইল যোগাযোগ, বনফারেসিং ইত্যাদির ফলে কাগজের ব্যবহার ও ধ্বংসের যত্নে কমানোর মাধ্যমে পরিবেশ দূষণ কমাতে এই কোম্পানী সহায়তা করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন টাওয়ার থেকে নির্গত বিদ্যুৎ চুম্বকীয় বিকিরণের ক্ষতিকর প্রভাব (Electromagnetic radiation) থেকে পরিবেশের সুরক্ষা নিশ্চিত করতে এই কোম্পানী তার পরিবেশ স্বাস্থ্য নীতি, টাওয়ার/স্থাপনা, ইত্যাদি প্রচার করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন ব্যবহারের ক্ষতিকর দিক (যেমন: শরীর এবং শিশুদের উপর, গাড়ী চালানোর সময়, ইত্যাদি) সম্পর্কে এই কোম্পানী যথেষ্ট প্রচার বা Publicity করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন সেবা চালু করা সহ বিভিন্ন প্রযুক্তির (যেমন- 3G) লাইসেন্স পাওয়ার জন্য এই কোম্পানী যথাযথ, সং এবং স্বচ্ছ আইনগত পদ্ধতি অনুসরণ করেছে।	১	২	৩	৪	৫
সেবাদানের পূর্বে এই কোম্পানী স্থানীয়, জাতীয় এবং আন্তর্জাতিক মোবাইল যোগাযোগের উপর কর, সার্ভিস চার্জ, লুকায়িত (Hidden) চার্জ, কলরেট সহ সবধরনের বিল এর তথ্য এবং ব্যবহারের শর্তাবলী ক্রেতাদের নিকট অগ্রিম প্রকাশ করে।	১	২	৩	৪	৫
এই কোম্পানী প্রত্যেক সিম ব্যবহারকারীর পূর্ণাঙ্গ পরিচিতিসহ বিস্তারিত রেজিস্ট্রেশন বা তালিকাভুক্ত করে থাকে।	১	২	৩	৪	৫
ফৌজদারী অপরাধ তথা মোবাইলে ছদ্মকী প্রদান, বিরক্ত/উত্যক্ত করা, ইত্যাদির থেকে ব্যবহারকারীদের রক্ষা করতে ক্রেতা বা পুলিশ ও আইনানুগ তদন্তকারী সংস্থার অনুরোধে এই কোম্পানী প্রয়োজনীয় তথ্য ও সহায়তা প্রদান করে থাকে।	১	২	৩	৪	৫
আইনগত কর্তৃপক্ষ বা ব্যবহারকারীর অনুমতি ব্যতীত এই কোম্পানী ক্রেতার তথ্য কাউকে প্রদান করেনা এবং কোন বিপণন কার্যক্রমেও ব্যবহার করে না। এভাবে কোম্পানী ব্যবহারকারীর তথ্যের সর্বোচ্চ গোপনীয়তা রক্ষা করে।	১	২	৩	৪	৫
এই কোম্পানী ব্যবহারকারীদের বিনা অনুমতিতে তাদের নিকট কোন বিজ্ঞাপন বা বিপণন বার্তা (message) প্রেরণ করে না।	১	২	৩	৪	৫

সারণী -৬ঃ কার্যসম্পাদনমূলক বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

কার্যসম্পাদনমূলক বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
কার্যসম্পাদনমূলক বিপণনের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা ব্যবসার কার্যফল, পরিমাণ, মুনাফা ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

আপনার মূল্যবান সময়ের জন্য ধন্যবাদ

**APPENDIX 3: THE QUESTIONNAIRE FOR EMPLOYEES
(ENGLISH VERSION)**

SURVEY ON EMPLOYEE PERCEPTIONS OF MOBILE PHONE TELECOM INDUSTRY OF BANGLADESH

Dear Participant,

We are conducting this survey on employees to know their perceptions about the effect of internal, integrated and performance marketing activities on the **sustainable development** of the mobile phone telecom industry of Bangladesh.

“Sustainable development involves the continuous improvement of the economic/financial, environmental and the wellbeing of the organizational and society’s people by reducing risks, avoiding waste, creating new innovative products and services, improving the levels of living standards and above all increasing efficiency and profitability.”

The following questionnaire is a part of PhD thesis, and your kind participation in filling this will be very helpful in the successful completion of the research project.

Your responses will be kept highly confidential. Please attempt to answer all the questions.

Your participation in the study will be highly appreciated.

