

**EFFECTIVENESS OF QUALITY ASSURANCE
MECHANISM IN HIGHER EDUCATION FOR
HUMAN RESOURCE DEVELOPMENT OF
BANGLADESH**

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RESOURCE DEVELOPMENT OF BANGLADESH**

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DECLARATION

I hereby declare that this study is my work presented to the Institute of Business Administration, University of Dhaka, towards the fulfillment of of the requirements of the degree Doctorate of Philosophy (Ph.D.) and to the best of my knowledge; this thesis titled “Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development of Bangladesh” contains no material previously published by another person nor which has been accepted for any kind of award or any other degree of any University or Institution home and abroad, except where due acknowledgements has been made in the text.

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LIST OF ABBREVIATION AND ACRONYMS

A

AGAE	: Agency for Quality Assurance in Higher Education and Research of Andalucía
AGS	: Australian Graduate Survey
AIUB	: American International University – Bangladesh
APEL	: Accredited Prior Experiential Learning
ASTD	: American Society for Training and Development
AQF	: Australian Qualifications Framework
AVE	: Average Variance Extracted

B

BAC	: Bangladesh Accreditation Council
BANBEIS	: Bangladesh Bureau of Educational Information and Statistics
BBS	: Bangladesh Bureau of Statistics
BDLP	: Business Development Loan Program
BdREN	: Bangladesh Research and Education Network
B.Ed.	: Bachelor of Education
BGHG	: Black Gold to Human Gold
BMET	: Bureau of Manpower Employment and Training
BNQF	: Bangladesh National Qualifications Framework
BNCU	: Bangladesh National Commission for UNESCO
BOU	: Bangladesh Open University
BTEB	: Bangladesh Technical Education Board

C

CLO	: Course Learning Outcomes
CV	: Curriculum Vitae
CCDMP	: Curriculum Content Development and Modification Process
CCDR	: Curriculum Content, Development and Review
CEQ	: Course Experience Questionnaire
CeTL	: Centre for Teaching-Learning

CEDFOP	: European Centre for the Development of Vocational Training
CFA	: Confirmatory Factor Analysis
CR	: Composite reliability

D

DF	: Degree of Freedom
DOT	: Dictionary of Occupational Titles
DPE	: Directorate of Primary Education
DSHE	: Directorate of Secondary and Higher Education
DTE	: Directorate of Technical Education

E

EC	: European Commission
EEQs	: Essential Employability Qualities
EFA	: Exploratory Factor Analysis
EPR	: External Peer Reviewers
EQA	: External quality assurance
ETF	: European Training Foundation
EPRT	: External Peer Review Team

F

FASS	: Faculty of Arts and Social Sciences
FBA	: Faculty of Business Administration
FE	: Faculty of Engineering
FGD	: Focus group discussion
FP	: Faculty Performance
FPE	: Faculty performance evaluation
FST	: Faculty of Science and Technology

G

GDP	: Gross Domestic Product
GDS	: Graduate Destination Survey
GOB	: Government of Bangladesh
GP	: Graduate Performance

H

HDI	: Human Development Index
HE	: Higher Education
HEI	: Higher Education Institution
HEQEP	: Higher Education Quality Enhancement Project
HEAT	: Higher Education Acceleration and Transformation
HEMIS	: Higher Education Management Information System
HETAC	: Higher Education and Training Awards Council
HRD	: Human Resource Development
HRIS	: Human Resource Information System
HRM	: Human Resource Management
H.S.C	: Higher secondary certificate

I

IAF	: Institutional Assessment Framework
ICT	: Information and Communication Technology
ILO	: Intended Learning Outcome
IQAC	: Institutional Quality Assurance Cell
IQACF	: Institutional Quality Assurance Cell Fund
IQA	: Internal quality assurance
ISC	: Industry Skills Council
IS	: Interpersonal Skills
ISO	: International Organization for Standardization
IT	: Information Technology
ITeS	: Information Technology Enabled Services

J

JR	: Job Requirement
----	-------------------

K

KMO	: Kaiser-Meyer-Olkin
KPI	: Key performance indicators
KSA	: Knowledge, Skill and Ability

L

LAPMs	: Long acting and permanent methods
LDC	: Least Developed Country
LF	: Laissez faire

M

MBA	: Master's in Business Administration
MDGs	: Millennium Development Goals
M.Ed.	: Master of Education
MoE	: Ministry of Education
MOHFW	: Ministry of Health and Family Welfare
MPO	: Monthly Per Order
MSA	: Measure of sampling adequacy

N

NAAC	: National Assessment and Accredited Council
NBA	: National Board of Accreditation
NCEO	: National Center on Educational Outcomes
NEP	: National Education Policy
NEF	: National Employment Federation
NGO	: <i>Non-Governmental Organization</i>
NHRD	: National Human Resource Development
NOICC	: National Occupational Coordinating Committees
NPC	: National Skills Policy Consultative Committee
NSDC	: National Skills Development Council
NSDA	: National Skill Development Authority
NSDP	: National skill development policy
NQF	: National Qualification Framework
NQSF	: National Qualification Skill Framework
NSS	: National skill survey
NUC	: National Universities Commission
NVP	: National Vision Policy

O

O*NET	: Occupational Information Network
OBE	: Outcome Based Education
OECD	: Organization for Economic Co-operation and Development
OLS	: Ordinary least squares
OPA	: Office of Placement and Alumni
OSA	: Office of Student Affairs

P

PSAC	: Program Self-Assessment Committee
PCA	: Principal Component Analysis
PDCA	: Plan-Do-Check-Act
PO	: Program Objectives
PLO	: Program Learning Outcomes
PLS	: Partial Least Squares
PPPs	: Public-private partnerships
PRUA	: Private University Act

Q

QA	: Quality Assurance
QAC	: Quality Assurance Committee
QAA	: The Quality Assurance Agency for Higher Education
QAACB	: Quality Assurance and Accreditation Council, Bangladesh
QAM	: Quality Assurance Mechanism
QAU	: Quality Assurance Unit in the UGC
QF	: Qualifications Framework
QMS	: Quality Management System
QPU	: Quality Promotion Unit

R

RINSACA	: Regional Informatics for South and Central Asia
RPI	: Research performance indicators

S

SA	: Self-Assessment
SAR	: Self-Assessment Report
SAC	: Self-Assessment Committee
SDGs	: Sustainable Development Goals
SEM	: Structural Equation Modeling
SHED	: Secondary and Higher Education Division
SI	: Stakeholders Involvement
Sig	: Significance
SIQAM	: Stakeholders' Involvement in Quality Assurance Mechanism
SPA	: Student Performance Assessment
SPAP	: Student Performance Assessment Process
SQA	: Sustainable Quality Assurance
STEP	: Skill and training enhancement project
SWOT	: Strengths, weaknesses, opportunities, and threats

T

TPI	: Teaching Performance Indicators
TEIs	: Tertiary education institutes
TL	: Teaching- Learning
TLP	: Teaching-Learning Process
TMED	: Technical and Madrasa Education Division
TQM	: Total Quality Management
TVET	: Technical and Vocational Education and Training

U

UGC	: University Grants Commission of Bangladesh
UIC	: University industry collaboration
UNESCO	: United Nations Educational, Scientific and Cultural Organization
UNDP	: United Nations Development Program

V

VC	: Vice Chancellor
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ABSTRACT

Bangladesh has a continued focus on Higher Education (HE) and invests heavily in this sector, as is evident from the large number of institutions that are catering to the educational needs of the citizens. However, this large number does not necessarily equate to quality graduates. The process to support the development of the citizens as human resources as well as address the ineffectiveness or failure to maintain a certain level of a quality assurance (QA) of the graduates through Knowledge Skill and Ability (KSA) is a major concern that challenges the efforts to exploit the benefits and results of such human resource development initiatives. Indeed, effectiveness of Quality Assurance Mechanism (QAM) in HE is a key driver that drives Human Resource Development (HRD). Literature reveals a lack of study of the impacts of QAM in HE on HRD in Bangladesh.

Viewing HRD as a complex dimension, this objective of this research is to understand the QAM in HE and the underlying mechanism of how Teaching-Learning process (TLP); Curriculum Content, Development, and Review (CCDR); Student Performance Assessment (SPA) Process and Stakeholders' involvement in QAM (SIQAM) affect KSA's overall improvement and results in HRD of Bangladesh. The objective of the research is drawn as to find out the effectiveness of QAM in HEIs for HRD of Bangladesh through the process of improving KSA of Graduates. The specific objectives are to examine empirically the overall relationship between elements of the QAM and improvement of HRD, specifically between Curriculum Content Design and Review (CCDR), Teaching-Learning process (TLP), Student Performance Assessment (SPA) and Involvement of Stakeholders (SI) and to document the required process; to measure the role and challenges of QAM on the improvement of KSA of graduates; to unearth/generate the opinion of respondents who are involved with the HE and QA activities; to identify the gaps that exist in KSA by investigating the role of QAM in HEIs in developing Human Resources of Bangladesh; and to suggest steps to address the challenges for further development of Human Resource through HEIs of Bangladesh. The work has drawn from the evolutionary theory proposed by Harbison and Myers, (1964) that states that HRD is the procedure of growing the knowledge, the skills, and the capacities of all the human beings in the society Swanson and Holton (2009). Premuzic, T.C. and Frankiewicz (2019) states that Graduates/students develop KSA by studying a specific curriculum, teaching-learning method,

and the KSA assessed by the universities. Drawing upon these previous studies and theoretical foundations, an integrated research model was developed to address QAM's effectiveness for improving KSA through TLP, CCDR, SPA, and SI, and subsequently results of HRD in Bangladesh. The new initiative by the Bangladesh government for QAM in HE to improve KSA, meet the job market demand, bridge the gap in KSA thereby resulting in HRD, also serves as a rationale for the model adopted in this research. The model also questions the roles of other determinants and moderators mainly TLP, CCDR, SPA, and SIQAM, which is consistent with previous research work.

Drawn from the research questions and objectives, four hypotheses are proposed to reflect the relationship between the seven variables as CCDR, TLP, SPA, SIQAM, QAM, KSA and HRD; All the variables are derived from the research questions, objectives, background and literature review. The first hypothesis considers the relationship between CCDR, TLP, SPA, SI and QAM in HE; The second one is drawn based on the relationship between QAM and KSA improvement and the third one depicts that there is KSA gap existing in the job market. The fourth hypothesis reflects the relationship between KSA improvement and HRD. The seven variables and hypotheses are used to develop the conceptual model of the research. The model is a causal relationship based exploratory research (cause and effect), where cause is the QAM in the HE and the effect is on HRD. The nature of the research is exploratory because this study seeks to explore the effect of QA implemented in the IQACs, and analyzing the effect on the overall HRD through HEIs of Bangladesh. Six (6) universities are selected for the survey out of the 13 universities which went through the first phase of the QA process in BD.

The design of the research is empirical as stated in the conceptual framework, cross sectional survey is included as well as qualitative data collection. This research used quantitative dominating, as well as qualitative analysis and the approach is gradually inductive, deductive and then inductive in nature. The use of self-administered questionnaires has been adopted to gather facts about the underlying constructs proposed in the conceptual model. The methodology seeks to generate concept to recommend feasible relationships amongst the implementation of QA, and a vary of inner elements and impact on HRD. CCDR, TLP, SPA, SI and KSA, these constructs have been operationalized through multi-item measures that use of 5-point Likert scales, and the objects used to measure them had been adopted from formerly

tested scales. A pre-test was once performed prior to conducting the ultimate survey. The questionnaires had been validated and piloted prior to the distribution. This questionnaire followed by five (5) open ended questionnaire is distributed to total 864 respondents from the six universities. Among the respondents from each university academic staffs are 40, administrative staffs and alumni are 12, employers and parents are 10 and students are 60 in numbers. There were two sets of extra questionnaires attached to the general questionnaire for all and are developed for two different sets of stakeholders. One set is for Academic and Non-Academic staff, who are well aware about the IQA process of the universities. From the six universities 40 Academic staff and 12 Administrative staffs were surveyed for the additional questionnaire responses. The other set is developed for the employer and alumni because they are part of the job market and has experience about the recent trend/development about the market. This set of questionnaires was developed to gather data on the recent trend/development/requirement of KSA and to find out the existing gap and was distributed to 12 Alumni and 10 employers from each of the six (6) universities.

A mixed-method design was employed in this research, including an exploratory phase (quantitative), followed by a confirmatory phase (qualitative). For the quantitative process, the model was validated using data obtained from a field survey (500 users) and analyzed the application of the Partial Least Squares (PLS) method to Structural Equation Modelling (SEM). The quantitative phase findings, coupled with generalized interviews, were used to explore a cross-section of 20 areas of expertise through open ended questions. The development of the multiple validated scales related to the HRD provides useful guidelines and this measurement scale was developed by adopting prior empirical studies. The scale was further revised based on pilot study feedback. The measurement scale properties were evaluated by conducting factor analysis, and hypotheses were ascertained using the SEM method. The proposed hypotheses and research model were evaluated against survey data. The conceptual model validation has commenced using a three-step procedure, namely, reliability analysis using Cronbach Alpha and EFA, Partial Least Squares (PLS), Regression for structuring and framework, and lastly, T-Value test for hypothesis testing. Before factor analysis, a reliability test has undertaken to see internal data consistency. Cronbach's Alpha is used to determine if the questionnaire responses are all reliably measured by the same latent variable: the impact of QAM in HEIs for KSA improvement that will ultimately impact HRD

in Bangladesh. The model in this research demonstrates that CCDR, TLP and SIQAM significantly influence the QAM process whereas SPA does not. As the study tested six hypothesized paths using the accepted indicators, i.e., T-Statistics and Standardized Beta Coefficients. Considering two-tailed test and keeping the significance level at 5%, the study accepted all the path coefficients, which are above or larger than 1.96, as significant. The model also supports that improvement of KSA of graduates through QAM significantly affects the HRD of Bangladesh.

Based on a cross-section survey of public and private universities in the capital city and outside, this study found QAM in HE to be effective for HRD. In addition, the current QAM in HE significantly affects the improvement of KSA of the graduates. In regards to the roles and challenges of QAM, the study revealed that the present QAM requires to be well accepted, understood, supported and implemented properly by the management and required to ensure stakeholders' involvement. The study also found out that, though the QAM is a time consuming process and there are other challenges but by planning, training, implementation, documentation and follow up, these challenges can be minimized. Through utilizing adequate resource and sustainable approach and practice of QAM, the HEIs may gradually include internationalization of HE in the focus in future. Moreover, support from the management, adequate resource allocation and proper training of the QA professionals are required. Furthermore, the research revealed that a long term sustainable plan and implementation of QAM in all the HEIs are to be ensured. In case of the difference or the gap between Job Requirement and Graduate Performance based on knowledge, skill (communication and interpersonal) and ability dimension, based on the survey and descriptive analysis of the employer and alumni feedback, it can be stated that there is a gap in KSA. The individual items under the knowledge skill and ability dimension are compared based on the perception of job requirement by the employer and graduate performance. The research found that among the items under KSA, few are developed and improved by the QAM and others are required to be addressed, improved and included in the HE process by appropriate TLP, CCDR, SIQAM and by involvement of stakeholders. The findings on the KSA gap between HEIs and job markets are: the basic knowledge, work and design process, self-motivation and responsibility, communication skills are improved by the QAM but requires further enhancement. The study found that there is a gap between demand of ICT, language, life and

soft skill in the market and what HEIs are producing. Service sector related skills are to be improved further for the graduates. On the other hand, ethical moral and spiritual values along with adaptability, openness to changes and change management abilities are demanded by the job market. The findings of the study also include that education policy aligned with national mission and vision and with appropriate resource and budget allocation, without political interference in HE process, the QAM may focus more on innovation and research. The colleges under the national university in BD can also be brought under the QA umbrella as well as minimizing the gap between primary, secondary, higher secondary education and HE are to be addressed by QAM in the nation as a holistic approach. For HRD of BD, other than development and autonomy of education sector, health and economic arena are to be considered. This research also revealed that there is a requirement for HR ministry, elimination of corruption and national politics in HE may aid to overall HRD as well.

This study, for the first time, considers all the variables together as factors for QAM in HE and analyzes the effect of QAM on HRD within the context of Bangladesh. The study shows that appropriate selection of TLP, CCDR, SIQAM can significantly impact QAM, which directly influences the improvement of KSA and indirectly influences HRD. The study adopts a dynamic approach to improve KSA and its impact on HRD, thereby offering a theoretical extension of QA and contributing to the QA literature by focusing on the practices of TLP, CCDR, SPA, and SIQAM, which were neglected by prior studies and adds information to the managerial (IQAC), national policy level on HE and overall HRD of the country. By demonstrating that, as a multidimensional concept, QAM in HE and KSA plays an essential role in the HRD, this empirical research provides the valuable groundwork for further studies of CCDR, SIQAM, and SPA of QAM, KSA, and HRD. The implications of the study is at the immediate national level and has significant overtures in both the IQACs of HEIs, education sector (Students, guardians, alumni, employer, Staff of HEIs), industry, community, NGOs, as well as government. The findings of the study can also contribute to higher education (business, technical, technical, agricultural) process, the HEIs of Bangladesh, the 100 IQACs established along with the QAM initiated in 2015. The thesis also incorporated the objective of positive impact to be created in the HRD by modifying the QA process existing in the universities of Bangladesh. The findings may aid in the developing the strategies for NHRD by addressing the challenges of the QAM through appropriate TLP, SPA, SI and CCDR

process in the HEIs. The findings can also be helpful in further refining the standards defined by national organizations such as UGC, SPQAD in UGC, BAC, BNQF and Ministry of Education (MoE) and will assist the QAM professionals and managers to take the right decisions for improving the QA process in HEIs. The outcome and implications of the findings may aid to policy making decision in the arena of QAM of HE as well as in HRD of Bangladesh.

CHAPTER ONE: INTRODUCTION

Despite facing several challenges, Bangladesh, as one of the developing countries in South East Asia, has seized the opportunities offered by globalization to build its economy, infrastructure and national development initiatives with an aim to become a middle-income country. While this economical evolution is taking place, Bangladesh has kept pace with the global trends, shifting from an agriculture-based economy to an industrial one, as well as making significant inroads into technology and service sectors. But the most important sector in the country with the highest potential i.e. its population or human resource still remains largely underutilized and under-developed. Developing these human resources to build an educated society as well as contribute to the national economy and development goals are crucial elements for this evolutionary journey. To build such an educated society, significant emphasis on education sector is critical to ensuring resourceful (knowledgeable skilled and capable) workforce. Busaya and Chiangmai (1998); Gani (2000); and Rao (1996). Especially in the case of Bangladesh where education, health, economy and National Human Resource Development (NHRD) are considered as key ingredients for the overall national development.

Unfortunately developing human resources through educational institutions alone is a long process as it requires initiatives and synchronized collective efforts. To address this challenge, the core strategy needs to be prioritization of quality of education, increase in employability, productivity and sustainability of development initiatives. Real national development will gain impetus only when educated, trained, developed and motivated human resources are available through quality education process who can focus on the demand and need of the country in terms of knowledge, skill, ability (KSA) of the workforce.

1.1 Background of the Study

1.1.1 Human Resource Development (HRD)

HRD is viewed as developing physical, emotional, spiritual and mental improvement of workforce as well as enhancing the technical and productive skills. Busaya and Chiangmai (1998); Gani (2000); and Rao (1996). Considering HRD has multi-level explanations, various scholars have defined HRD in different ways in literature. Gonda, 2014 stated that human resource, if developed successfully, can lead to great benefit for the country, and that those

countries that have developed their human resources are now dominating the globe. Sequeira, 2012 stated that development of personal traits like knowledge, skills, realized competencies and factors of physical and psychological wellbeing are included under NHRD policies and practices in other countries.

Within the context of Bangladesh, HRD is expected to be demand driven and vision oriented. To be more precise, development activities of human resources at the higher education (HE) and policy level requires compatibility with goals; perspective planning; investment; adoption of appropriate technology and method; quality assurance process; training and updating of knowledge; skills and development of competencies. Considering the second goal of Millennium Development Goals (MDGs) was to achieve universal primary education, a new set of Sustainable Development Goals (SDGs) were developed to meet this requirement. This new set of goals have carried the momentum generated by the MDGs into a global development framework. According to the SDGs goals, it is imperative that quality education and promoting life-long learning opportunities are guaranteed to be inclusive and equitable for all. Similar goals have been included in the vision 2021, as well as in the 7th Five Year Plan Financial Year 2016-2020 of Bangladesh. According to the Quarterly Labor Force Survey of Bangladesh 2015-16 (initiated through the Bangladesh Bureau of Statistics (BBS)), rural areas have 18.2 lakhs unemployed people compared to 7.7 lakhs in urban areas. According to the survey, the ratio of the urban-rural populace is 30:70 with nearly 13 lakhs of unemployed people from both genders. The range of unemployed woman populace used to be higher three years ago. An estimated of 6.21 crore people aged 15 or above are now in the work force, up from 6.07 crore populace estimated in 2013. Moreover, 5.95 crore have been observed employed in 2015-16 survey, up from 5.81 crore in 2013. It means 14 lakhs people have entered the job market at some stage during this transitional period. An estimated 18 lakhs of those having jobs of less than forty hours a week have been observed as searching for a new or extra job. The survey additionally determined that 86.2% of the entire employed populace aged 15 or above are in casual employment. Between 2013 and 2016, non-agriculture sectors like industry, trade etc. absorbed a higher number of people than the agriculture sector.

In the latest reports, Bangladesh's population has reached 165.55 million in June 2019. The unemployment rate has dropped to 4.31% in Dec 2018, down from 4.37% in Dec 2017. The

participation rate of the country's labor force also extended to 58.72 in December 2018. According to the United Nations and other estimates, 48% of the entire population of Bangladesh, which equates to around 160 million people, are below the age of 24, which is an astonishing figure considering the potential of such a large population (Source: ILO report). As a result, the country is going through a phase of demographic dividend where 14 to 64 aged group people are considered as working age population while 14 and younger as well as 64 and above are considered as non-working age population. The working-age population is increasing as the age from 14-64 accounts for more than 60% of the population which has caused the dependency ratio to decline, Kaniz Maum (2017). The median age for the total population is 27 (Male 27 and female 28). By 2030, 7% of the population will be aging more than 65% which will again rise by 14% by 2041. The dividend began in 1980 and continues for duration of 60 years up to 2040.

To acquire the advantage of demographic dividend, it is important that the workforce is educated, skilled and capable of working to meet the development needs of the country. The benefit of this dividend can be reaped significantly by increasing investment in human resource, quality education, promote job market flexibility etc. If appropriate measures are not formulated, then this demographic dividend might become a liability, leading to increased unemployment and unbearable situation in education, workforce and the country as a whole, Matin (2012); Roy and Kayes (2016).

Currently, countrywide unemployment rate is 2.7% amongst those who studied up to primary stage and 11.2% amongst those who graduated from universities. This means that the more educated the population is, the higher is the chance of unemployment (Source: BBS, 2019). As the world is already experiencing, more educated people in Generation Y are facing significant challenges when it comes to employability and employment, due to a lack of strategic interventions at government, institutional, sectoral, employer and individual level (National Qualification Framework (NQF) of BD). In addition, there is a skill mismatch between the number of jobs in the market and the degrees being offered by various educational institutions. According to Karim (2019), the country's largest industry sector i.e. Ready Made Garments (RMG) industry have not received enough attention from the HEIs, leading to a skills gap. There are very few universities in Bangladesh that are offering dedicated degree in textile

engineering or leather industry. Even fewer universities are adapting to globalization, adopting modern technology, changing demographics and responding to the calls for accountability. As such, the country is not producing enough quality graduates to meet the strategic needs of the industry as well as the economic agenda of the nation.

It is an undeniable fact that the world is currently facing the fourth industrial revolution commonly known as IR 4.0. This is defined as the age of fusion/hybrid of technology, robotics, artificial intelligence, virtual and augmented reality which have contributed towards an unprecedented acceleration in technological advancement around the world, leading to a profound shift in the employment sector. A vast number of occupations are now being made redundant on account of automation which has introduced a paradigm shift in workforce structure. To remain relevant, these workforces, who have been made redundant by automation, will have to build new skills set. It is projected that 60% of jobs in Bangladesh will be automated in RMG Sector by the year 2041. We have already witnessed a fall of 60,000 jobs a year from over 3, 00,000 annually between 2003 and 2010 due to this transition. Government along with educational institutes and training providers need to actively work towards mitigating the impact of automation and the possibility of lack of appropriate trained population (Source: World Economic Forum, 2015).

The lack of suitable trained population has also led to an increase in the number of foreign nationals being flown in to the country to meet the skills shortage. Various businesses and industrial companies, instead of developing local talent, are hiring foreign nationals at the mid and top-level positions (Source: British Council Intelligence Report on HE, 2015). As a result, a good amount of foreign currency is being drained out the country every year. On the contrary, about half of the graduates annually are not employed locally. Additionally, graduates from preferred public universities are given priority by employers in the job market as the students from others universities lack skill and competence. As a result, overall salary structure is low for average jobs. As most of the private universities are located in the cities, the students tend to settle and work in the cities, as a result the job market is getting centralized in the cities. Bangladesh has been branded as a member country of the ‘Emerging Tigers’, or ‘Next-11’, and ‘Middle Income Group Country’, and has the potential to become one of the largest economies of the world in this century, along with Brazil, Russia, India, China and South Africa (Source:

BRICS), but at the same time it is facing significant brain drain that causes the country's brightest science, technology, medicine, business and law graduates migrate to Canada, USA, and Australia every year. Ahmed and Khan (2015). To get out of the situation, there is no alternative to develop human resources with appropriate knowledge, skill and ability (KSA) required by the employment sector, economy and the country and ensure job within the country.

There is very few nation-wide research initiatives, related to the quantity and quality of HRD programs as well as very little co-ordination among the primary, secondary, and higher education systems. Long-term policy is required to be formulated not only at the government and/or policy level, but also by the HEIs. HEIs are required to focus particularly to the unprecedented development of information and communication technology (ICT), scientific inventions, research and innovation, and the global educational standard. HEIs might also provide quality programs and courses to advance employable KSA, that the graduates lack to supply in the job market. Universities have the tools to influence and advance such diversion through their curriculum, and selection of teaching-learning, assessment methods and other process.

To meet this national and global need, a number of changes and initiatives are to be undertaken on an institutional level as well as on a government level as briefly summarized below:

- The graduates from HEIs are expected to have theoretical knowledge along with practical competencies and be able to competently and professionally apply what they have learned to contribute to value creation in organizations and the country. This means that education institutions need qualified teachers and lecturers. Institutional Teaching-Learning facilities are therefore required for training university teachers.
- Programs and courses offered by some universities are irrelevant and not needed by does not meet the requirements of the job market. The administration and management of HE need to anticipate the need of the country and react accordingly by revising the curriculum at regular intervals to meet the demand of the market.
- The requirement for graduate profile consisting of graduate attribute with market driven KSA set and graduate employability needs to be considered to bring down the overall unemployment rate.

- Equipped with proper KSA from the HEIs, graduates can become national wealth as human resource and contribute in achieving the 2041 vision which reflects economic development and 2100 vision for human development.

1.1.2 Role of Higher Education Institute in HRD

Education is a process of facilitating learning of knowledge, skill and ability. Education is formally divided into different levels such as preschool, primary school, secondary college and then college, university or apprenticeship. Within the context of this study, higher education refers to learning facilities provided by universities, both public and private. As more and more competition is being observed in the job market, it is higher education that is only capable of producing qualified graduates. Pitan (2017) who have the required knowledge and skills that are relevant to the labor market of the 21st century, Santiago *et al.*, (2008). Currently, the minimal requirement for admission to higher education is the higher secondary certificate (H.S.C). HSC certificate holders are qualified to join a 3-years degree pass course whilst for honors, they may additionally enroll in 4-years bachelors' degree. Such degrees are offered both in stage colleges and in universities. After successful completion of the degree program, one can join the master's degree course and then proceed to PhD and other doctoral programs.

All these higher education institutions previously were governed through different entities. For example, University Grants Commission (UGC) acted as the middleman between the Government and a number of universities for regulating the affairs of all the universities. Colleges, offering tertiary education, were under the remit of National University. As Dr. Kudrat E Khuda education policy, derived in 1973, did not get implemented earlier, in 2010 the National Education Policy (NEP) was formalized and all the higher education institutes (HEI) came under this coverage. The HEIs are self-sufficient bodies administered through legal bodies such as Syndicate, Senate, Academic Council etc.

According to Solamain (2018), in Bangladesh, the number of private universities is 103 while the number of public universities is 40. It is apparent from these statistics why there was a need to have more private universities as limited number of public universities were unable to meet the demand of higher education. Private universities in Bangladesh began their journey in 1992 when the government officially recognized the need for private education to address serious

education gap and introduced legislation to begin the private sector in HE arena. Between 2008 and 2016, the Government almost doubled the amount of spending in the education sector increasing from USD 2 Billion to USD 4.3 Billion. In the 2017-2018 financial year, the government's allocation for education spending was an impressive USD 7.8 Billion. The literacy rate for the age block 15-24 years is more than 92% and overall, the literacy rate is 72% plus when considering all age groups. Bangladesh is ahead of India who has a literacy rate of 69.30%. 899,150 students in the year 2017 completed their pre-universities and were ready to enter into the universities, Hassan (2017). The contribution of private universities to higher education is undeniable, as approximately 65% of students are enrolled there, Neazy (2018). The growth of private universities in Bangladesh have been very rapid and very profound.

1.1.3 Role of Quality Assurance in Higher Education in HRD

Quality Assurance (QA) is a set of policies, process or actions performed by institutions or external bodies. Borahan and Ziarati, (2002). It refers to an ongoing, continuous system of evaluating (assessing, monitoring, guaranteeing, maintaining, and improving) the quality of a system, institution, or program. As a regulatory mechanism, quality assurance focuses on accountability and improvement through predetermined criteria. QAM ensures that the graduates from the HEIs are graduating with clearly defined learning outcome along with the delivery of proper teaching methods and assessment criteria. In addition, it ensures that the learning outcomes are demand driven, derived from clearly articulated quality framework which can minimize the skills gap between the job market and institutional degrees. Most nations with a vision for the future have identified that QA in HEI is as key to essential growth and development of future graduates. Currently, there are 40 million students in Bangladesh and out of this, 4.2 million are pursuing higher education (Source: UGC Report, 2019). This means that like other developed nations, Bangladesh also needs to pursue QA in HEIs. To guarantee QA in the HEIs, a number of initiatives have been triggered in overtime in Bangladesh.

- The National Education Policy (NEP), 2010 has proposed the establishment of an independent accreditation council named as Bangladesh Accreditation Council (BAC) (operation started in 2019) to assess the quality of graduates and education process of the HEIs (both public and private universities).

- The Strategic Plan 2018-2030 for higher education has been approved by the government and is currently going through the implementation phase.
- BAC and UGC are jointly participating in developing the National Qualification Framework (NQF).
- World Bank, after completion of Higher Education Quality Enhancement project (HEQEP), has initiated High Education Acceleration and Transformation (HEAT) project in 2018 along with UGC and Ministry of Education (MoE),
- QAM in Bangladesh for HEIs started in 2015 under the banner of HEQEP. It presented a comprehensive plan to institutionalize effective QAM within the universities and was formalized into a multi-institutional framework for achieving the goal of effective QA. The first component of the QAM framework was the establishment of Institutional Quality Assurance Cells (IQAC) to act as the formal QA bodies within the universities. The second component was the strengthening of the Quality Assurance Unit (QAU) of the UGC to oversee the establishment and activities of IQACs in both public and private universities. The QAU, under the management of the UGC and in collaboration with the MoE, Bangladesh and the World Bank, acts as a mechanism that links the quality improvement efforts of the university to the UGC. The QAU takes point on the HEQEP and facilitates the establishment of IQACs within the respective universities. All universities under the HEQEP project were required to establish IQACs within their administrative/management bodies comprising of dedicated staff who work year-round with the UGC to ensure quality within the university's management, academic and administrative capacities. The process involves the identification of quality measures, relevant stakeholders responsible for the implementation and QA philosophy and procedures.
- For effective HRD, QAM cannot be reviewed in isolation, rather it needs to be assessed with respect to the Non-HRD practices around the globe. BD is not an exception. National Skill Development Authority (NSDA) is developing National Qualification Skill Framework (NQSFF) to meet and match the demand of the job market. National Employment Federation (NEF) and Ministry of Labor and Employment, National Skill Development Council, National Skill Development Policy 2011, National Youth Policy, Industry skill Council, Occupational Standards, all these agencies are working closely to develop an effective QAM framework for HEIs around the country.

1.2 Problem Statement

While there are some private universities warranting recognition and praise for their quality education program, private universities as a whole have struggled due to absence of effective and transparent governance structures, lack of infrastructure facilities, poor research initiatives, high tuition fees, high dependency on part time teachers, outdated teaching methods, and poor student service standards. This is not to suggest public universities have the ideal framework and governance process. Public universities are confronted with their own sets of problems, such as inefficient financial management, bureaucratic red tape, teacher absenteeism, poor research base, and outdated teaching and learning methods. The resulting consequence is that HEI graduates are not meeting the demand of job markets which has led to dissatisfaction among nearly half of the private university graduates, Paadi (2014). This has brought into disrepute the quality of education provided by these HEIs. Despite private universities having contributed enormously to the country's HRD function over the last 2 decades, there is now a need for stringent quality assurance measures to ensure quality education and supply of appropriate KSA in the employment sector can flourish. It should be noted that few HEIs have embraced the requirement for demand driven learning programs that address skills shortages in the economy and meet the needs of the employers. However, the same requirements are not being adopted by all the universities even though it is articulated in the NHRD strategy. Hence, efforts have been made by the government in trying to apply quality assurance mechanism (QAM) and enhancement in the HE arena of the country. To meet this quality assurance requirement for an enlightened populace, a rejuvenation of the higher education system is needed. (Source: UNESCO Report, 2020).

A review of the literature shows that while some studies have focused on QA, HEI and HRD in Bangladesh, there is a lack of proper research into structured QAM. One of the major reasons why a structured QAM may have a positive effect on the industries and employment thus on HRD, is because development of proper KSA will enable graduates to fit properly into the employment sector. Therefore, it is essential to set the correct curriculum by conducting various practical and professional skill developing trainings for the students, in the industry, research facilities, and others. Note the quality of the teacher or trainer plays a significant role in the success of any educational program or curriculum. Most of the teachers in the universities are using traditional methods of teachings that are not up-to-date with the current thinking

ideology. Students have recently begun to question the quality of lessons that they receive which is providing some serious impetus for developing stronger teacher education programs.