PART A: DEMOGRAPHIC PROFILE

1. Write Your Name : _____
2. Write Your Address : _____
3. What is your gender? (Choose one response only)
 1. Male
 2. Female
4. Which of the following categories includes your age? (Choose one response only)
 1. Less than 18 years
 2. 18 – 24 years
 3. 25 – 29 years
 4. 30 – 34 years
 5. 35 – 39 years
 6. 40 – 44 years
 7. 45 – 49 years
 8. 50 years or above
 9. Don’t know
5. Your Mobile Number : _____
6. Your Email Address : _____

Continued

EMPLOYEE CLASSIFICATION

7. Which of the following company is your current employer? (Choose one response only)
1. Grameen Phone
 2. Robi
 3. Bangla Link
 4. Airtel
 5. City Cell
 6. TeleTalk
8. What is your current designation? (Choose one response only)
1. Chairman
 2. CEO
 3. Managing Director
 4. Director
 5. General Manager
 6. Manager
 7. Deputy Manager
 8. Assistant Manager
 9. Senior Executive/Officer
 10. Executive/Officer
 11. Others
9. Which of the following best describes your employment status? (Choose one response only)
1. Full Time
 2. Part Time
 3. Contractual
 4. Consultant
 5. Others
10. What is the highest level of education you have completed? (Choose one response only)
1. Less than or, up to Primary School
 2. High School/Secondary
 3. Higher Secondary
 4. Graduate
 5. Post-Graduate
 6. PhD/Doctorate
11. Since how long are you serving this company? (Choose one response only)
1. 0-5 years
 2. 5-10 years
 3. 10 years and above

Continued

PART B: INTERNAL MARKETING

The following is a list of internal marketing activities that the mobile phone companies generally undertake to motivate and retain their employees for the **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 1 and Table 2 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 7** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 1: Internal Marketing Activities

Internal Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Management of this company is sincere for its employee welfare	1	2	3	4	5
Management of this company treats its employees as valued resources.	1	2	3	4	5
Management of this company views training for employee knowledge and skills development as an investment rather than a cost	1	2	3	4	5
Good communication exists at all levels of this company management	1	2	3	4	5
This company offers handsome salaries and other financial and non-financial employment benefits based on employee performance	1	2	3	4	5
Employees receive the right amount of recognition and appreciation from the management for their work, contribution and achievement	1	2	3	4	5
Provisions for promotion & career growth in this company is excellent	1	2	3	4	5
The company is a good place to work with safety and job security	1	2	3	4	5
There is good balance between work and personal life of employees	1	2	3	4	5
Provisions for recreation facilities like annual sports, cultural program, picnic, tour/trip, etc., enhance employee capabilities and efficiencies	1	2	3	4	5
Equal Employment Opportunity exists for all with no discrimination	1	2	3	4	5
Employee job description is/are well defined by the management	1	2	3	4	5
Management of this company is dynamic and non-bureaucratic and so the employees enjoy participative decision making authority	1	2	3	4	5
Employees of this company are well equipped with official accommodation, cell phone, PC/Laptop, internet connectivity, vehicle, etc.	1	2	3	4	5
There is excellent relationship among the superiors, subordinates and colleagues at all levels and departments within this company.	1	2	3	4	5

Table 2: Sustainable Development through Internal Marketing Activities

Sustainable Development through Internal Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Internal Marketing activities can ensure sustainable development of this company by satisfying employees and increasing business volume, profitability and growth.	1	2	3	4	5

PART C: INTEGRATED MARKETING

The following is a list of integrated marketing activities that the mobile phone operators undertake to improve functional & managerial coordination in providing quality service for **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 3 and Table 4 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 8** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 3: Integrated Marketing Activities

Integrated Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company provides best customer service through cross-functional employee teams including specialists from its various departments	1	2	3	4	5
This company maintains a balanced combination of SIM, handsets, basic telephony, mobile commerce, mobile banking, mobile internet, etc., as part of its varied service packages	1	2	3	4	5
This company maintains integrated and competitive call rates and charges for all of its service packages like mobile telephony, mobile internet, etc.	1	2	3	4	5
This company undertakes promotional campaigns through the use of integrated marketing communication channels like traditional broadcast & electronic media with modern online, & social networks	1	2	3	4	5
This company serves customers with an integrated management of the conveniently located service centres and channel members (e.g., customer service centers, call centers, dealers, franchisees, independent shops, etc.)	1	2	3	4	5
This company maintains a pool of service-minded and customer-oriented employees, investors, media and channel partners with shared vision	1	2	3	4	5
This company maintains well coordinated, simple, smart and fast service process (e.g., easy to use/operate, pay bill/ recharge, transfer balance, 24 hours support)	1	2	3	4	5
This company maintains same attractive interior, appealing exteriors, and branding atmosphere at all of its service points.	1	2	3	4	5
This company maintains an integrated network with the local and international operators to serve its customers	1	2	3	4	5
This company provides best quality service through an integrated relationship with the suppliers of technologies (e.g., CDMA/GSM, 3G, etc.), SIM cards and networking tower, equipments, accessories, etc.	1	2	3	4	5