Unfortunately, the focus of the curriculum in universities are mostly towards knowledge gain and less towards skill and ability. Hence there is an immediate need for the university administration to recognize the need for revising the curriculum at regular intervals to meet the demand in the job market. More effort is required to collect accurate job market information, and the educational policies developed around these information need to be coordinated instead of being developed in isolation (Innovative Strategies in HE for Accelerated HRD in South Asia by ADB and Aus. Aid (2014).

The QA process was followed up with trainings of resource person, trainers and at the same time the awareness and requirement of QAM took place simultaneously. However, this trend somehow did not continue to sustain creating a gap in successful implementation. It is important to realize the importance of globalization and the benefits of QAM and IQAC working in institutions to fill up the gaps of producing good human resource. QAM of HEIs benefits when it responds to the expectation and needs of the stakeholders. QA is not the responsibility of solely the university, it is a shared responsibility of the academic communities and the increasing number of university stakeholders. Quality can be assured when they contribute their part appropriately. However, inadequate funding, poor infrastructure, poorly designed quality assessment and lack of proper resources are may be the some of the obstacles that need to be looked after to produce quality human resource. The stakeholders of HEIs (employer, industry, community, guardians/parents, alumni, students and academic, non-academic staff) are not properly connected to the higher education process and curriculum, who can contribute and play an important role in the overall improvement of the KSA of the graduates and thus will contribute significantly in improvement of graduate profile, employability of graduates.

It is expected that the QAM will have an effect on improving this situation through KSA development of the graduates depending on the fact that the proper guidelines and accreditation of mechanism are set, such as a structured curriculum design, stakeholders' involvement, appropriate teaching learning process and assessment strategies, quality of faculties,

researches, policies, access to technologies and others. However, in order to take the challenge to improve the KSA of the graduates to become an eligible human resource for the nation, the government as well as the administrative bodies of the educational institutes need to have an open mind to change, have a strong political foundation and willing to take risks in developing the QA mechanisms. In this respect, the effect of the QA mechanism in HEIs needs to be evaluated and monitored continuously to ensure quality in the higher education as it is an imperative need for HRD.

1.3 Research Question

- I. How do the following areas such as (a) Curriculum Content, Development and Review (CCDR) (b) Teaching-Learning process (TLP) (c) Student Performance Assessment (SPA) process and (d) Stakeholders' Involvement in Higher Education (SI) contribute positively in the improvement of Knowledge Skill and Ability (KSA) of Graduates of HEIs?
- II. What are the Roles and Challenges of QAM in improving the Graduates' KSA in HEIs?
- III. What are the KSA Gap existing, between the Graduates of HEIs and the requirement for HRD of BD?
- IV. What are the challenges faced by the HEIs to develop the Human Resource of Bangladesh?

1.4 Objectives

1.4.1 Broad objective

The broad objective of current study is to find out the Effectiveness of QAM in HEIs for HRD of Bangladesh through the process of improving KSA of Graduates. The following specific objectives will help in achieving this broad objective of the study.

1.4.2 Specific Objectives

- To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: A. Curriculum Content Design and Review, B. Teaching-Learning, C. Student Performance Assessment process and D. Involvement of Stakeholders in the process and to document the required process.

- To measure the Role and Challenges of QAM on the improvement of KSA of graduates, to unearth/generate the opinion of respondents who are involved with the Higher Education and QA activities.
- To identify the gaps that exist in KSA by investigating the role of QA mechanism in HEIs in developing Human Resources of Bangladesh.
- To suggest steps to address the challenges for further development of Human Resource through HEIs of Bangladesh.

1.5 Rationale and Significance of the Study

There are very few studies conducted to correlate the KSA developed by HEIs for the graduates after implementation of the QAM in 2015 and the effect of this QAM on the overall HRD in Bangladesh. While there are few literature available that study factors such as Curriculum CCDR, TLP, SPA process and SI individually and their effect on improvement of KSA for other developed and developing countries, there has been no research done for developing countries like Bangladesh.

This study considers all these variables together as factors for QAM and analyzes the effect of QAM on HRD within the context of Bangladesh. The significance of the study is at the immediate national level and has significant overtures in both the IQACs of HEIs, education sector (Students, guardians, alumni, employer, Staff of HEIs), industry, community, NGOs, as well as government. Teachers, researchers, the Government, policy makers, companies and establishments associated to developmental activities, different planners and administrators understand that human resources are vital element for economic, social and industrial improvement and this study may aid in their planning and development process. This study will also be beneficial at the institutional level like the funding agencies such as World Bank, ADB etc. This research will create knowledge for more successful and effective QA design and development as well as will provide input for the implementation phase of the QA process in other HEIs. Through skill mapping and skill development of graduate attributes in graduate profile from HEIs, this research will be able to reduce the educated unemployment rate. Hence, the information will be useful for the IQACs, HEIs, and the institutions related to HEIs to minimize the existing skill gap. The research findings will be significant for the micro

community of Managerial level for IQACs, that includes students and other stakeholders of the universities and as well as at the macro level like UGC, MoE, NSDA, NQF, BAC.

1.6 Scopes of the study

The study has the scope of higher education (business, technical, technical, agricultural) process, the HEIs of Bangladesh, the 100 IQACs established along with the QAM initiated in 2015. The present research is designed to validate knowledge by examining the impact on educational process, QAM, Improvement of KSA and overall development of HRD at the National level. The study is national in scope in Bangladesh, with particular focus on QAM in the HEIs with considering the factors (TLP, CCDR, SI and SPA) of the QAM and NHRD. This research is focusing from Micro to Macro level of HE of Bangladesh as it is considering the areas of QAM (TLP, CCDR, SPA and SI) the in HEIs (Micro level) and its effect in HRD of Bangladesh (Macro Level). The thesis is also incorporating the objective of positive impact to create in the HRD by modifying the QA process existing in the universities of Bangladesh. The thesis may aid to policy making decision in the arena of QA mechanism of HE as well as in HRD of Bangladesh.

1.7 Structure of the Research Study

The design of this thesis and how the study has been structured into different chapters are shown below in the diagram: chapter 1 consists of the introductory part of the thesis. It introduces the problem statement, research questions and objectives. Chapter 2 elaborates the literature and background related to the thesis. Chapter 3 includes the theories and determination of dependent and independent variables along with the development of hypothesis based on the theories and variables. Chapter 4 and 5 contain the methodology and data analysis and findings respectively. In Chapter 6, all the findings are triangulated and discussed towards the approaches of HRD through QAM in HEI. Chapter 7 summarizes the findings and implications of the thesis in different levels.

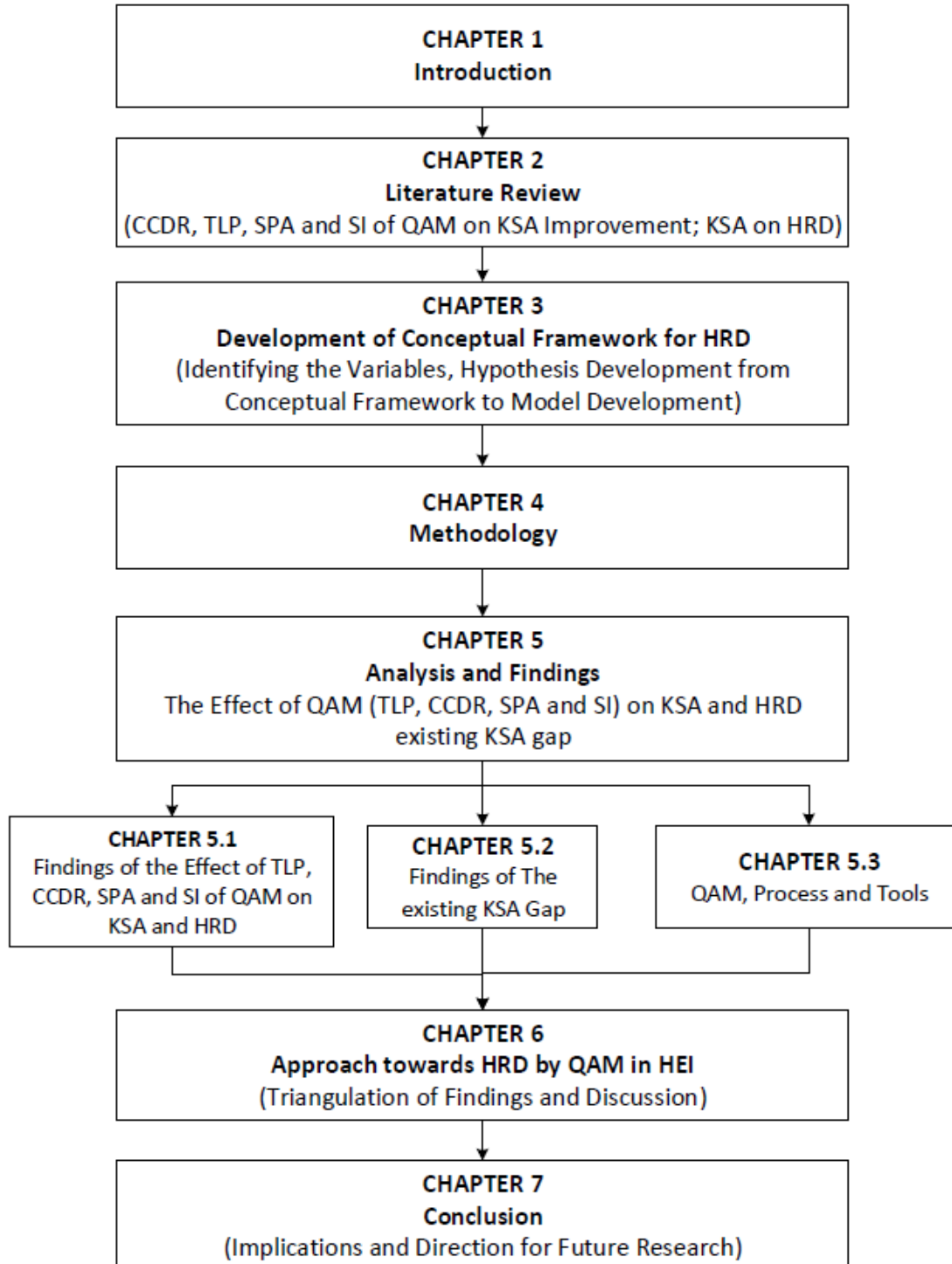


Figure 1.1: Structure of the Study

CHAPTER TWO: LITERATURE REVIEW

This research has been pulled off prioritizing contextual or related studies, including both the local and global facts. The researcher compiled reports, thesis, practices, books, and articles that are closely related to the field of study. The review was conducted considering the context, variables (constructs) incorporated, findings of other studies, scope of the research, knowledge gaps highlighted in other studies, which were classified and neutralized to establish a strong base for the study.

Lately, setting up a structured QAM in Bangladesh is necessary because many private educational institutions at the level is situated in the remote areas where there are few qualified faculties and lack of standard educational resources. At the same time, it is also a challenge to establish a standard QA mechanism for the betterment of the students in these remote areas due to inadequate funding. Therefore, the stakeholders as well as the government may come forward to aid these institutions to set up QAM in order to produce talents and uphold the overall standard of the education. These institutions can turn quality and competitive graduates into to skilled resource. Despite the initiative put forward by the GoB, students' KSA is not up to the expectation and does not match to the job market demand. Fewer graduates hold insignificant competitive keys to KSA and other soft skills. To address the stated fact, very few empirical studies have been conducted focusing mainly on the effectiveness of the QA mechanism and its effect on HRD in BD. Particularly, some empirical studies have been pulled off, but the evidence in this area is scarce, which cannot support the assumption that the constructs CCDR, TLP, SI and SPA is a determinant of KSA enhancement.

QA in HEIs is viewed as one of the pivotal instruments for the overall improvement and a country's education system as it employs human capital to meet the fundamental need of the society. It should be a supportive activity practiced by the all the required entities such as the society, the organization, and the government. It is a mechanism that is responsible for the overall development of a nation as it deals with human resource. Standard KSA inflicted the reform of QA mechanism in HEIs that gives birth to various tactics for the continuous improvement, proper implementation and evaluation, which literally makes a tremendous change, resulting in a long-term benefit in developing graduates as potential resource. The

mechanism also has a positive impact on improvement of the teaching and learning (TL) because it also encompasses guidelines to the assessment of teaching, which is a major criterion to determine whether the graduates are eligible to face the challenging world.

2.1 Human Resource Development

HRD is a kind of method where skills, competencies, knowledge, and attitudes work together to create human capital, which is very essential for organization as well as for country. To operate the activities at any organization, human resource is very important element. HRD ensures that all the human resources are capable of fulfilling their particular tasks. Various definitions of human resource management have been presented over the years. Odionye (2014) mentioned that development involves the activity or task of improving an existing phenomenon. Development involves strategies designed to improve economic and social lives of the people. Therefore, it constitutes the process of planned change for the improvement and or transformation of the people.

According to Jamil (2013), HRD relates to developing knowledge, skills and abilities and improving individual attitude via manpower planning, education, training, and the sufficient provision of opportunities. Additionally, they stated that HRD is a vital factor of economic development and is within the scope of key variables that positively impact national productivity. However, HRD is also country specific, and hence unique to region and geography. Jamil (2013) conducted research on the factors effecting HRD in Pakistan. They stated that the phenomenal growth of the economies in Asia were due to the performance of their human resources. According to Leonard Nadler (n.d.), “HRD is a series of organized activities which are conducted within a specialized time and designed to produce behavioral changes.” In the words of Prof. Rao, T.V., (1996), “HRD is a system through which the employees of a company are helped in a continuous and deliberate way to gather or sharpen abilities required to operate a range of features associated with their current or anticipated future roles”.

Lindsay (2014) presented a research paper titled “Work First Versus Human Capital Development in Employability,” which focused on the different approaches of getting working age individuals to work. One concept promoted getting young people into work as quickly as

possible via any employment opportunity that may arise. This system, known as Work First, is a short-term approach. The other approach, known as human capital development, promoted long term education and training to improve long term employment prospects. It was concluded that a combination of both work first and human capital elements need to be utilized to better target unemployment. Research by Ya-hui and Li-yia (2008) outlined that education is one of the important factors for HRD. IN the last five decades, amongst all researchers, the most important theoretical work on human capital has been contributed by Schultz (1961); Becker (1964); Mincer (1970, 1974). It is notable that all of these studies have recognized school attainment as the primary indicator of human capital/resource. So, if someone went to school (primary and secondary) they would be considered human resource/capital. However, Holland and Hager (2006) have stated that historically much of human resource knowledge have focused only on management skills, such as management of resources, strategy and people. Due to the dynamic nature of human existence and commerce and trade, HRD is influenced by numerous factors. Globally, the shift in demographic proportions is a major cause of change. Additionally, the influence of IT and especially social media is a leading influencer. The demand for work life balance is also a significant cause of changes in global HRD dynamics. These researches identified the importance of education, competence and skill in HRD.

2.1.1 National Human Resource Development

According to numerous empirical and theoretical studies done in the field of economic growth determinants for countries, almost all of the studies have integrated the factor of skilled human capital, or skilled human resource. These theoretical and empirical studies often form the foundation for national growth policies across the globe. As a result of this acknowledgement of skilled human resource as a major determinant of economic growth, countries around the world have been pushing to expand education, Hanushek, (2016). It is understood that increasing the skills of the citizens will turn them into human capital and aid in alleviating the standard of living of the people in the nation. Alagaraja (2015) stated that in order to successfully overcome challenges related to structural, market, and political, which affect economic development, both countries need to leverage the full potential of human resources in their respective countries. According to numerous empirical and theoretical research done in the field of economic growth determinants for countries, almost all of the studies have integrated the factor of skilled human capital, or skilled human resource. These theoretical and

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In the last four-decade economists have empirically researched differences in growth rates across different countries and regions. Historically, human capital modelling has had close relationship with the empirical growth analysis, and the factors that influence it. Petty (1899) and Smith, (1979) provided proof that the analysis of skills of the workers is not a new concept. Public finance economist, Petty (1899) studied the economics of war and immigration in terms of skills (and wages) of individuals. Father of economics Smith (1979) in *The Wealth of Nations* acknowledged the idea that workers with different skill levels were receiving different pay-off in the labor market.

According to Hanushek and Kimko (2000), a different and more effective method to evaluate individuals in a country and assess their human capital is to use specific skill measurements. According to Hanushek and Woessmann (2015), an ideal choice for this kind of skill measurement of students is to use international standard achievement tests, such as international tests of mathematics and science. According to them, it is more effective to directly measure performance using this system, instead of just school attainment or completion. An equation representing the generic form of an empirical growth model, whilst taking into account school education (Primary and Secondary) is portrayed below, Hanushek (2016).

$$\text{Growth} = \alpha_1 \text{human capital} + \alpha_2 \text{other factors} + \varepsilon$$

In the above formula, human capital has been simply measured by the mere existence of school attainment. Thus, human capital has been estimated by simply using school attainment and using this to estimate growth relationship directly. However, there are disadvantages in using this form of metric for measuring human capital. Firstly, across countries this is not feasible, due to the difference in education systems between countries, which would require weights. It assumes that a year of school in Japan has the same value in terms of skills as a year of school

in India. Additionally, a second problem with this form of measurement is that it assumes schooling is the only source of human capital and skills.

Table 2.1: Estimates of long-run growth models with knowledge capital*

	School Attainment	Knowledge Capital	School Attainment and Knowledge Capital
Cognitive skills (A)	0.369	2.015	1.980
	(3.23)0.369	(10.68)	(9.12)
Years of schooling 1960 (S)	-0.379(3.23)		0.026
	(4.24)-0.379		(0.34)
GDP per capita 1960	50(4.24)	-0.287	-0.302
	0.252 50	(9.15)	(5.54)
No. of countries	0.252	50	50
R2 (adj.)			

* Hanushek and Woessmann (2015)

Column 1 of Table 2.1 shows the relationship between school attainment and economic growth. Column 2 shows the relationship between knowledge capital and economic growth. Lastly, column 3 shows the relationship between a composite measurement of both school attainment and knowledge economy and economic growth. The results of this investigation presented by are very interesting. The results from column 1 show that there is a relationship between school attainment and economic growth. However, if the statistical dispersion statistic is referred to, it can be seen that this relationship only explains one-quarter of the international variation in growth rates. Column 2 shows the relationship between knowledge capital and economic growth. Here the result is very revealing. It shows that when a direct measure of skill is used, instead of just skill measurement, not only is there a significant relationship of knowledge capital with growth but also this simple model now explains three-quarters of the variance in growth rates, Hanushek and Woessmann (2015). Column 3 shows the relationship between economic growth and a composite measure of both knowledge capital and school attainment. When both data are combined, skills are shown to be greatly more relevant to economic growth,

and it can be seen that “school attainment is not significantly related to growth, and the coefficient on school attainment is very close to zero.” Researchers have used this kind of data, which has been collected over the past 50 years, to construct a common metric for measuring skill differences across countries. This measure of a country’s skills has been labelled as the country’s knowledge capital, in order to distinguish it from school attainment, Hanushek and Kimko (2000); Hanushek and Woessmann (2007; 2015). As it turns out, knowledge capital has been shown to be more effective in predicting and explaining economic growth than just merely a metric of school attainment.

Table 2.2: Extensions of basic models of long-run growth*

Skills	(1)	(2)	(3)	(4)
Cognitive Skills	1.978			1.923
	(7.98)			(9.12)
Share of students reaching		2.644	2.146	
Basic Literacy		(3.51)	(2.58)	
Share of top-performing		12.602	16.536	
students		(4.35)	(4.90)	
OECD	0.859		-0.659	
	(0.32)		(0.44)	
OECD x cognitive skills	-0.203			
	(0.36)			
OECD x basic literacy			2.074	
			(0.94)	
OECD x top-performing			-13.422	
			(2.08)	
Years of non-tertiary schooling				0.076
				(0.94)
Years of tertiary schooling				0.198
				(0.16)
Initial years of schooling	0.080	0.066	0.070	
	(1.07)	(0.87)	(0.94)	
Initial GDP <i>per capita</i>	-0.313	-0.305	-0.317	-0.325
	(5.61)	(6.43)	(5.63)	(6.81)

Skills	(1)	(2)	(3)	(4)
No. of countries	50	50	50	50
<i>F</i> (OECD and interaction)	0.10		1.62	
<i>R</i> ² (adj.)	0.723	0.724	0.734	0.728

* **Hanushek and Woessmann (2015).**

Table 2.2 shows the OECD data analyzed by Hanushek and Woessmann (2015) for the period between 2000 and 2014 for annual increase in the percentage of the 25–34 age block with tertiary schooling in the general population of the respective countries (OECD 2015). As well as individual countries percentage increases, the graph also shows the OECD average, which has been shown to increase by more than 1 percent annually for the last 15 years. It shows comprehensive OECD data related to basic literacy, economic development with the relationship between economic growth and tertiary education. The 4th column of Table 2 presents the separate impact of attainment of tertiary education vs. tertiary schooled cognitive skills on long-run growth. The results are consistent with the previous findings related to school attainment vs. knowledge capital's influence on economic growth. Many studies lead through McLean (2006) have used Harbison and Myers's (1964) three dimensional (economic, political and social) strategy to recognize the influence of HRD in distinct international locations, Ke, et al., (2006); Paprock, et al., (2006); Cunningham, et al., (2006); Hasler, n,d, Thompson, et al., (2006). These studies point out the sturdy impact of countrywide academic policies on the accepted improvement of the country. Studies in China, Kenya, India, Philippines, and the UK, grant the proof of the quintessential hyperlink between country wide academic polices and the improvement of the country's human resources, Ke, et al., (2006); Lee, (2004); Lutta and Mukhebi (2004); Paprock, et al., (2006); Rao (2004). However, there are disadvantages in using this form of metric for measuring human capital. Firstly, across countries this is not feasible, due to the difference in education systems between countries, which would require weights. It assumes that a year of school in Japan has the same value in terms of skills as a year of school in India. Additionally, a second problem with this form of measurement is that it assumes schooling is the only source of human capital and skills. The relationship of these different measures of human capital with economic growth has been presented in (i.e. Table 2.1) below. Economic growth has been presented in GDP per Capita. Essentially, the results depict the outcome of basic long run growth models. The data presents results of analysis using the both the school attainment method and the knowledge capital method over the period 1960–

2000. Economic growth, school attainment levels, and standard test achievement data has been collected from 50 countries.

Most countries with the mission of developing themselves have realized that education in general and quality higher education particularly are the keys to overall development. These countries are investing highest of the national income in education and encouraging the public and private sector to improve the academic institutions. South Asia is in a difficult unemployment crisis. According to Economist Intelligence Unit report for the British Council, despite tremendous economic growth in the region and high numbers of university graduates, there is an alarming rate of unemployed graduates. Graduate unemployment is also alarmingly higher than national average unemployment rate. In fact, graduate unemployment rate is higher than national average unemployment rate, by a factor of 4-9 times. It has also been observed that graduate unemployment is not uniform across disciplines, and in fact some graduates from particular disciplines fare better in the job market than other graduates.

Table 2.3: Unemployment in South Asia

Unemployment in South Asia

Country	Unemployment rate (%) (Latest Available year)	Unemployment rate, youth (%) (Latest Available year)
Afghanistan	11.2	17.6
Bangladesh	4.4	12.8
India	5.3	22.3
Nepal	11.4	21.4
Pakistan	4.1	7.8
Sri Lanka	4.3	21.1

Source: International Labour Organization (ILO)

South Asian countries have experienced some common trends in their economies. These trends are primarily headed by the shift of populations and jobs from rural to urban areas. According to the Economist Intelligence Unit report for the British Council, over the next 20 years, approximately between 1 million and 1.2 million new individuals will enter the job market in South Asia. This growth rate will be 20-50% higher than the rate observed between 1990 and 2014. According to the report, due to poor rate of creation of jobs for graduates, almost 400,000 South Asians per month may not find suitable employment.

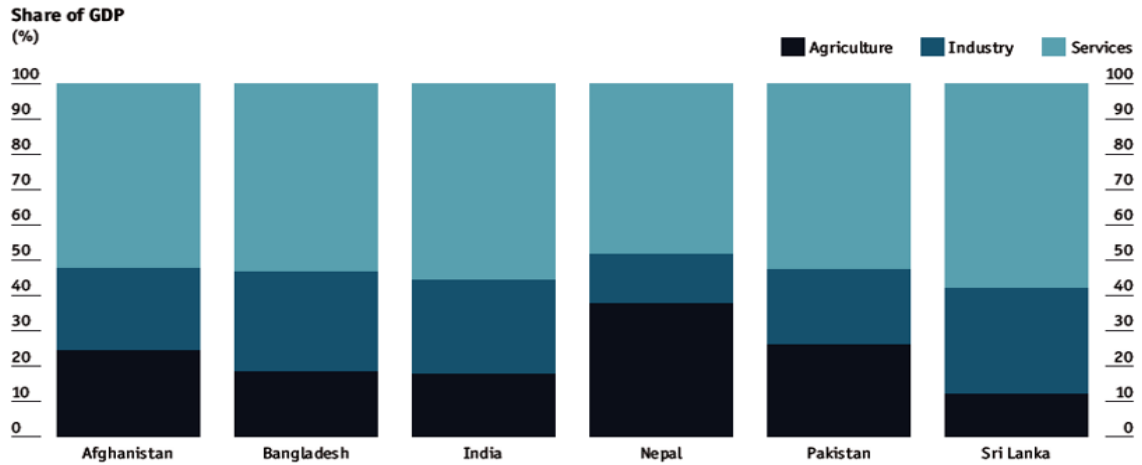


Figure 2.1: Share of GDP

South Asian countries like Bangladesh have a high proportion of young educated people. This is a democratic dividend that can be used to grow the economy. However, due to certain factors Bangladesh has a high proportion of unemployed graduates. This is in fact a huge social and economic problem as graduates' youth fail to find jobs. This phenomenon can lead to social unrest and have a destabilizing effect on an economy.

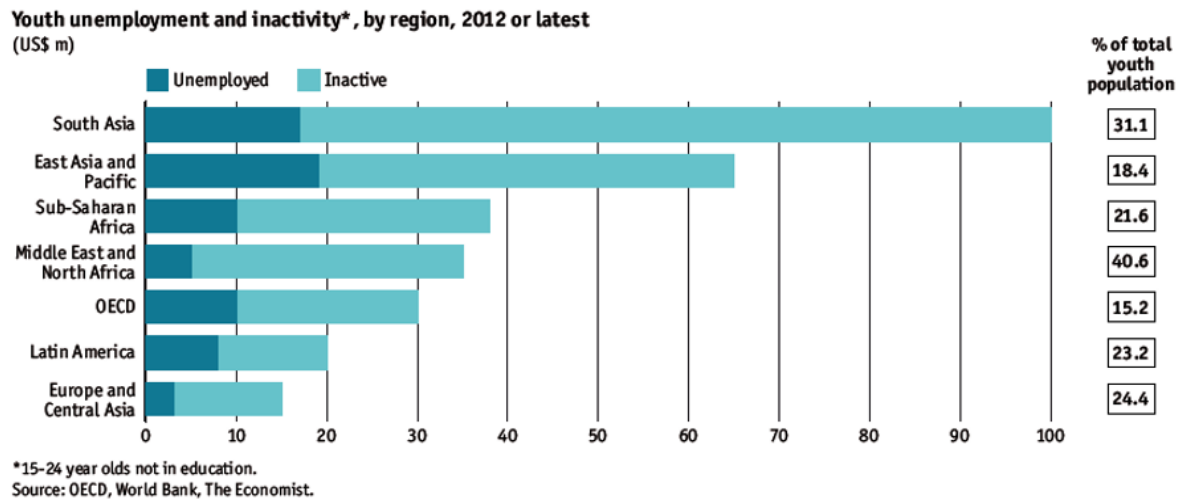


Figure 2.2: Youth unemployment and inactivity

An interesting exception is the growth rate of Korea, Luxemburg, and Poland, who have each expanded at a rate above 2 percentage points per year, OECD (2015). This overall increase in the percentage of tertiary educated persons in this age block acknowledges the perception that provision of higher education facilitates better economic outcomes.

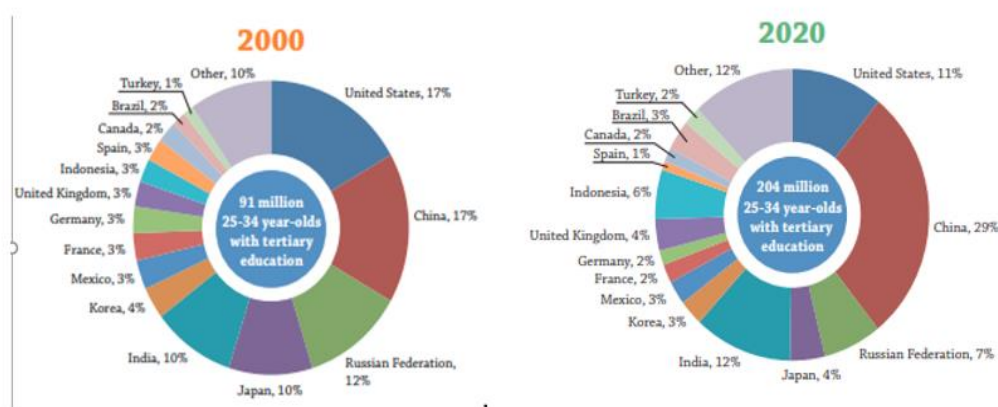


Figure 2.3: Annual percentage increase in tertiary education in OECD countries: 25–34-year-olds, 2000–2020, source: OECD

It has been shown through quantitative econometrics that knowledge capital is a better determinant of economic growth than merely school attainment. The relationship of higher education with economic growth can be also modelled in a similar fashion.

Ke, et al., (2006) for instance, define a variety of monetary and social forces that force HRD policies in China. In the Philippines, an unstable economic system used to be recognized as posing a countrywide assignment to the country, Paprock, et al., (2006). Cunningham, et al., (2006) recognized twelve elements that both supported or impeded the profitable implementation of NHRD techniques in South Africa. These techniques involved the political, social, monetary and academic structures in the country. Garavan et al., (2001) carried out research on the ideas and definitions of intellectual and human capital. The researchers regarded human capital from individual (employability, overall performance and profession development) and organization (investment, ownership, competencies and expertise management) perspectives.

The study by, Kinashet al., (2014) which collected data from a total of 14 countries including the United Republic of Tanzania identified 7 themes or attributes that distinguish a top-performing graduate. These issues include; skills(both work-specific (hard) and transferable (soft)); real-world journey (through enticing with enterprise and employers throughout university, and staying knowledgeable about contemporary activities and world issues, graduates have developed outward searching perspectives, perception for context and sensible

notions and expectations of the workforce); well-rounded perspectives—in addition to study, profitable graduates had pursued sports activities and/or pursuits as properly as community engagement. Other issues are value alignment (employees are a proper in shape with the organization, sharing values such as a customer provider orientation); social support(employees are resilient and capable to deal with work-related stress when they have wholesome household relationships and friendships); initiative (motivation and enthusiasm are vital in that personnel are then capable to self-initiate duties and discover intrinsic reward in work); and Goal-oriented to gaining knowledge of (employees make the most of possibilities to increase and do no longer have unrealistic expectations of instant high-level positions). One of the pinnacle priorities of HRD in the country is to train and educate excessive stage human resources. HRD experts and policy makers have to attend to problems and issues pertinent to HRD, in particular, in a) education, science, and technology systems, b) inadequate funding in human resources, c) out of date and inadequate training, and d) an inadequate amount of quite professional human resources, Kenzhegaranova, (2008).

Research has also been carried out on the factors influencing HRD. Hunko (2013) carried out research to understand the factors that influence the development of human resources. As per the research, it was identified that inefficient use of at least one resource in the organization leads to lowered productivity. And whilst financial, informational, and material resources were highly researched, the human resource is always overlooked. Hunko (2013) presented human resource as one of the main elements of production capacity of a system. The research identified that employee performance was impacted by two factors: external factors and internal factors. Internal factors were identified as socio-psychological factors, namely Personal Traits, Personal Needs, Motivation Stimulus and Education.

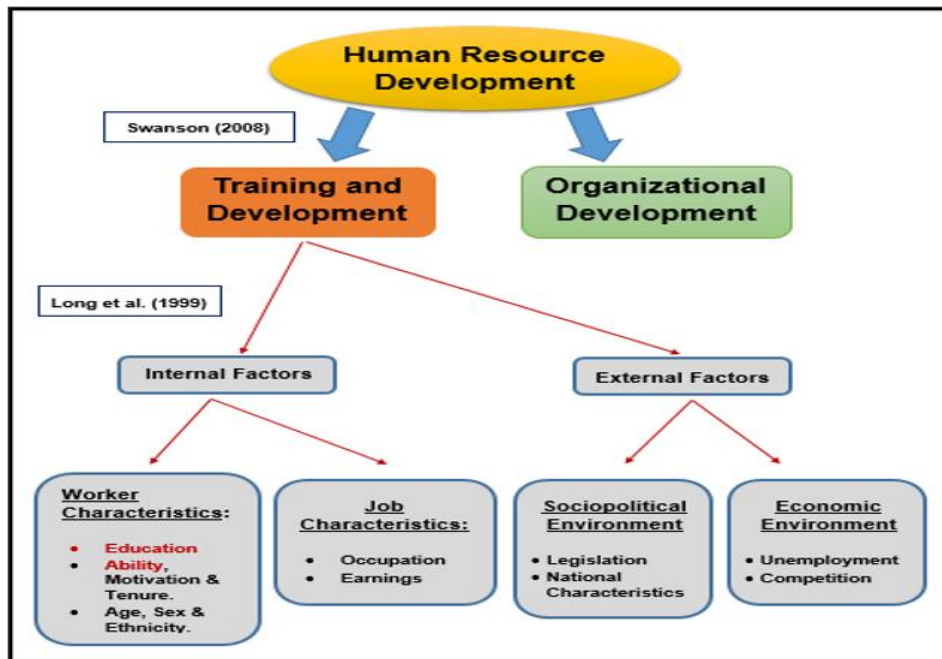


Figure 2.4: Human Resource Development

Hunko (2013) concluded that education had a positive correlation with employee's attitude to work, which itself impacted on the organizational productivity and determined the employee's value as a human resource. On the other hand, Wise (1973) stated that the quality of colleges and student grades were both shown to have positive relation with salary increase in the job. Additionally, he stated that leadership ability and ability to express one's ideas were positively related to job performance. Among them, the study conducted by (Long et al., 1999) has identified that Education is a background characteristic of the individual that influences the successful induction of training and development in the organization once they have completed their education and joined the workforce.