Table 4: Sustainable Development through Integrated Marketing Activities

Sustainable Development through Integrated Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Integrated Marketing activities can ensure sustainable development of this company by providing benefits to all and increasing business volume, profitability and growth.	1	2	3	4	5

PART D: PERFORMANCE MARKETING

The following is a list of performance marketing activities that the mobile phone operators generally undertake to continuously improve the marketing performance by mitigating political, economic, social, technological, environmental and legal challenges for the **sustainable development** of their business.

Please **ENCIRCLE** the most appropriate number at the right side of each activity in the Table 5 and Table 6 on a scale of 1 to 5 to indicate how closely each of these activities is related to the mobile telecom service providing company which you have selected in the **Question No. 8** of this questionnaire. The meaning of the numbers is as follows which is also specified in the short form at the top of each column.

1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Neutral (N), 4 = Agree (A) and 5 = Strongly Agree (SA)

Table 5: Performance Marketing Activities

Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company adheres to the political vision “Digital Bangladesh” of minimizing the digital gap through its various services.	1	2	3	4	5
This company invested handsomely in acquiring licenses for mobile phone operating, new technologies, and building network.	1	2	3	4	5
This company pays handsome amount of various types of taxes and duties like income tax, value added tax, import duties, etc.	1	2	3	4	5
This company has launched special mobile packages and facilities for the users of varied age and gender groups.	1	2	3	4	5
This company service packages and facilities are compatible with personal, professional, family, and social life style of customers.	1	2	3	4	5
This company has good reputation for donations, sponsorship, charity, philanthropic support and commitment for the welfare of local communities, and underprivileged social groups.	1	2	3	4	5
This company offers mobile telecom services through the latest technologies (e.g., 3G)	1	2	3	4	5
This company uses latest technological know-how to protect and secure users information.	1	2	3	4	5
This company promptly updates the customers about their transaction information (balance recharge or bill pay) through user friendly confirmation SMS	1	2	3	4	5
The latest technology (e.g., 3G) launched by this company ensures faster speed of communication.	1	2	3	4	5

Continued

PERFORMANCE MARKETING (Continued)

Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
This company has recycling program to encourage customers to dispose their mobile handsets, accessories and battery in a safe and responsible way through the recycling points in its outlets.	1	2	3	4	5
This company offers to help in reducing environmental pollution due to work-related travelling via vehicles and paper based wastages through mobile commuting, mobile conferencing services, etc.	1	2	3	4	5
This company undertakes publicity about its environment friendly policy and environment compliant telecom infrastructure to prevent the environment from the adverse effect of electromagnetic radiation from the telecommunication networks.	1	2	3	4	5
This company undertakes strong publicity about the harmful effects of mobile phone usage on health and children, and risks of using while driving.	1	2	3	4	5
This company launched various services by acquiring permission or license of 3G, VOIP, etc., in fair and transparent way through the due legal process.	1	2	3	4	5
This company clearly discloses all billing information, terms and conditions to customers in advance including all charges like local and international taxes and tariffs, hidden and inter-operators charges	1	2	3	4	5
This company registers complete user details for all of its issued SIMs	1	2	3	4	5
This company provides necessary information and support to protect the customer or the affected party or victim in case of customer's request or police and legal investigation against any criminal offence.	1	2	3	4	5
This company strictly maintains confidentiality of customer information and does not share them with anyone or, marketing campaign unless there is any legal obligation/customer's permission.	1	2	3	4	5
This company takes permission from customer before sending any promotional message and SMS advertisement to them	1	2	3	4	5

Table 6: Sustainable Development through Performance Marketing Activities

Sustainable Development through Performance Marketing Activities	1 = SD	2 = D	3 = N	4 = A	5 = SA
Implementation of the above Performance Marketing activities can ensure sustainable development of this company by enhancing business performance, volume, profitability and growth.	1	2	3	4	5

Thank you for taking your valuable time to complete the survey questionnaire.