According to Brennan and Shah, (2000) any approach to quality assurance in higher education ideally must contain three mandatory components, namely: national and institutional context, methods of assessing quality, and measurement systems for gauging the impact of the quality assurance systems at national, institutional and individual level. It may be observed that most quality assurance systems in higher education follow this pattern more or less Brennan and Shah (2000). The recommendations of these researchers also state that rewards must be provided in exchange for successful change of organizational culture vis-a-vis quality assurance.

2.1.2 NHRD efforts on a Regional and International level

The present world faced paradigm shift in terms of technology, globalization, HRD issues. Perhaps the greatest is the change caused by demographic shifts. The main reason is that demographic changes are changing the make-up and value systems of workers across the globe. Firstly, the proportion of female employees in the in the workplace has burgeoned. There are five generations of people in the workplace at the same time, 'the most ever' in human history, Lawrence (2018). And older workers are remaining in the workforce much later in life. All of these trends will continue to accelerate HR's need to strategically think about the implications, such as meeting the different needs of these various groups. For example, if people are working longer, and if organizations tend to promote based upon experience, how will they respond to the training, development, and succession planning needs of younger workers? The second trend is the rise of the socially networked workplace. Historically, the predominant work model was that most work was done internally. Not only are workplaces expanding where and how work is accomplished, but there are now wholly new breeds of workers, with different dreams, career objectives, and life plans. HR, however, was built to deal with "employees." What happens when many of those who perform work for the organization either are outside of it, or utilize resources outside of the internal network? HR will need to examine its talent acquisition strategies, expand on traditional compensation models and create performance management strategies around objective measures and reputation metrics. The third trend is a big one: machine learning and its impact in the workplace. Amara's Law states that "we tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run." While machines have many applications in manufacturing today, we're beginning to see AI used in professional services, such as law and medicine. HR will need to anticipate those developments, adjust their talent acquisition and training/development strategies, and consider retraining existing employees to optimize the use of machine learning (Lawrence, 2018). The last trend is probably the greatest, certainly for its impact on HR to be more strategic and a true business leader. That trend is a new recognition that an organization's people are its competitive advantage. Competitive advantages once came from mastery of a craft or trade, developing the best manufacturing processes, or leveraging technology. What now separates successful organizations from their competitors is having the right people in place doing the right things.

As early as 1965, international actors, along with the United Nations, recognized the improvement of “human resources” as a global coverage priority. Beginning in the 1980s, over 20 reviews of the United Nations Secretary-General and the General Assembly have addressed factors of the improvement of human resources. Beginning in the 1990s, the use of an “s” used to be regularly brought to the phrase “resource” in United Nations documentation in order to emphasize that human assets are numerous and vital components of an individual's special identity, to keep away from implying that human assets are undifferentiated commodities to be traded in alternate for monetary compensation or financial growth, and that coordination amongst stakeholders from a diverse array of sectors and worries (for example, health, education, and non-public industry) are of relevance to the improvement of human resources. Many studies lead by McLean (2006) have used Harbison and Myers's (1964) three dimensional (economic, political and social) approach to understand the impact of HRD in different countries, Ke, et al., (2006); Paprock, e al., (2006); Cunningham, et al., (2006); Hasler, Thompson, et al., (2006). Other outstanding worldwide issues of NHRD consist of declarations rising from the 1995 Copenhagen World Summit for Social Development, the International Labor Organization's 2004 Human Resource Development Recommendation, and the 2013 United Nations Secretary-General's record on Human Resources Development, which tied the difficulty of NHRD to sustainable improvement priorities, facts and conversation technologies, and training in science, technology, engineering, and mathematics.

Notable efforts towards promotion NHRD on a country stage have covered the establishment of policies, programs, and departments through a variety of national or regional governments. One of the earliest human resources development initiatives on a national scale in Western countries used to be carried out in the United States in the Nineteen Seventies by way of the National and State Occupational Coordinating Committees (NOICC-SOICC). These bodies had been set up to oftentimes put together and replace labor-market and occupational data to assist profession development, to assist instructional program design, and to meet employers' facts and education needs. The United States persevered engagement in NHRD through the advent and renovation of nationally consultant occupational records in the Department of Labor's Dictionary of Occupational Titles (DOT) and the Occupational Information Network (O*NET) which changed the DOT. Outside of the United States, NHRD initiatives consist of the nationwide vocational training and education structures of Germany and different European

nations. In addition to efforts through person countries, efforts to apprehend and improve human assets throughout nations in the European Union (EU) have been undertaken by way of the European Centre for the Development of Vocational Training (CEDFOP). For example, CEDEFOP has worked to improve profiles of the abilities concerned in occupations throughout the EU.

Outside of Western nations, India mounted the first Ministry of Human Resource Development in the Asia/Pacific area in 1985. In addition, a range of lower-income international locations and rising economies have frequently set up NHRD departments, platforms, and plans that mix efforts from stakeholders concerned in primary education, higher education and training, adult and persevering with education, vocational education and training, labor advocacy, commerce, and/or a variety of industries and professions. A quantity of NHRD-related efforts by way of international and countrywide stakeholders has been centered on a precise structure of human resources – namely, skills. These efforts have been undertaken both for the purpose of promotion monetary and team of workers' development, however additionally for the sake of assembly essential psychological needs, improving people's empowerment at work, and advertising increased participation in a country's political processes. Efforts to speed up capabilities improvement inside given vicinity consist of active labor-market packages that, for example, grant profits help alongside vocational education and training. A specific venture to capabilities improvement in lower-income countries, particularly inside the casual economy, is appropriate perception modern ability proficiencies, ability demand, and the most tremendous techniques of competencies development. The World Bank, the International Labor Organization (ILO), the Organization for Economic Co-operation and Development (OECD), the European Training Foundation (ETF), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the G20, and the United Nations Development Program (UNDP) have undertaken efforts to better apprehend and enhance the abilities of key populations, countries, and areas – prominently which includes humans affected by means of poverty in lower-income countries. In order to overcome the barriers of current statistics about skills and the concern of estimating capabilities in the casual economies of lower-income countries, students and global improvement practitioners have innovated with methods of immediately measuring and circuitously estimating skills. For example, the World Bank has begun to directly measure ability ranges as a substitute of inferring them from present labor-

market facts in urban centers in lower-income countries. In addition, researchers have mixed both occupational employment figures and information on countries' exports with data about occupations to estimate countries' skill levels.

2.1.3 Country/Economy-Specific NHRD Approaches

NHRD efforts and models for NHRD initiatives and structures have at time been tailor-made to the economic, cultural, historical, and political realities of distinctive nations. For example, Alagaraja and Wang (2012), proposed 9 distinctive models for a country's strategy to NHRD. In addition, Choi and Choi (2013) have highlighted concerns for measuring NHRD systems, inclusive of grant prerequisites (for example, the share of a populace with tertiary education), demand stipulations (for example, a region's unemployment rate), and assisting structures (for example, authorities' expenditure on research and development).

Research has also been carried out on the factors influencing HRD. Hunko (2013) carried out research to understand the factors that influence the development of human resources. As per the research, it was identified that inefficient use of at least one resource in the organization leads to lowered productivity. And whilst financial, informational, and material resources were highly researched, the human resource is always overlooked. Hunko (2013) presented human resource as one of the main elements of production capacity of a system. The research identified that employee performance was impacted by two factors: external factors and internal factors. Pandey et. al., (2016) stated that HRD in south Asia cannot be fully understood without studying and taking into account the economies, accelerated technology and innovation, the information and communication revolution, rapid organizational change and outsourcing of manufacturing/ services operations of multinational corporations (MNCs).

Gonda (2014) stated that human resource if developed successfully can lead to great benefit for the country, and that those countries that have developed their human resources are now dominating the globe. The author pointed to the need for a system for developing human resource in a country. Gonda (2014) mentioned that decision to establish Model Universities in each state and Model Colleges in each district to make higher education quality conscious. The Bright students who don't get admission in prime institutes in India, enroll with foreign universities considering higher education in those universities is more relevant and globally

competitive. Around only 20 to 25 percent of the engineering and management graduates are employable, 75 percent were just degree holders during the year 2012-13. Around 40 percent of the seats of Management and Engineering courses are vacant during the academic year 2013-14 due to non-availability of eligible candidates. Deteriorating ethical and moral values is being experienced in higher education due to which the main objective of higher education, HRD is diluted. Sequeira (2012) pointed to the same conclusion.

Furthermore, Alagaraja (2015) mentioned that Each challenge can support or inhibit opportunities for education as well as economic and social development. The cross-country comparison provided a framework for identifying a systematic and integrated strategy for addressing unique NHRD and educational challenges. The focus on NHRD offers a distinctive lens for investigating issues, challenges, and opportunities regarding national development priorities. Challenges and opportunities in these areas lend themselves to comparative assessments as well as complement the existing literature and offer implications for other countries undergoing rapid growth and economic transformation. Some sort of reconciliation between societal and organizational imperatives has emerged more recently, accelerated more so by the challenging global context where increasing demands for prodemocracy, pro-free market enterprise, and “good” jobs for all has impacted countries in Western and non-Western countries. Building a national and organizational platform for long-term success with a general recognition that both economic- and social-development outcomes are necessary for sustaining global competitiveness entails a different understanding and focus for HRD scholars and practitioners.

Asaju and Anyio (2013) found that Human useful resource improvement through education stays the only solution to fixing the hassle of poverty, unemployment and different improvement issues experience in Nigeria and different developing countries. With effective human capital through sound instructional system, the wealth of the country would be equitably distributed, specifically in prefer of the bad thereby improving their well-being. Education area in any country mainly in a developing country is very strategic as a proportion of government budget of the same manpower, and as the main area via which country wide identity and national goals and aspiration are given meaning and truth amongst the people. Thus, human resource development thru training is the skill and the cease of all developmental efforts. In

latest years, globalization and transoceanic economies have obtained extended attention from human resource development (HRD) scholars. A concept below the identify of countrywide human resource development (NHRD) has emerged in the HRD literature. The NHRD literature has tried to enlarge the HRD discipline past mounted boundaries into countrywide sociocultural context primarily based on board troubles such as countrywide monetary overall performance and countrywide health problems, Lynham et. al., (2006). National Human Resource Development: A Multi-Level Perspective “Human resource development at various country for multi-level perspective”. the paper was based on Secondary data and the independent variable was HRD; the paper stated that developed countries appear to be having a clearer definition of HRD than developing countries. However, the findings indicate that HRD has been existing in different nations even though what constituted HRD varied. Furthermore, HRD and HR appeared to be used interchangeably in countries outside the USA. For example, although Qatar and Lebanon are both Middle Eastern nations, there is a lack of consensus amongst practitioners and academicians on what HRD is.

2.2 Present context of HRD

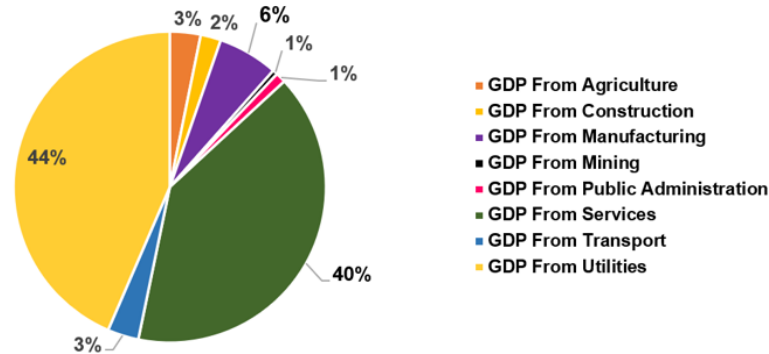
Bangladesh is availing the opportunities offered by globalization to build its economy. Bangladesh’s economy, keeping in line with global trends, is in changing from agriculture oriented to industry and service sectors. In order to power this economy, the country is striving to build a knowledge society to contribute to the economy’s development, despite significant brain drain that sees the country’s brightest science, technology, medicine, business and law graduates migrate to Canada, USA, and Australia every year. Assuring the quality of higher education is necessary to ensure that the country reaches middle income country status on the shoulders of a competent and resourceful workforce. Bangladesh has rapidly reached the position it is in today. Bangladesh’s GDP stands today at USD 250 billion, making it the 43rd largest economy in the world, above Portugal and Czech Republic and just one point below Finland, GDP Ranking (2018). Bangladesh’s GDP growth rate for 2018 has been at 7.9% by Asian Development Bank, one of the highest in the world, Asian Development Outlook (2018). Between 2008 and 2016, the Government has increased spending in the education sector by almost double, going from USD 2 Billion to USD 4.3 Billion. In the 2017-2018 financial year, the government’s allocation for education spending was an impressive USD 7.8 Billion. The government’s policies have paid off, as today Bangladesh’s literacy rate for the age block 15-

24 years in a staggering 92% plus. Overall, the literacy rate is 72% plus when considering all age groups. Bangladesh is ahead of India who have a literacy rate of 69.30%. been successfully implemented to create skilled persons in the country and increase their employability status. The education sector is a priority area for the Bangladesh government and plays significant role in overall development of Bangladesh. Education is considered a key strategy for effective human resource development, poverty alleviation, and socioeconomic development, all which contribute to the national development. There is a pressing need to develop a large part of the population into productive workers through the coordination and interaction between people, educational institutions, training programs, and technology. The government, with this end in view, has fostered such development efforts through educational expansion and quality improvement initiatives in different sub-sectors of the educational system. Bangladesh Economic Review of 2017 presented the government’s actions to enhance the condition of the labor market and HRD. The review stated that 24 percent of the annual budget to the HRD related sectors, such as education and technology, health and family welfare, women and children, social welfare, youth and sports development, culture, labor and employment and so on.



Figure 2.5: Bangladesh GDP trend, source: Bangladesh GDP Annual Growth Rate – Forecast (2020)

Percentage of GDP Contributors to Bangladesh's Economy



*Figure 2.6: Percentage of GDP contributors to Bangladesh's Economy,
Source: Bangladesh GDP Annual Growth Rate – Forecast (2020)*

About one half of the graduates annually are not employed in Bangladesh. There is a mismatch between the supply of graduates and demand of the job market or industry. Additionally, foreigners are preferred over local graduates by many multi-national companies when it comes to well-paid job positions across numerous industries. Graduates from preferred public universities are given priority by employers in the job market due to lack of skill and competence of graduates. As a result, overall salary structure is low for average jobs. The job market is also getting centralized in the cities because most of private universities are in the cities and graduates are not willing to work outside distance from target work place. There is trend of the most graduates to work in the banks. Programs and courses offered by some universities are irrelevant and not needed by the job market. However, in order to capture the essential requirements for effective HRD, it is necessary to look at HR practices that are being adopted around the globe, and are becoming trends. As can be seen, the unemployment figure has risen gradually, with the rise of the labour force. However, there has also been a drastic rise in the employed person's figures. Ahmed and Khan (2015).

Hence, HRD is a conscious and proactive approach applied by employers which seek to capacitate employees through training and development to give their maximum to the organization and to fully use their potential to develop themselves. Reasons behind educated unemployment can be identified as follow: increasing population, recessions, inflation, disability to do the job, nepotism, demand of highly skilled labor, Attitude towards employers, undulations in the business cycles, unsatisfied incomes or salaries of the employees, young people are not ready to take jobs which are considered to be socially degrading. In Bangladesh the achievement of enormous improvement in health sector for the last 45 years. Bangladesh

has made an example by achieving MDG 4 through reducing the maternal and child mortality. An opportunity has been created for the poor and marginal people to reach the Government health care service by ensuring the primary health care through sector-wide actions. As a result, notable improvements have been achieved through the reduction of fertility rate, death rate, child and maternal mortality rate and amplify the average life expectancy. (Haque, Shafiullah, Uddin, Roy, and Das, n.d.). Ahmed and Williams (2008), published their paper “Education Priorities for Human Resource Centered Development in Bangladesh.” The paper cited examples of countries such as Singapore, who have utilized their human resource to grow their country. It is stated that Bangladesh can sue such a model. Mohiuddin (2012) confirmed similar challenges and conclusions in the research. West (2000) conducted research on the issue of HRD. The researcher focused on an overview of the main interactions between higher education and employment, and the two alternative approaches to promoting them, namely that of fostering general ‘employability’ skills and that of linking higher education courses to professional formation. However, Ahmed and Williams (2008) stated that prior to monetary expansion, every country had developed a robust human capital base of broadly-based literacy and skills. The preliminary literacy and capabilities base had been consequently developed and superior in parallel with monetary traits in every of the countries. Educational possibilities had been expanded in line with the desires of the developing economic system and aspirations of the people. Economic possibilities had been widely distributed as the economic system grew—new jobs, greater wages, improved academic opportunities, elevated housing and fitness care programs. Mechanisms for selection of students for greater ranges of training have been broadly considered as tough however fair. By and large, the legitimacy of resolution mechanisms has no longer been broadly questioned. In Japan, Korea, and Singapore, students and their households have assumed duty for training for examinations, frequently thru after-school cram faculties or tutoring.