**APPENDIX 4: THE QUESTIONNAIRE FOR EMPLOYEES
(BENGALI VERSION)**

বাংলাদেশ মোবাইল ফোন টেলিকম শিল্পের টেকসই/দীর্ঘস্থায়ী উন্নয়নে কর্মচারীদের মতামতের উপর সমীক্ষা

প্রিয় অংশগ্রহণকারী,

আমরা অভ্যন্তরীণ বিপণন (Internal Marketing), সমন্বিত বিপণন (Integrated Marketing) ও কার্য সম্পাদন মূলক বিপণন (Performance Marketing) কার্যাবলীর মাধ্যমে বাংলাদেশের মোবাইল ফোন টেলিকম শিল্পের টেকসই/দীর্ঘস্থায়ী উন্নয়নের ব্যাপারে মোবাইল সেবা প্রদানকারী কোম্পানীগুলোর কর্মচারীদের মতামত জানার জন্য এই সমীক্ষা চালাচ্ছি।

“টেকসই/দীর্ঘস্থায়ী উন্নয়ন বলতে ঝুঁকি কমানো, অপচয় রোধ, নতুন পণ্য ও সেবার উন্নয়ন, কর্মচারীদের কল্যাণ, ক্রেতার সন্তুষ্টি বিধান ও জীবনমান উন্নয়ন এবং সর্বোপরি কার্য- সম্পাদনে দক্ষতা ও ব্যবসায়িক লাভ নিশ্চিত করার মাধ্যমে একটি চলমান আর্থিক, পরিবেশগত, প্রাতিষ্ঠানিক এবং সামাজিক কল্যাণমূলক উন্নয়নকেই বোঝানো হয়।”

নিম্নোক্ত প্রশ্নাবলী পিএইচডি থিসিসের একটি অংশ এবং এটি পূরনে আপনার সহায়তা এই গবেষণা প্রকল্পের সার্থক সম্পাদন নিশ্চিত করবে।

আপনার সব তথ্য গোপনীয় রাখা হবে। অনুগ্রহপূর্বক সব প্রশ্নগুলোর উত্তর দিন।

এই সমীক্ষায় আপনার অংশগ্রহনের জন্য আমরা কৃতজ্ঞ।

১। আপনার নাম :

২। আপনার ঠিকানা :

৩। আপনি _____ (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. পুরুষ

২. মহিলা

৪। নীচের শ্রেণীগুলোর মধ্যে কোনটিতে আপনার বয়স অন্তর্ভুক্ত? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. ১৮ বৎসরের নীচে

২. ১৮-২৪ বৎসর

৩. ২৫-২৯ বৎসর

৪. ৩০-৩৪ বৎসর

৫. ৩৫- ৩৯ বৎসর

৬. ৪০-৪৪ বৎসর

৭. ৪৫-৪৯ বৎসর

৮. ৫০ বৎসর বা ততোধিক

৯. জানি না

৫। আপনার মোবাইল নম্বর :

৬। আপনার ই-মেইল ঠিকানা :

চলমান পাতা

কর্মচারীদের শ্রেণী বিন্যাস:

৭। আপনি কোন মোবাইল টেলিকম সেবাদানকারী কোম্পানীতে কর্মরত? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. গ্রামীণফোন
২. রবি
৩. বাংলালিংক
৪. এয়ারটেল
৫. সিটিসেল
৬. টেলিটক

৮। আপনার বর্তমান পদবী কি? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. সভাপতি (Chairman)
২. প্রধান নির্বাহী (CEO)
৩. ব্যবস্থাপনা পরিচালক (Managing Director)
৪. পরিচালক (Director)
৫. মহাব্যবস্থাপক (General Manager)
৬. ব্যবস্থাপক (Manager)
৭. সহযোগী/ সহকারী ব্যবস্থাপক (Deputy/ Assistant Manager)
৮. সিনিয়র কর্মকর্তা (Senior Executive/ Officer)
৯. কর্মকর্তা (Executive/ Officer)
১০. অন্যান্য (Others)

৯। নীচের কোনটি আপনার কর্মসংস্থান অবস্থাকে বোঝায়? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. পূর্ণকালীন (Full Time)
২. অর্ধকালীন (Part Time)
৩. চুক্তিভিত্তিক (Contractual)
৪. পরামর্শক (Consultant)
৫. অন্যান্য (Others) হলে উল্লেখ করুন _____

১০। আপনার সর্বোচ্চ শিক্ষাগত যোগ্যতা কি? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. প্রাথমিক বিদ্যালয় পর্যন্ত বা নিম্নমান
২. মাধ্যমিক
৩. উচ্চ-মাধ্যমিক/ ডিপেণ্ডামা
৪. স্নাতক
৫. স্নাতকোত্তর
৬. পিএইচডি/ ডক্টরেট

১১। কত বছর যাবত আপনি এই কোম্পানীতে কর্মরত? (যে কোন ১টি উত্তর নির্ধারণ করুন)