Shamsuddoha and Khanam (2003) stressed the importance of developing manpower in technical and management areas in Bangladesh. On the other hand, Ali (2014) stressed that higher education was directly impacting productivity in the country. Shahidul (2014) presented a research paper titled “Human Capital Formation and Policy Modeling: A Strategic Study for Bangladesh Economy.” The paper discussed the scope of investment in HRD and education, as a means to improve quality of life of the people in Bangladesh. The paper mentioned that at

high school level, the main focus of teaching is to develop reading, writing and analytical skills. In the general Colleges and Universities human resources are produced to fit them into the job markets at aiming to service industries. The following measures may be taken to address the issue of youth unemployment in Bangladesh; improve the education system, increase availability of technology and internet; develop skills through technical and vocational training; ensure fair opportunity for all in the job market; facilitate self-employment through entrepreneurship ; Seek employment opportunities abroad; According to Khatun and Saadat (2008), access to computers and broadband internet should be increased, particularly in rural areas. Programming and coding should be introduced into the mainstream education system in order to increase the potential of securing jobs in the rapidly modernizing manufacturing and services sectors. Moreover, interaction between students and employers can guide future job-seekers regarding the skills which are in demand in the emerging job market. Educational institutions should align their curriculum with the market needs on the basis of the feedback from the employers. All educational institutions should have career counsellors to guide students towards their future career path from a very early age and help them and internships, prepare job applications, and engage in entrepreneurship, Khatun and Saadat (2008).

2.3 Relationship between KSA, HE and HRD

The KSA commonly refers to Know what (knowledge), know how (skill), know why (ability). On the other hand, ability is also known as proper understanding of purpose and process of a work and commitment towards that work. Zarqan (2017) presented research on role of technology in HRD where he stated that technology and innovation or “technovation” was very critical for the development of HRD. It was stated that a number of key areas of HRD are impacted by technology.

Knowledge has a theoretical factor and a sensible component. The theoretical factor can additionally be referred to as declarative, propositional or codified expertise (i.e. specific book expertise that can be taught in an academic program) Eraut (2004). This includes understanding about an object that is separate from the challenge and is referred to as “knowing that”. In contrast, sensible knowledge or “know-how” is related with experience, is implicit or expressed solely in practice, and is for that reason inseparable from movements, Ryle (1963). This kind of knowledge cannot be codified, explicitly formalized, managed, communicated or taught in

a ordinary formal training setting, Eraut (2004). The improvement and management of expertise in an organization includes more than the easy storage and switch of information. Some knowledge, such as factual records and specific knowledge, can be transferred highly without difficulty to different human beings through, for example, formal education or through codifying and recording the information into databases or know-how repositories that are on hand to different personnel in an employer, Haesli and Boxall (2005).

Technical knowledge involves applying theoretical knowledge to a particular context for a specific purpose. Technological knowledge, alternatively, involves the ability to add to the theoretical part of said applicable knowledge. As a result, even though a technician can be an innovator vis-a-vis the way the applied theoretical knowledge is applied, it bears one to think that the technologist is on the other hand expected to be an innovator in vis a vis the knowledge which underlies the development of the novel technique. There is a transformation in the Higher education focusing on Knowledge (both explicit and tacit) Skill and Abilities than only certificate-based education. Knowledge based education can only be delivered through the creation and dissemination of knowledge in the proper T-L environment and with the proper assessment and curriculum. According to De Corte (2010), Key Ingredients of Adaptive Competence are as follow: organized and flexible knowledge, trouble solving strategies for analyzing and problem solving, metacognitive knowledge, self-regulatory skills and positive beliefs.

According to Holland and Hager (2006), a graduate can be expected of contributing to the theory of applicable knowledge instead of the application of that theory. Moreover, there is an important difference between the skills acquired by university graduates during their study, and the skills they have developed from work experience. It has been stated that some skills which are learned on the job may not require formal university education in order to be developed. There is a distinction between which skills should be learned on the job, vs. which skills are learned at university. Technical skills and some aspects of applied theoretical knowledge may be imparted during the employees' university education. Some 'broader skills' may be very context-specific and can only be developed on the job. Employability skills, which a graduate must learn from university, include analytical skills, team management skills, and sound communication skills, both written and oral. For example, a business graduate must learn from

their university a sound awareness of relevant commercial drivers and demonstrate an ability to think in business terms. A graduate must show the ability to take difficult decisions and show leadership potential, and convince a recruiter that they can listen patiently. Employability attributes include intellectual abilities, performance skills, social skills and a range of personal qualities.

A skill is the capacity to raise out a project with decided outcomes frequently within a given quantity of time, energy, or both. Skills can frequently be divided into domain-general and domain-specific skills. For example, in the area of work, some common competencies would encompass time management, teamwork and leadership, self-motivation and others, whereas domain-specific skills would be used solely for a positive job. Skill commonly requires positive environmental stimuli and conditions to examine the stage of skill being proven and used. People need a wide range of capabilities to make a contribution to a contemporary economy. A joint ASTD and U.S. Department of Labor study confirmed that thru technology, the place of work is changing, and recognized sixteen fundamental skills that personnel must have to be capable to exchange with it. Three extensive classes of abilities are recommended and these are technical, human, and conceptual. The first two can be substituted with tough and soft skills, respectively. Some of the academic competencies, higher order thinking skills and personal attributes that graduate should have and which universities could help to develop to make graduate job ready and employable include the following: Critical/analytical thinking; Decision making/ problem solving; Self-management; Engagement and work ethic; Team working and interpersonal skills; Ethics and accountability; Flexibility and willingness to learn; Results orientation and passion for excellence; Innovation and creativity; Assertiveness and personal credibility leadership.

According to Portland Business Journal the list of skills is given below: hard, labor, life, people, social and soft skill. According to Ehlers (2019), the Future Skill Dimension is concerning to an individual's potential to act self-organized in relation to its social surroundings (social-dimension), the society and organizational environment. It is emphasizing the individual's twin function as the curator of its social portfolio of membership in numerous organizational spheres and at the equal time having the function of rethinking organizational areas and growing organizational constructions anew to make it future proof. It consists of an array of 5 skill

profiles. Within these three dimensions, sixteen skill profiles have been defined. A skill profile is an array containing similarly subskills such as: Subject-development related skills: (1)Autonomy (self-determination), (2) Self-initiative (initiative and performance competence), (3) Self-management (decision competence) (4) Need/ motivation for achievement (initiative and performance competence), (5) Personal agility (self-competence), (6) Autonomous learning competence (learning literacy), (7) Self-efficacy, (8) Tolerance for ambiguity (ambiguity competence), (9) Ability to reflect (reflective competence); Object-related skills (Instrumental skills): (10) Agility (systems competence), (11) Creativity (innovation competence), (12) Digital literacy; Social world/ organization-related skills: (13) Sense-making, (14) Future mindset (future and design competence), (15) Cooperation competence, (16) Communication competence. According to International Baccalaureate (2014), The five ATL are specific skills that student use to engage in learning and meta-learning (i.e. learning to learn) and are defined as: thinking skills, (2) communication skills, (3) social skills, (4) self-management skills, and (5) research skills. The term “life skills” is open to extensive interpretation. However, there is a finding that there can be a term which will refer to psychosocial skills. Keywords used to describe psychosocial abilities were: personal, social, interpersonal, cognitive, affective, universal. Skills are abilities. Hence it ought to be feasible to exercise existence abilities as abilities.

Self-esteem, sociability and tolerance are no longer taught as abilities: rather, learning such traits is facilitated through mastering and practicing life skills, such as self-awareness, problem-solving, quintessential thinking, and interpersonal skills. Another region of debate surrounded identification of the region of physical or perceptual motor skills, such as getting ready an oral rehydration solution. If “physical skills” is no longer accurate enough, two recommendations have been to call these “health skills” or “practical skills”. There used to be also a clear consensus that livelihood capabilities such as crafts, cash management and entrepreneurial abilities are no longer existence skills, even though the instructing of livelihood skills can be designed to be complementary to existence skills education, and vice versa.

Oliver, et. al., (2014) observed that, the most exceptionally rated skills clusters had been teamwork and interpersonal skills, basis skills, and adaptive skills. However, even organizational competencies (the lowest ranking category) had been favorably rated, whilst

noting that a tremendous share of supervisor respondents reporting that these competencies (particularly managerial and management skills) had been no longer required through graduates in their current role. These scores are probable to be upwardly biased, as a contrast of graduate scores between those who referred their supervisor and those who did no longer confirmed variations of between 5 and ten percentage points. The Australian Graduate Survey (AGS) consists of an alternative for graduate respondents to decide in to taking part in future research. At the moment, this research includes the tracer study, performed online through graduates three years and 5 years after completing their course of study. The objects measuring organization perceptions of particular graduate capabilities and attributes and their grouping into clusters, whilst informed through a evaluate of applicable literature, have been in the main based totally on objects from preceding organization surveys performed at single universities. While the factor evaluation effects for some clusters have been proper (teamwork, disciplinary skills), the consequences for others had been much less excellent (enterprise skills, employability skills, and adaptive skills).

In 2015, the World Economic Forum published a report titled ‘New Vision for Education: Unlocking the Potential of Technology’ that focused on the pressing issue of the 21st-century skills gap and ways to address it through technology. In the report, they defined a set of 16 crucial proficiencies for education in the 21st century. Those skills include six “foundational literacies”, four “competencies” and six “character qualities” listed as: Foundation Literacies: Literacy and numeracy; Scientific literacy; ICT literacy; Financial literacy; Cultural literacy; Civic literacy; Competencies: Critical thinking/problem solving; Communication; Collaboration; Character Qualities: Creativity; Initiative; Persistence/grit; Adaptability; Curiosity; Leadership; Social and cultural awareness.

According to Oates (2018), 21st Century skills are 12 abilities that today’s students need to succeed in their careers during the Information Age. They are as follow: Critical thinking; Creativity; Collaboration; Communication; Information literacy; Media literacy; Technology literacy; Flexibility; Leadership; Initiative; Productivity; Social skills. Besides, Adebakin, et al., (2015). stated that in today’s complicated work environment, it will become a mission for Nigerian universities to equip and internalize in the younger humans indispensable wondering skills, creativity, records processing, decision-making, combat management and resolution

skills, team-work and leadership competences. Teaching such existence capabilities can be introduced into every component of the university curricular with terrific instructing skills that inspire interactive learning, understanding application to actual existence problems, peer tutoring and the likes. Global Graduate Employability Research by Kinashet et al. (2014) which collected data from a total of 14 countries including the United Republic of Tanzania identified 7 themes or attributes that distinguish a top-performing graduate. These themes include; skills(both work-specific (hard) and transferable (soft)); real-world experience (through engaging with industry and employers throughout university, and staying informed about current events and global issues, graduates have developed outward looking perspectives, appreciation for context and realistic notions and expectations of the workforce); well-rounded perspectives—in addition to study, successful graduates had pursued sports and/or hobbies as well as community engagement. Kinashetal (2014) insist that employability is not restricted to securing employment. It also encompasses longevity, success and lifelong learning during one’s career. The European coverage context is an increasing number of emphasizing both the need to combine different routes to getting to know as section of the lifelong learning method and to enhance a system of credit transfer for VET to promote mobility. A mastering result (or competence-based) method presents the manageable for both considering it integrates the knowledge, competencies and behaviors that have been obtained through numerous routes and makes obvious the groundwork of skills, Winterton (2005).

The concept and definition of employability has been discussed for a number of years but there has been a growing interest in graduate employability over the last decade, Lowden et. al, (2011). Employability means a -set of skills, knowledge and personal attributes that makes an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy, Yorke (2006), thus KSA is other words is also defined as employability skill in this paper. Evidence of graduate attainment of a set of “Essential Employability Qualities (EEQs)” is at the heart of this approach. The ultimate specification of these potential will emerge from a pilot procedure this subsequent educational year, however the present-day framework suggests that graduates of “EEQ Certified” packages are “communicators, thinkers and problem solvers, inquirers, collaborators, adaptable, principled and ethical, accountable and professional, and life-long learners.” While this appears like the equal historic listing of “general education” consequences

that accreditors have been championing for years, the emphasis is extensively extra utilized and motion oriented, Ewell (2017).

Mwita (2018) stated that almost half of graduates cannot find jobs, despite having qualification. On the other hand, it has been stated by the researcher that education sector stakeholders have argued that qualifications do not provide graduates with strong skills to participate in the competitive labor market. Employability skills as perceived through employers and university faculty in the fields of HRD is the requirement for the entry level graduate Jobs, Bassou El Mansour, Jason C. Dean (2016). These skills are referred to as competency and the use of technology as vital employability skills in the Moroccan context. According to the researchers, the rise of globalization has led to employability becoming one of the main goals for education systems. Employees must have soft or non-technical skills in addition to technical skills. The study explored employability skills as perceived by employers and university faculty of human resource development (HRD) and management for entry level graduate jobs. Bennett et. al. stated that improvement of KSA is essential for graduates, society and the government and HEIs. There is evidence that the focus on improvement of KSA is essential but both HEIs and employers have not made effort to incorporate and exercise on the enhancement of the KSA outcome, which eventually is required for the employability. Furthermore, the challenges are growing in the changing environment of workplaces and thus it is turning complex. At the same time, the expectations of graduates are also changing and expanding from HEIs. Graduates and the market are looking for more quality education based on skill and ability improvement, such as being responsive to change, entrepreneurial skill, self-management, career oriented, continuous learning and lifelong learners. According to Tomlinson and Nghia (2020), the employability enhancement issue in higher education is needed to be more dynamic to prepare students to cope with eventualities instead of focusing on developing knowledge and other subject related skills. Moreover, learning outcomes were identified not only as certification or degree attainment, but also as the development of social, cultural, individual, and psychological ability. The importance of these skill and abilities, varies in different contexts and stages of the graduates' career path. Ting and Ying (2012) stated that employers' perception on the acquisition of KSA from HEIs by the graduates are less than the perception of academicians. In other words, the HEIs perception is that graduates are developed with KSA satisfactorily but the employers' perception is that the graduates should be equipped with more competencies

from the HEIs. Moreover, there is still a gap between the employers' perception and the academicians' perception on the importance of competencies.

Besides, Menon, et. a, (2018) stated that the labor market experiences of graduates from higher education and then employed, were investigated through research conducted in two European countries with high rates of graduate unemployment, Cyprus and Greece. Respondents in both countries reported a modest link between their job and their field of study. Moreover, a modest relationship was reported between knowledge and competencies acquired through higher education, and the requirements of the graduates' job. However, most graduates were aware of the positive impact of higher education on competencies commonly linked to employability, such as communication, problem solving, and time-management and self-management skills. Helms and Nixon (2010) stated that, nowadays, people often go to abroad for higher studies. For that reason, ss soon as they finish their graduation, they prepare for IELTS or SAT exam instead of joining the workforce. When they study abroad and get the option of high salary and better work place, they hardly come back and join any local company. As a result, the country loses talented employees who can contribute to the workplace. Sometimes, people go abroad after working couple of years in local market for better life. Moreover, when we send our less skilled workers to the international market, it creates negative impact overall. Sometimes, second time employee migration is prohibited due to lack of skill to those countries. For a densely populated country like BD, this becomes hard to create job market for them and thus it increases unemployment rate and as well as GDP decreases.

Susima Weligamage, in the paper titled Graduates' Employability Skills: Evidence from Literature Review' outlined that the present day's continuously changing environment emphasizes the importance of education for employability and outlined that there is a gap existing between the market and the supply form HEIs. Thus, development is no longer dependent solely on knowledge but practical experience and competencies as well. Then, in order to enhance competitive benefit for graduate employment, students need to enhance employability skills in addition to the acquisition of subject-specific knowledge and study programs need to figure out the way of enhancing that requirement. Personal attributes frequently required through the employers are loyalty, commitment, honesty and integrity, enthusiasm, reliability, private presentation, common sense, advantageous self-esteem, sense

of humor, a balanced mindset to work and domestic life and capability to deal with pressure, motivation and adaptability. This paper enlisted KSA as the core requirement to enhance the graduate employability. It listed capability to communicate is an essential ability for the graduates. Similarly, technological skill is demanded but the job market due to rapid advancement in the world. Besides, Teachers disseminate knowledge and less importance is provided to skill building such as communication and technology as KSA improvement and market demand are ignored during curricula preparation and planning. Ultimately, this creates a gap when graduates enter the workplace in terms of competency, Letschert (2004). McCabe and Carbery (n.d.) stated that students are graduating into one of the most challenging graduate recruitment markets for almost two decades. Graduates are not only competing for jobs with each other, they are also competing with graduates from other countries and continents. The fact is that when graduates leave their University and College existence many do so barring being sufficiently geared up with the competencies required for employment.

There is a global issue that the contemporary undergraduate curriculum is no longer producing graduates with lifelong learning competencies that they require to be successful in their jobs. This shortcoming has put increasing pressure on universities to identify the employability of graduates by ensuring that universities are realizing the need of job market, Pitan (2017). A study done by British Council (2014) in Sub-saran Africa reported that there is widespread concern about the work readiness of graduates. While employers are generally satisfied with the disciplinary knowledge of students, they perceive significant gaps in their IT skills, personal qualities (e.g. reliability) and transferable skills (e.g. team working and problem solving).

National HRD deals with government skill formation and employment policy (HRD), institutional development, partnership improvement with worldwide corporations (Metcalf and Reese (2005). Kuchinke (2003) mentioned, in contrast, the countrywide structures of higher education between UK and the US and the findings have been that in the UK, where there used to be a core system of HRD accreditation and certification method strongly related to the countrywide education, and the US had a decentralized system with no national-level coordination for certifications and accreditations. The cultivation of an amalgam of competencies and skills amongst individuals that will lead to the development of resource status amongst these individuals. These competencies include, but are not limited to, specific

work and/or industry relevant knowledge, generalized knowledge, skills and abilities, as well as technical knowledge where necessary such as IT. The skills may be listed as cognitive skills necessary for effective work function, and soft skills such as a professional approach to teamwork in a group working environment. Finally, HRD must include an emphasis on moral development as it applies to the workplace.

2.4 The present context of KSA, HE and HRD in BD

Rasul, et. al., (2013) mentioned that a country like Bangladesh where the population is large and most of the income is coming from only one sector like garment, it is important to make the human resource skillful so that they can do different works for the country. Without develop workforce none of the nation can become developed. Moreover, the research outlined that, government need to ensure that only quality people are joining work specially when we send them in other countries. Along with government support, private organization should come forward to develop human in our country because they have good trainer and enough infrastructure to do that. All the community need to understand that spending human resource is not liabilities for anyone. Skillful people make less mistake and more productive compare to unskilled labor. So skilled human is an asset for our country.

According to Karim (2019), Salleh, et al., (2016) stated that generally, technical undergraduates' generic skills are still on the right track. The same can also be said about the generic skills required by industrial employers. The differences that exist between the technical undergraduates and industrial employers could give some guidelines to the curriculum developers to design a curriculum that will improve the generic skills of the technical undergraduates. Besides that, this research also shows that the importance to evaluate specific knowledge and generic skills cannot be taken for granted. This indicates that the development of generic skills should not discriminate technical skills which are very fundamental to the technical undergraduates themselves. This is important as technical undergraduates serve as human capital to the technical industry.

According to National Qualification Framework (NQF) of BD, the fast growing changes and the higher demands on graduates as a part of the workforce, society and the country at large require to re-think of graduate attributes in Bangladesh. All the eight levels of qualifications in

the Framework address these skills at varying levels. Programs of study cannot be accredited if these domains are not addressed by providing clear learning outcomes. NQF of BD adopts four skills as the These are loosely based on the 10 skills recommended by the World Economic Forum 2015, which are complex problem solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgement and decision making, service orientation, negotiation and cognitive flexibility. The skills and competency listed for the development of the Graduates through IQAC mechanism are as follows:

Table 2.4: The skills and competency for development through IQAC mechanism*

Dimensions of Skills	Skills (KSO)
Job knowledge (knowledge on subject matter)	
IT Knowledge	Knowledge
Knowledge in designing a system component or process	
Oral communication	Communication
Report writing	Skills
Presentation skills	
Ability to work in teams	
Leadership	
Independent thinking/ Self Confidence	Interpersonal Skills
Self-Motivation/ Commitment to job	
Reliability	
Appreciation of ethical values	
Adaptability	
Time management skills	
Judgment	
Problem formulation, solving and decision-making skills	Work Skills
Collecting and analyzing appropriate data	
Ability to link theory to Practice	
Discipline	
Sense of Responsibility	

*Self-Assessment Manual, Ministry of Education, UGC, HEQEP, IQAC, Bangladesh

British Council Economic Intelligence Unit presented a study titled “High university enrolment, low graduate employment.” The study stated that throughout various Asian countries, tertiary level education has increased in scope and quantity, but that however quality has deteriorated. The report stated that there is a disconnect between higher education needs and the labor market’s needs based on KSA.

2.5 The Role of HE in HRD

The UNESCO defines higher education as ‘all kinds of studies, education or training for research at the post-secondary level, supplied through universities or different instructional businesses that are accepted as establishments of higher education through the capable state authorities.

The Higher/Tertiary education also referred to as third stage, third level, and post-secondary education, is the educational level following the completion of a school providing a secondary education. Higher education in Bangladesh takes place at 37 governments, 80 private and 3 international universities. According to Cunha et al. (2006), primary, secondary and tertiary education is a cumulative process. It has been shown that tertiary education and learning always builds on earlier primary and secondary learning. Cunha and Heckman (2007) described this cumulative phenomenon of education as “dynamic complementarities.” In other words, it has been stated that ‘skill begets skill’. Incidentally it has been stated that tertiary education not only build upon early learning, but that the path of performance (i.e. skills) follows a multiplicative function. Barnett identifies four dominant contemporary conceptions of higher education as: the production of highly qualified manpower; a training for a research career; efficient management of teaching provision; matter of extending life chances. Educationist Robert Wolf in his book *The Ideal of the University* discussed four models for ideal university: (a) the university as a sanctuary of scholarship, (b) the university as a training camp for professions, (c) the university as a social service center, and (d) the university as an assembly line for established ‘men and women’.

At the beginning of the 1960s human capital theory constituted the primary social science narrative of relations between higher education and work, Marginson (2015). A core thesis of

human capital theory is that education renders people more productive, that is, it raises the marginal product of an educated worker relative to the one not so educated, Merwe (2010). Generally speaking, the theory argues that education system or generally education transforms people by making them more useful for value creation and addition and hence makes them more employable. Paadi, (2014) opines that the theory does not lean much towards the acquisition of generic skills to succeed in the workplace since it focuses more on the educational knowledge acquired through higher education to be successful in work which is not sufficient to make a person competent enough for a job.

Teneng Patience Penn (2016) in the paper on HE arena of Cameroon, revealed that the employability used to be generally considered in phrases of skill improvement where universities and institutes of higher education prepare new entrants to the workforce. Graduate employability and improvement of KSA used to be additionally recognized as more important factor in the curriculum development process. Embedding employability skills in the HE curricula, as an empowering tool to foster entrepreneurial self- reliance among graduates, is one of the safest approaches of fixing the employment and employability challenges. Educational system is one of the factors for NHRD in the developing world like the Republic of Kazakhstan (RKZ), Madina Kenzhegaranova, (2008). The context of the paper was the comparison of NHRD at the RKZ, on the global context and based on secondary data in which independent variable (IV) as HRD. The key factors of the research were government structures, educational system, and business utilization are the key environmental factors which appear to be influencing and shaping the emergence and definition of NHRD in the RKZ. The driving forces influencing and shaping the emergence and definition of HRD are interdependently economic, political, and social in nature. NHRD are emerging constructs in the RKZ. The HRD policies and practices includes education and development, vocational education, person and profession improvement. HRD is predominantly derived from the western literature and its exercise is incredibly new and emergent in the RKZ. NHRD techniques includes enhancing the academic system of the country. In addition, funding in human capital, through the provision of expanded HE and training ensures the development and appropriate utilization of HR in the nation. The gap in the research was the conceptual nature of the and furnished a restricted applicability of the findings. Therefore, in addition empirical research needs to be carried out on the emergent constructs of NHRD. An empirical research on NHRD in the RKZ

is stated to be conducted to enhance peoples' lives, and education and socio-economic well-being, to address the issues like unemployment, scarcity of skilled workforce, poverty. In addition to this Adedeji and Campbell (2014) stated that HE indeed plays an important and prominent role in capacity building and knowledge creation of any nation.

Higher education in the much less developed countries is increasing at an unparalleled charge and low earnings nations are confronted with monetary constrains to meet these demands, at this point, the query of pleasant or extent is very essential and timely. As the satisfactory assurance system, in the majority of these countries, is in the creating stage or no longer completely purposeful so there is opportunity that quality is being sacrificed at the altar of extent, Arain (2012). However, for this role to be effectively played there is need to increase and widen access to higher education, funding for the HE and enhancing Quality of HE as well as to tackle the multifaceted crisis created by the mismatch between graduate output and labor market demand. Zhang and Guo (2014) prioritized the importance of evaluation of the national higher education system in order to reap the benefits of human resources. Macroeconomic sustainability can be attained through excellence of educational management which in turn provides positive return on investment and progressive contribution towards development of the economy of the country, Ali, et al., (2019).

2.5.1 The present context of HE in BD

Most countries with the mission of developing themselves have realized that education in general and quality higher education particularly are one of the keys to overall development. These countries are investing highest of the national income in education and encouraging the public and private sector to improve the academic institutions. It is important to raise the level of education of the work force, at the same time it is also equally important to look at ways and means of providing education that is useful for the job market and economy. The contribution of private universities to higher education in Bangladesh is undeniable, as approximately 65% of students are enrolled in private universities, Neazy (2018). The growth of private universities in Bangladesh has been very rapid and profound, and as a result, some common problems have arisen which have hampered the quality of education, Solamain (2018). However, the significance of HE has been continuously highlighted across various literature. Alam and Parvin (2017) stated that HEIs have been playing and continue to play a significant

role in developing skilled manpower in Bangladesh, and enriching its intellectual civic society. They stated that private university's in Bangladesh, which have 71% of the country's tertiary students enrolled in them, have started the commercialization of higher education in Bangladesh, as in other countries since the 1990s. They stated that as a result of this phenomenon, the universities were changing their course curricula, targeted students, delivery mode, and methods employed in the imparting of higher education. Additionally, their research concluded that all stakeholders, including students, parents and academics looked at higher education as a means to increase individual gain, as opposed to thinking of it as a means to increase national development.

	TOTAL	MALE	FEMALE	
Literacy rate (%)				
15-24 years	94.9	93.7	96.1	(2019)
15 years and older	74.7	77.4	71.9	(2019)
65 years and older	39.4	52.5	25	(2019)

Figure 2.7: Bangladesh Literacy rate Source: UNESCO Institute for Statistics (2019)

According to UNESCO (2001), a rejuvenation of the higher education system is needed in order for modern society to face the challenges of modern times. Quality higher education is necessary as it produces educated and enlightened citizens without whom no nation can progress economically. Sharfuddin (1996) opines that today the objective of both public and private universities in Bangladesh is to produce talented and skilled graduates to match the demand for competent graduates by the diverse labor/job market.

Bangladesh is naturally following the trends set by western countries, as well as other southern countries and regions. Initially after independence, when the country was young, Bangladesh's main HEIs were public. Bangladeshi higher education was once highly subsidized. During this time only a few public universities catered to the needs of millions of university age males and females. This translated into higher education being considered as a luxury in a society of mass illiteracy. Public universities were few in number, and poorly equipped to deal with research and modern requirements of education. To generate and innovate knowledge as well as to build up a skilled manpower are the purpose of higher education. It was recognized that public universities alone could not produce the skilled human workforce, which was needed not only for HRD of the nation through supplying teachers, instructors, researchers and scholars in the institutions like schools, colleges, technical institutes and universities, but also for creating

technological revolution in the field of agriculture, industry, business and commerce, medicine, engineering, transport, communication and in the service sector etc. However, towards the turn of the last century the need for skilled and semi-skilled human resource started to be recognized for overall development of the country and poverty alleviation.

The demand for tertiary education, as a result of increasing pressure of HSC graduates, has been sharply increasing. In responses to meet the demand, the unplanned expansion is taking place. One response is the rapid growth of private and public universities and the other is the expansion of degree colleges. NEP 2000 and education commission Report 2004 have called for a complete reform of higher education. They have recognized the importance of emerging trends of specialization as well as introducing interdisciplinary programs which in turn requires restructuring of tertiary education. Lack of facility, particularly qualified faculty, out dated curricula and lack of equipment have resulted in sharp deterioration of quality. Access to university learning is extraordinarily restricted to the poorer strata of the country. Poor students have minimum resources to get entry to public university. Higher education is plying as an instrument of grater inequality and higher disintegration. The entire system has to be reviewed towards reducing the poor and advantaged groups. From the standpoint of QA and enhancement, there are a massive wide variety of reviews and theoretical works. Spanbauer (1992) discussed the need for academic institutions. According to training Chaudhary et al. (2009), there is a long run relationship between financial solvency of students and HE. Andalee (2003) analyzed seven troubles to foster greater education in Bangladesh, namely, QA in HE, method, content, peer evaluation, facilities and political environment. Commercialization of education is having few negative impacts on social, economic, political and cultural surroundings, Rahman (2010). As with other country's experiences, many private Bangladeshi universities have struggled in some measure with quality, despite others excelling and achieving world recognition and praise. Autonomy is one of the keys for the centers of higher studies as well as in the universities. Many private universities, amongst other areas of concern, need to address areas such as the absence of effective and transparent governance structures, lack of infrastructure facilities, poor research initiatives, high tuition fees, high dependency on part time teachers, outdated teaching methods, and poor student service standards.

The public universities are confronted with their own host of problems, such as inefficient financial management, bureaucratic red tape, teacher absenteeism, poor research base, and outdated teaching and learning methods. Additionally, many private higher education institutions have insufficient competent teachers, modern and up to date curriculum and teaching methods, and moderate to poor student services. Other areas of concern in Bangladeshi higher education institutions include the lack of quality research initiatives, lack of proactive university governance, insufficient focus on skill development, poor planning and monitoring capacities, insufficient funding for quality related activities, as well as outdated teaching-learning strategies. According to Monem and Baniami (2010), Higher education has enormous potential to promote prosperity in the developing nations like Bangladesh. Business education is tremendously expanded in Bangladesh. Most of the public universities and private universities provide business education based on models and materials developed in the west, particularly from the UK and USA. Out of the 51 private universities, more than 40 are providing Business education for same purpose. These universities seek to develop better methods of education which will allow their students to be seen as valuable resources and help them find jobs. According to the GER which was 17% in 2016 is still quite low comparing to our neighboring countries like India and Sri Lanka and is still not close to the average of 24% of the lower-middle-income nations. There are gender gaps to tertiary education access as the girls and college students face difficulties due to traditional negative thoughts of their households. The percentage of female enrollments in HEIs is 38% in Bangladesh and is much lower than other South Asian countries like India and Sri Lanka, which has 46% and 60% consecutively. The participation in science, technology, engineering, and mathematics (STEM) in the HE is low. Therefore, these courses need to be covered at least 50% of the total enrollments.

Over and above these general challenges, HEIs in developing countries face supplementary problems in the organization of their QA systems. These problems have to do with securing adequate financial and competent human resources for QA, and operating QA systems in an institutional context where information systems are often fragile and data scarce, and where computer supported solutions are not easily available, Mhlanga (2013). While QA is concerned mainly with the enhancement of academic quality, it also bears a great potential for establishing necessary linkages between HEIs and the job market opportunities. QA procedures are

concerned whether or not a program is sufficiently aligned with the skill and competencies needed in the market for which it prepares, and whether industry/community/stakeholders are sufficiently involved in the periodic review of the program. Typically, QA would also be concerned with the collection of information on the job market entry from graduates of a given academic program, and of their feedback on the program in terms of their performance in the profession, Lain et al., (2003).

Bangladesh Accreditation Council (BAC)

The National Education Policy 2010 (NEP) of Bangladesh stipulated the necessity of a National Accreditation Council that would ensure pleasant of the academic packages presented by way of the higher education establishments based on the concerns over the quality of higher education in the private and public sectors, specifically in the large number of private universities and in the university-colleges under the umbrella of the National University. According to a UNESCO report called Global Education Monitoring Report 2017-18, Bangladesh needs a central accreditation body for monitoring and controlling the quality. Additionally, at the commencement of the HEQEP project, it was realized that there would be a need for a formal and independent accreditation agency for higher education institutions. The Strategic Plan 2018-2030 for higher education has been approved by the government and going through the implementation phase and as a result in 2018 the Ministry of Education has launched the Accreditation Council of Bangladesh. The council is responsible for maintaining the overall quality of higher education. Established in 2018, the National Accreditation Council Bangladesh is tasked with giving certifications to universities as well as their curriculums and it is possible to grade universities and their programs, thus allowing students to pick and choose their future university based on the hierarchal position assigned by the council. The law has very specific clauses about the composition of its management and administrative body. This system of grading, which will be available in the public domain for all to see, will introduce competition and motivate the university authorities and board of trustees to improve their ranking in the council's grading list to attract more students particularly the private universities, who fall under the Private University Act 2010. Additionally, the council has the power to cancel accreditation certificates for any university/program if it becomes clear that the quality of service has dropped below a threshold. The accreditation council applies its reach, administration and standards to both private and public universities. Thus the council acts as

the ensure of quality on behalf of all stakeholders. The establishment of the National Accreditation Council is not purely to improve quality, but also to ensure that the universities abide by the basic rules and regulations pertaining to the running of both private and public universities. Solamain (2018).

Bangladesh National Qualifications Framework or BNQF

The National Qualifications Framework of Bangladesh is implemented by the Bangladesh Accreditation Council, an independent body responsible for the governance and management of the Framework. At the other end, the Directorate of Technical Education (DTE) with assistance from the International Labor Organization's European Union funded Skills 21 project has contributed to develop a Bangladesh National Qualifications Framework or BNQF. The Council is required to coordinate policies across government agencies and ensure adequate involvement of all stakeholders in implementing the Framework. The Framework promotes qualifications by awarding after the approval of higher education institution and identifies the knowledge, skills, competencies and values a graduate from this institution would have acquired. It sets national classification of qualifications and levels of learning based on learning outcomes and prescribes minimum academic load and nomenclatures. The aim of the BNQF is to harmonize the various educational systems and qualifications, for example higher education and adult learning, whilst promoting education and facilitating learner/worker mobility both nationally and internationally, ILO BNQF (2018). Thus, the benefit of the BNQF is its ability to compare and evaluate different qualifications, thus allowing students in any system (e.g. Technical and Vocational) to potentially transfer credits should they switch to other system. Furthermore, it also helps potential economic migrants to gain qualifications that are better linked with the market demands. The framework is the culmination of 8 years of quality assurance and enhancement activities through the establishment/ feedback of the Institutional Quality Assurance Cells (IQACs) in 50% of HEIs. It sets out an outcome-based higher education system based on qualifications standards that are rationalized, streamlined, and consolidated to cover all post-secondary qualifications and applies to accreditation of programs in the first instance and thereafter institutional accreditation by the Council through Certificate of Confidence and Accreditation.