১. ০-৫ বছর
২. ৫-১০ বছর
৩. ১০ বছর বা ততোধিক

চলমান পাতা

অভ্যন্তরীণ বিপনন (Internal Marketing)

কর্মচারীদের সম্ভ্রষ্ট ও অনুপ্রাণিত করে ব্যবসায় ধরে রাখার মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানীগুলো সাধারণত: যেসব অভ্যন্তরীণ বিপনন এর কার্যাবলী সম্পাদন করে, তা নীচের সারণীতে উল্লেখ করা হলো:

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ বিমত ২ = বিমত ৩ = নিরপেক্ষ/জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী - ১ঃ অভ্যন্তরীণ বিপননের কার্যাবলী

অভ্যন্তরীণ বিপনন (Internal Marketing) কার্যাবলী	১ = সম্পূর্ণ বিমত	২ = বিমত	৩ = নিরপেক্ষ/জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
এই কোম্পানীর ব্যবস্থাপনা পর্ষদ ইহার কর্মচারীদের কল্যাণ নিশ্চিতকল্পে আশ্রয়িত।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনা পর্ষদ ইহার কর্মচারীদেরকে মূল্যবান সম্পদ মনে করে।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনা পর্ষদ ইহার কর্মচারীদের জ্ঞান ও দক্ষতা উন্নয়নে প্রশিক্ষণ (Training) কে বরং নয় বরং বিনিয়োগ হিসাবে গণ্য করে।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনার সর্বশ্রুত্রে ভাল যোগাযোগ ব্যবস্থা বিদ্যমান।	১	২	৩	৪	৫
এই কোম্পানী তার কর্মচারীদের আকর্ষণীয় বেতন এবং অন্যান্য আর্থিক ও আনুষ্ঠানিক সুবিধাদি প্রদান করে।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনা পর্ষদ কর্মচারীদেরকে তাদের কাজ, অবদান এবং অর্জনের জন্য যথাযথ মূল্যায়ন ও প্রশংসা করে থাকে।	১	২	৩	৪	৫
এই কোম্পানীতে কর্মচারীদের পদোন্নতি এবং ক্যারিয়ার বা পেশাগত উন্নয়নের সুযোগ এবং চমৎকার ব্যবস্থা বিদ্যমান।	১	২	৩	৪	৫
চাকুরীতে নিরাপত্তা এবং স্থায়িত্বের সাথে কাজ করার জন্য এই কোম্পানী একটি চমৎকার জায়গা।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারীদের কাজ এবং ব্যস্ততার পরিমাণ ব্যক্তিগত জীবনের সাথে সাংঘর্ষিক ও হুমকী স্বরূপ নয় বরং সামঞ্জস্যপূর্ণ।	১	২	৩	৪	৫
এই কোম্পানীর বিভিন্ন রকমের বিনোদনমূলক ব্যবস্থা যেমন- বার্ষিক খেলাধুলা, সাংস্কৃতিক অনুষ্ঠান, পিকনিক, আনন্দ ভ্রমণ, ইত্যাদি কর্মচারীদের কাজের সক্ষমতা এবং দক্ষতা বাড়াতে সহায়ক।	১	২	৩	৪	৫
এই কোম্পানীতে কাজের বৈষম্য নয় বরং সবার জন্য কর্মসংস্থানের সম অধিকার রক্ষিত।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারীদের দায়-দায়িত্ব ইহার ব্যবস্থাপনা পর্ষদ কর্তৃক সঠিকভাবে নির্ধারিত।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনা পদ্ধতি গতিশীল এবং আমলা তান্ত্রিক নয় বরং তা কর্মচারীদের অংশগ্রহণমূলক সিদ্ধান্ত নির্ভর।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারীরা পর্যাপ্ত অফিস রুম, আসবাবপত্র, মোবাইল ফোন, কম্পিউটার/ল্যাপটপ, ইন্টারনেট সংযোগ, গাড়ী ইত্যাদি দ্বারা স্বয়ংসম্পূর্ণ।	১	২	৩	৪	৫
এই কোম্পানীর ব্যবস্থাপনার সর্বশ্রুত্রে ও বিভাগে উর্ধ্বতন, অধঃশ্রুত্রে এবং সহকর্মীদের মধ্যে চমৎকার সম্পর্ক বিদ্যমান।	১	২	৩	৪	৫

সারণী - ২ঃ অভ্যন্তরীণ বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

অভ্যন্তরীণ বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
অভ্যন্তরীণ বিপননের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা কর্মচারীদের সম্ভ্রষ্ট, ব্যবসার পরিমাণ, খুশি ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

Integrated Marketing (সমন্বিত বিপণন)

সকল কার্যাবলী এবং সেবার সমন্বয় সাধনের মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানী গুলো সাধারণত: যেসব Integrated Marketing (সমন্বিত বিপণন) কার্যাবলী সম্পাদন করে থাকে তা নীচের সারণীতে উল্লেখ করা হলো।

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ দ্বিমত ২ = দ্বিমত ৩ = নিরপেক্ষ/জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী -৩ : সমন্বিত বিপণনের কার্যাবলী

Integrated Marketing (সমন্বিত বিপণন) কার্যাবলী	১ = সম্পূর্ণ দ্বিমত	২ = দ্বিমত	৩ = নিরপেক্ষ/জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
ব্যবহারকারীদের ভাল সেবা প্রদান করার জন্য এই কোম্পানী প্রয়োজনে তার বিভিন্ন বিভাগের দক্ষ কর্মকর্তাদের নিয়ে দলগতভাবে সেবা প্রদান করে থাকে।	১	২	৩	৪	৫
এই কোম্পানীর সেবা প্যাকেজগুলো সিম, হ্যান্ডসেট, মোবাইল ফোনালাপ, মোবাইল কমার্স, মোবাইল ব্যাংকিং, মোবাইল ইন্টারনেট, ইত্যাদির এক সমন্বিত আয়োজন।	১	২	৩	৪	৫
এই কোম্পানীর সব সেবার কল রেট বা চার্জ সমন্বিতভাবে প্রতিযোগিতামূলক/অপেক্ষাকৃত কম।	১	২	৩	৪	৫
প্রচার চালানোর জন্য এই কোম্পানী সব ধরনের প্রচার মাধ্যমের সমন্বিত ব্যবহার করে। (যেমন: পত্রিকা, ম্যাগাজিন, টেলিভিশন, রেডিও, ইন্টারনেট, পোস্টার, ব্যানার, পাবলিসিটি, গন সংযোগ, সরাসরি বিপণন, স্পন্সরশিপ, শিল্প ও বাণিজ্য মেলায় অংশগ্রহণ, ইত্যাদি)	১	২	৩	৪	৫
সহজে যোগাযোগযোগ্য স্থানে অবস্থিত ক্রেতা সেবাদান কেন্দ্রগুলো ও বিতরণকারীদের সাথে এই কোম্পানী সমন্বিত ব্যবস্থাপনার ভিত্তিতে কাজ করে থাকে।	১	২	৩	৪	৫
এই কোম্পানীর কর্মচারী, বিনিয়োগকারী, মিডিয়া এবং বিতরণ অংশীদার/পার্টনার সবাই ক্রেতা সেবা কেন্দ্রিক দর্শনের অনুসারী অর্থাৎ ক্রেতার সন্তুষ্টি বিধানে সচেষ্টি।	১	২	৩	৪	৫
এই কোম্পানী একটি যথাযথভাবে সমন্বিত, সহজ, আধুনিক এবং দ্রুত (যেমন: সহজে বিল প্রদান/রিচার্জ/ব্যালেন্স স্থানান্তর, দ্রুত যোগাযোগ, ২৪ ঘন্টা কল সেন্টার সেবা সুযোগ) সেবা প্রদান প্রক্রিয়া অনুসরণ করে।	১	২	৩	৪	৫
এই কোম্পানীর সব সেবাদান কেন্দ্রগুলোর ভেতর এবং বাইরের ব্র্যান্ডেড ডিজাইন ও পরিবেশ একই রকম। (যেমন একই রকমের রং, আসবাবপত্র, ফিটিংস ইত্যাদি।	১	২	৩	৪	৫
দেশী এবং বিদেশী মোবাইল অপারেটরদের সাথে সমন্বিত নেটওয়ার্কের মাধ্যমে এই কোম্পানীর ব্যবহারকারীরা সহজে যোগাযোগ করতে পারেন।	১	২	৩	৪	৫
প্রযুক্তি, সিম কার্ড, ফোন সেট এবং মোবাইল নেটওয়ার্ক টাওয়ার ও আনুসংগিক যন্ত্রপাতির সরবরাহকারীদের সমন্বয় সাধনের মাধ্যমে এই কোম্পানী উন্নত সেবা প্রদান করে।	১	২	৩	৪	৫

সারণী -৪: সমন্বিত বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

সমন্বিত বিপণনের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
সমন্বিত বিপণনের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা সবাইকে সুবিধা প্রদান, ব্যবসার পরিমাণ, মুনাফা ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

চলমান পাতা

Performance Marketing (কার্যসম্পাদনমূলক বিপনন)

রাজনৈতিক, অর্থনৈতিক, সামাজিক, প্রযুক্তিগত, পরিবেশগত এবং আইনগত সমস্যার সমাধান করার মাধ্যমে মোবাইল টেলিকম ব্যবসার টেকসই/দীর্ঘস্থায়ী উন্নয়নের জন্য মোবাইল ফোন অপারেটর বা কোম্পানীগুলো সাধারণত: যেসব Performance Marketing এর কার্যাবলী সম্পাদন করে, তা নীচের সারণীতে উল্লেখ করা হলো।

নীচের সারণীতে উল্লেখিত প্রত্যেকটি কাজ আপনার মোবাইল অপারেটর সম্পন্ন করেন কিনা এ ব্যাপারে আপনার মতামত প্রদানের জন্য প্রত্যেক কাজের ডান পাশে দেয়া ১ থেকে ৫ এর যে কোন ১টিকে গোলাকারভাবে চিহ্নিত করুন। এই ১ থেকে ৫ নম্বরগুলোর মান নিম্নরূপ:

১ = সম্পূর্ণ দ্বিমত ২ = দ্বিমত ৩ = নিরপেক্ষ/জানি না ৪ = একমত ৫ = সম্পূর্ণ একমত

সারণী -৫ঃ কার্যসম্পাদনমূলক বিপননের কার্যাবলী

Performance Marketing (কার্যসম্পাদনমূলক বিপনন) কার্যাবলী	১ = সম্পূর্ণ দ্বিমত	২ = দ্বিমত	৩ = নিরপেক্ষ/জানি না	৪ = একমত	৫ = সম্পূর্ণ একমত
এই কোম্পানী তার বিভিন্ন সেবার মাধ্যমে ডিজিটাল দূরত্ব বা Gap কমানোর রাজনৈতিক দর্শন অনুসরণ করেছে।	১	২	৩	৪	৫
মোবাইল ফোন সেবা, নতুন প্রযুক্তি এবং ভাল নেটওয়ার্ক গড়ে তোলার লাইসেন্স পেতে এই কোম্পানী যথেষ্ট পরিমাণে বিনিয়োগ করে থাকে:	১	২	৩	৪	৫
এই কোম্পানী যথেষ্ট পরিমাণে বিভিন্ন রকমের কর (Tax) ও শুল্ক (Duty) প্রদান করে (যেমন- ইনকাম ট্যাক্স, মূল্য সংযোজন কর, আমদানী শুল্ক, ইত্যাদি।	১	২	৩	৪	৫
বিভিন্ন বয়সের পুরুষ এবং মহিলা ব্যবহারকারীদের জন্য এই কোম্পানী বিশেষ মোবাইল প্যাকেজ চালু করেছে।	১	২	৩	৪	৫
এই কোম্পানীর সেবা প্যাকেজ এবং সুবিধাগুলো ক্রেতাদের ব্যক্তিগত, পেশাগত, পারিবারিক এবং সামাজিক জীবন যাত্রার সাথে সামঞ্জস্যপূর্ণ।	১	২	৩	৪	৫
স্থানীয় কমিউনিটি বা সম্প্রদায় এবং অবহেলিত সামাজিক গোষ্ঠীর জন্য অনুদান ও অন্যান্য সাহায্য সহযোগিতা প্রদানে এই কোম্পানীর সুনাম রয়েছে।	১	২	৩	৪	৫
অত্যাধু উন্নত এবং সর্বাধুনিক প্রযুক্তির মাধ্যমে (যেমন 3G) এই কোম্পানী সেবা প্রদান করে থাকে।	১	২	৩	৪	৫
ব্যবহারকারীদের তথ্যের নিরাপত্তা নিশ্চিত করতে এই কোম্পানী সর্বাধুনিক প্রযুক্তি ব্যবহার করে থাকে।	১	২	৩	৪	৫
এই কোম্পানী ব্যবহারকারীদের লেনদেনের তথ্য (যেমন ব্যালেন্স রিচার্জ বা বিল পে) দ্রুত এসএমএস এর মাধ্যমে জানিয়ে দেয়।	১	২	৩	৪	৫
এই কোম্পানীর সর্বশেষ চালুকৃত প্রযুক্তির মাধ্যমে দ্রুত যোগাযোগ করা সম্ভব	১	২	৩	৪	৫

চলমান পাতা

Performance Marketing (কার্যসম্পাদনমূলক বিপনন) কার্যাবলী	১ = সম্পূর্ণ বিমত	২ = বিমত	৩ = নিরপেক্ষ/জানি	৪ = একমত	৫ = সম্পূর্ণ একমত
পরিবেশের উপর ক্ষতিকর প্রভাব কমাতে পুরানো মোবাইল ব্যাটারী, ফোনসেট ও অন্যান্য আনুষঙ্গিক যন্ত্রপাতি পুনঃ প্রক্রিয়াকরণের (Recycling)-এর জন্য কোম্পানীর নির্দিষ্ট ঠিকানায় জমা দিতে এই কোম্পানী ব্যবহারকারীদের উৎসাহ প্রদান করে।	১	২	৩	৪	৫
মোবাইল যোগাযোগ, কনফারেন্সিং ইত্যাদির ফলে কাগজের ব্যবহার ও যানবাহনের যাতায়াত কমানোর মাধ্যমে পরিবেশ দূষণ কমাতে এই কোম্পানী সহায়তা করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন টাওয়ার থেকে নির্গত বিদ্যুৎ চুম্বকীয় বিকীরণের ক্ষতিকর প্রভাব (Electromagnetic radiation) থেকে পরিবেশের সুরক্ষা নিশ্চিত করতে এই কোম্পানী তার পরিবেশ বান্ধব নীতি, টাওয়ার/স্থাপনা, ইত্যাদি প্রচার করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন ব্যবহারের ক্ষতিকর দিক (যেমন: শরীর এবং শিশুদের উপর, গাড়ী চালানোর সময়, ইত্যাদি) সম্পর্কে এই কোম্পানী যথেষ্ট প্রচার বা Publicity করে থাকে।	১	২	৩	৪	৫
মোবাইল ফোন সেবা চালু করা সহ বিভিন্ন প্রযুক্তির (যেমন- 3G) লাইসেন্স পাওয়ার জন্য এই কোম্পানী যথাযথ, সৎ এবং স্বচ্ছ আইনগত পদ্ধতি অনুসরণ করেছে।	১	২	৩	৪	৫
সেবাদানের পূর্বে এই কোম্পানী স্থানীয়, জাতীয় এবং আন্তর্জাতিক মোবাইল যোগাযোগের উপর কর, সার্ভিস চার্জ, লুকায়িত (Hidden) চার্জ, কলরেট সহ সবধরনের বিল এর তথ্য এবং ব্যবহারের শর্তাবলী ক্রেতাদের নিকট অগ্রিম প্রকাশ করে।	১	২	৩	৪	৫
এই কোম্পানী প্রত্যেক সিম ব্যবহারকারীর পূর্ণাঙ্গ পরিচিতিসহ বিস্তারিত রেজিস্ট্রেশন বা তালিকাভুক্ত করে থাকে।	১	২	৩	৪	৫
ফৌজদারী অপরাধ তথা মোবাইলে হুমকী প্রদান, বিরক্ত/উত্যক্ত করা, ইত্যাদির থেকে ব্যবহারকারীদের রক্ষা করতে ক্রেতা বা পুলিশ ও আইনানুগ তদন্তকারী সংস্থার অনুরোধে এই কোম্পানী প্রয়োজনীয় তথ্য ও সহায়তা প্রদান করে থাকে।	১	২	৩	৪	৫
আইনগত কর্তৃপক্ষ বা ব্যবহারকারীর অনুমতি ব্যতীত এই কোম্পানী ক্রেতার তথ্য কাউকে প্রদান করেনা এবং কোন বিপণন কার্যক্রমেও ব্যবহার করে না। এভাবে কোম্পানী ব্যবহারকারীর তথ্যের সর্বোচ্চ গোপনীয়তা রক্ষা করে।	১	২	৩	৪	৫
এই কোম্পানী ব্যবহারকারীদের বিনা অনুমতিতে তাদের নিকট কোন বিজ্ঞাপন বা বিপণন বার্তা (message) প্রেরণ করে না।	১	২	৩	৪	৫

সারণী -৬ঃ কার্যসম্পাদনমূলক বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন

কার্যসম্পাদনমূলক বিপননের মাধ্যমে টেকসই/দীর্ঘস্থায়ী উন্নয়ন	১	২	৩	৪	৫
কার্যসম্পাদনমূলক বিপননের উপরিউক্ত কার্যাবলীর বাস্তবায়ন তথা ব্যবসার কার্যফল, পরিমাণ, মুনাফা ও উন্নতির মাধ্যমে এই কোম্পানীর টেকসই/দীর্ঘস্থায়ী উন্নয়ন সম্ভব।	১	২	৩	৪	৫

আপনার মূল্যবান সময়ের জন্য ধন্যবাদ