The Framework allows for articulation of both vocational and academic qualifications into a single framework and includes all activities that result in the recognition of learning. It also provides recognition of non-formally acquired skills and facilitates the integration of these into a formal system via Accredited Prior Experiential Learning (APEL). It covers all post-secondary academic sectors but does not include the technical and skills sector. It includes all levels of qualifications from Certificate to Diploma, Higher Diploma, Bachelor's, Bachelor's with Honours and postgraduate qualifications. It also covers all learning achievements and pathways at the post-secondary level, such as adult education and lifelong learning pathways. BAC as a monitoring and implementing council of BNQF, the HE of BD is paving its way towards synchronized, quality assured competencies and bridging the gap between the different streams of HE arena.

Bangladesh Open University (BOU)

BOU started its journey in 1992 under the act of Bangladesh open university Act 1992. This university offers distant education and is in collaboration with Open University of Sri Lanka, UK and Malaysia. This public university offers open and distant learning with 965838 student approximately under 6 Academic schools, 79 formal and informal programs with 11 administrative divisions and permanently located in Board Bazar Gazipur with a promising mission. Ali et. al., (2006). Realizing a new mode of mass education, the BOU started its journey and presently operating with 12 Regional Centers, 80 Sub Regional Centers, 1550 Study Centers with 137 fulltime and 28916 adjunct tutors. Though the initiation of the BOU was with a mission to assist the national development in a third world but is faced many challenges as one of the most crucial being lack of human contact, lack of space and others. Ali et. al., (2006). Thus, BOU had very limited contribution afterwards in overall development of human resource of the country.

2.6 Role of QAM in Higher Education

QAM relate to diverse understandings of quality, many of which are contextually determined Harvey (1995). QA is the exercise of gathering data upon which to purpose about, manipulate and enhance the overall performance of the higher education system. Pears (2015). Harvey and Green (1993) proposed five discrete but interrelated ways to think about quality as exceptional, perfection or consistency, fitness of purpose, value for money, transformation. The White

Paper defines specific aspects of QA Wicks, (1992), which locates the responsibility for each aspect as Quality Control, Audit and assessment. According to Trow (1992), it is a commitment to continuous improvement and a working picture of what quality comprises and an organizational means to advance. The most important of these practices are the following: leadership, experimentation and observation, teams, Delegation and measurement. According to Raja (1991), the pursuit of excellence can best be achieved through deep commitment to the cause of quality improvement and adopting appropriate strategies with respect to : (i) updating of curricula on a continuous basis, (ii) strengthening university college linkage; (iii) man power planning (iv) institutional development, (v) University and labor market interaction; (vi) linkage between education and society (vii) information system and awareness; (viii) educational and research programs; (ix) Faculty and quality of faculty; (x) governance; (xi) relevance of education to development; (xii) empowering the students; (xiii) skill development, so that students learn not only solving problems on performing a particular job, they are also fit to make presentations and offer leadership. Essentially center of excellence must have components each having qualitative programs. Mizikaci (2006) integrates the principles and concepts essential to high quality in HE that reflect philosophy, values and norms of quality systems appropriate to HE.

Education has to consider a variety of trends, inclusive of urbanization, ageing and globalization and is anticipated to be an essential supply of medium-skilled jobs in the future. Bakshi (2017). Furthermore, Zhang and Guo (2014) mentioned that human resource is significant and higher education is the crucial method for HRD. HE evaluation as an important part of HE, also has a great value for HRD. By QAM in HE stakeholders can be convinced of the goal and direction of HE, can give guidance in the process of QA. Finally, by adopting and following to the QA in HE, it would be easier for the HE to understand present situation and analyze the gap for feedback. Lamagna et al, (2016) document on QA in tertiary education in the case of Bangladesh, it advocated quite a few initiatives that can make sure a quality training gadget for the higher gaining knowledge of establishments in the country. Meyer and Bushney (2008) stated a clear process approach is required for quality assurance, that incorporates the three typical phases of a quality management approach, i.e. Quality Planning, Quality Management System implementation and Quality Review.

Though QA practices in HE fluctuate amongst countries, there are some standard factors of QA structures, such as QA strategy, level and scope of review, key stakeholders involved in the process, strategies and instruments, and the assessment of the process, monitoring. Growing internationalization of HE serves to make a bridge between the national QAM and quality framework. However, the query of good QA structure has to be designed and applied is concern to wide debate. It is additionally, hard to anticipate how the HE would have changed except the implementation of QAM. Moreover, it is not convenient to measure the consequences of higher education in the job market, Kis (2005). Education has been described as the bedrock of every society and tool for nation building. This is to say that the development of any modern nation has been found to be linked to the quality of its education system, Adegbesan (2011). Besides, QA is a mechanism used to evaluate the efficiency and appropriateness in teaching and learning so as to ensure the delivery of high-quality education, Sofowara (2010). Social change, social cohesion, and possibilities for societal improvement are to some extent, established on the academic life of a student through curriculum and TL. The TL and curriculum in HE, effects the QAM in HE, which is frequently referred to as academic output or outcomes, for human resources, Klieme and Leutner (2006). The introduction of a modern, effective QA system in Myanmar is a precondition for universities to fulfill as a basic transformation center for KSA improvement in the country. These functions of QAM consist of contribution to human, monetary and social development, and democratic improvement of the country. The country developed its own NQF and the policy for QA was not to follow any other quality framework from other countries. A countrywide system is expected to developed considering local circumstances, corresponding to national objectives. The aim of the QAM is to be realized and understood by stakeholders and general people. Developing a formal countrywide QA system seems to be a precedence for the country. This will contain countrywide regulations, institutions, and mechanisms. Simultaneously, the paper articulated that a procedure needs to start to develop quality higher education institutions. The requirement of NQF, nationwide QAM and quality HE cannot be neglected if the nation wants to develop Yehuda Elkana Center for Higher Education (2016). The development of accreditation agencies within the Higher Education sector in order to assess and guarantee the quality of services or product is still a growing phenomenon in Europe, Cret (2011).

Stukalina (2018) stated that Quality in higher education is associated with quality teaching in the agenda of achieving academic excellence – one of the main strategic goals of a modern university. Moreover, Quality assurance in complex academia settings is maintained in all functional areas and at all organizational levels provided that there are efficient quality assurance mechanisms backed by mature quality culture. Besides, Internal and external quality assurance procedures in higher education complement each other ensuring synergy of these processes for the greatest benefit of all higher education stakeholders. Amashukeli (2018) in the paper *The Role of Internationalization for Quality Assurance in Higher Education Systems: The Case of Georgia* found the following: As the term itself is quite complex, it is not always clear and understandable how university management and faculty members should develop and implement internationalized curricula at HEIs. The main idea of is “the incorporation of international, intercultural and world dimensions into the content material of the curriculum as properly as the gaining knowledge of outcomes, evaluation tasks, educating strategies and assist offerings of a program of study.”

QA is the frequent challenge of all the HEIs. Overall performance measures/assessment associated to QA practices are amongst the long-standing troubles. There are explanations for the challenges in the overall performance measures associated to QAM in HE. These explanations range from the shortages of finance and lack of understanding about overall performance measures in the HE establishments, Reda (2017).

According to Hinton and Miller (2008), *The Evaluative Event: A Study of Academics Engaging in Evaluation Practices*, the quality assurance tool (the CER) was an integral element to be considered. What became obvious was that academics needed to have a tool that they could use themselves, own and control. There is a need for QA at system level, however the interest of stakeholders of HE needs to be addressed and considered, Blake (1994). Owalia and Aspinwall (2015) proposed a holistic model, which summarizes many of the organizational and operational capacity components relevant to the overall assessment of educational quality in HEIs. According to Tee (2016), benchmarking of the good practices and at the same time adopting the best practices to improve the QA in HE is one of the primary principles in higher education. Mhlanga (2013), mentioned, HEIs in developing countries face additional problems in the QAM of HEIs. These problems have to do with securing adequate financial and

competent human resources for QA, and operating QA systems in an institutional context where information systems are often fragile and data scarce, and where computer supported solutions are not easily available. While QA is concerned mainly with the enhancement of academic quality, it also bears a great potential for establishing necessary linkages between HEIs and the job market opportunities. QA procedures are concerned whether or not a program is sufficiently aligned with the skill and competencies needed in the market for which it prepares, and whether industry/community/stakeholders are sufficiently involved in the periodic review of the program. Typically, QA would also be concerned with the collection of information on the job market entry from graduates of a given academic program, and of their feedback on the program in terms of their performance in the profession, Lain et al, (2003).

The lower the demand for graduates in the labor market and the higher the supply of graduates, the more the quality of degrees (also expressed in the reputation of institutions, programs or departments) and the performance of student matter. The same is true for the academic labor market, Rudder (1994). Looking at quality discussions, Rudder (1994), tendencies in quality evaluation and in policies quality assurance in higher education in different highly industrialized societies. Most nation with the vision for the development has considered education and quality HE as a standard for the future growth. These countries are devoting a large share of the national income and encouraging the enhancement of QA in HE. If Bangladesh does not also follow and comply with this sort of strategy, it will continue to lag behind in the world economy. It is additionally mentioned that, teachers in HEIs are not well aware of vision of the HEIs and their T-L style is not aligned with, Sursock and Smidt (2010). Based on Amashukeli (2018) the Case of Georgia found the following: As the term itself is quite complex, it is not always clear and understandable how university management and faculty members should develop and implement internationalized curricula at HEIs. Besides, Sanyal and Martin (2007) mentioned that developing nations face issues in placing accreditation mechanisms due to the fact they lack capable human resources and sufficient monetary resources. Setting up an accreditation mechanism for cross-border higher schooling is nearly not possible for less developed countries. Moreover, it is essential to hold accreditation activities self-sufficient from the government in order to maintain the credibility. However, this usually easy as Government frequently strive to manipulate organizations formally or informally. Lezhava (2018) summarized that despite formal QAM, for and capacity building of student experts in EQA and to institutionalize students' representation in IQA,

independent and democratic process of student involvement should be ensured. The need should be addressed by encouraging more transparent and result-oriented QA processes and legally supporting independent student bodies as equal stakeholders in QA-related decision-making structures. According to Brennan and Shah (2000), any approach to QA in HE ideally must contain three mandatory components, namely: national and institutional context, methods of assessing quality, and measurement systems for gauging the impact of the quality assurance systems at national, institutional and individual level. It may be observed that most quality assurance systems in higher education follow this pattern more or less. The recommendations of these researchers also state that rewards must be provided in exchange for successful change of organizational culture vis-a-vis QA.

Additionally, Seyfried and Pohlenz (2018) raised the question of internal vs. external QA. There is a particular science for an organization, essential component to the issue of QA. They stated that the issue of QA must be looked upon from the concept of motivation theory. They opined that autonomy was a great crucial factor in successful implementation of the QA system in a university. According to their study and findings, “independence from external demands and the opportunity to act according to internally driven, strategic considerations” ensured best result for QA. The concept of motivation as well as employee satisfaction is relevant when discussing the effectiveness of QA in HEIs. According to Seyfried and Pohlenz (2018), university academic staff should be satisfied with the process of QA, instead of only executing routine and mandatory procedures that have been imposed on them. If university academic staff get directly involved with QA, then they feel or perceive that QA is their own professional role but if the QAM are mainly to do with following instructions from external parties, then they will interpret that as a “bureaucratic burden and illegitimate interference.”

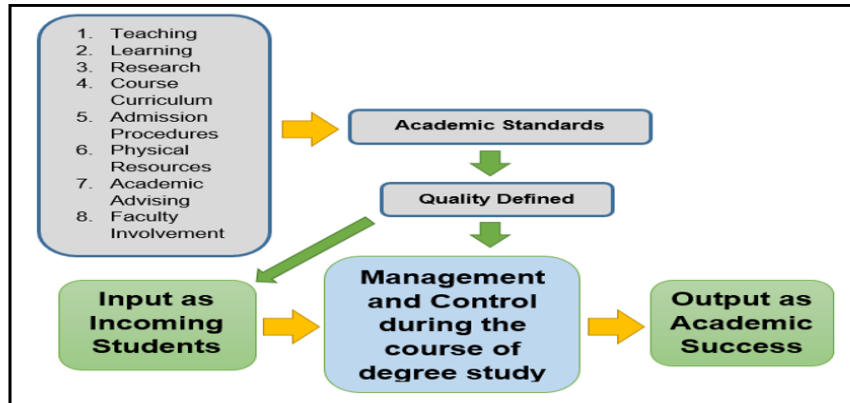


Figure 2.8: Input, Management and Control, and Output Processes

It was stated by Torre and Zapata, that though the QAM in the countries had many general and common features between them, there were certain distinctions to be made. Specifically, in terms of the objectives of the QAM. In certain countries, the objectives and aims of the system were different than in others, based on differences in national culture and politics. However, it was undoubtedly true that QA of HEIs in the countries had reached tremendous popularity, and had created success for their institutions. Torre and Zapata concluded that whilst QAM had significantly mobilized the HEIs in many countries –with a visible impact in terms of quality, it had also created troubling trends in others. They also stated that due to the subjective nature of quality in HE there was severe methodological debate between professionals in this field. At the same time, it was stated that the QAM had not always been the most efficient. The researchers stated that QA processes had introduced excessive bureaucratization and routine burdens that were not perceived by many related to the project to necessarily add to quality. As a result, QAM in HEIs needs to be filtered for the counter-productive phenomena.

The paper of, Scott, et al., (2008) titled using qualitative data to prove and improve quality in Australian HE identified some benefits regarding quality improvement in Australian HE. The current quality assurance framework for higher education in Australia was adopted in the year 2000 by the Australian government, which has traditionally had a very proactive role in ensuring quality of HE in the country through various means and measures. It ensures that curriculum design, alongside with the students' overall development and information provided by quantitative surveys assisted in monitoring and evaluation. The regular process of QA is quality standards, expectations administration and feedback. Moreover, it is important to ensure that the accreditation agencies as self-reliant and there is no influence from the

government in order to keep their credibility. However, in a developing country, this is difficult to implement. Bikas and Michaela, (2012).

Soft skill with creativity and innovation is required to attain managerial efficiency and part of employability skill. Strong political determination by the leaders of the BIMSTEC member countries help to cater the need in improving quality HE in that regional arena. In such a case, educational cooperation through BIMSTEC may not be feasible to work like ASEAN which work as the Work Plan on Education 2016-2020. But if it happens, that will channel cooperation in education and will join as strong bindings among ASEAN and a diversity of international organizations, Choong, (2016). Taking aforesaid example, regional and international cooperation at educational sector with visionary focus, enthusiasm guided by objective and collaboration to enhance QA at HEIs are now in practice. The countries need to build their own branding through preparing NQF from preprimary to HE levels not based on only Malaysia but also based on developed nations with a proper linkage and assessment to develop suitable human resources.

2.6.1 The present context of QAM in HE in BD

Quality HE is obviously a vital issue of development, which a country like Bangladesh have to build. The quality education is the most necessary element that helps human beings to stay up to date with the contemporary traits in all topics and areas of life. As Bangladesh, is considered as a Least Developed Country (LDC) can narrow its gap with developed economies with the aid of HE by proper utilization of graduates from the universities. QA in HE is necessary for a number of reasons. Firstly, about one half of all graduates in Bangladesh do not get jobs. Despite the fast-economic growth, there is a mismatch between supply of labor and demand for labor. The situation is compounded by the fact that Bangladesh has a high population. However, another issue that is making the problem of lack of jobs worse is the fact that many foreign graduates are employed in Bangladesh, despite the presence of unemployed local graduates. Many other reasons are there for this situation in BD. However, one of the reasons is that local graduates are often lacking in KSA. According to a UNESCO report called Global Education Monitoring Report 2017/18, Bangladesh needs a central accreditation body for monitoring and controlling the quality of tertiary education in Bangladesh. Additionally, at the commencement of the HEQEP project, it was realized that there would be a need for a formal

and independent accreditation agency for higher education institutions in Bangladesh. As a result, BAC is now operational in BD.

Quality education is not only needed for the student to develop himself or herself, it is also needed to develop industry and country. Hossain (2017). This is a direct acknowledgement that Quality education is necessary to produce competent human resource for the country's industry. Hossain (2017) also indicated that quality education has also been mandated as part of the UNs sustainable development goals. Also, it has been mentioned that to meet the target of middle-income country status by 2021, there is not alternative to developing a skilled and competent human resource through quality assured education, most notable higher education. Additionally, Hossain (2017) stated that due to the lack of quality assured HE in Bangladesh, there were employees from other countries such as India and Sri Lanka taking up jobs in Bangladeshi industry. The paper stressed that QA itself was initiated in developed countries a long time ago due to the explosion of HEIs in term of numbers, similar to the situation Bangladesh as of now. The QA process was designed to lead these HEIs into formal accreditation that would ensure that standards were adhered to. Periodic assessments and audits were designed to ensure that universities knew what expectations were expected of them and that they knew the processes and criteria involved that would need to be met in order to keep accreditation. At the same time, it is also expected that these institutions would develop the internal capacity to review and apply self-regulatory policies and mechanisms. QA may have various approaches. According to World Bank, there may be two fundamental approaches to pursuing QA in HEIs, Mahfooz and Hovde (2010). These differed along the lines of internal approach (formative) vs. external approach (summative).

Various research has been carried out on quality of HE in Bangladesh. Mazumder et al., (2012) carried out research on the quality of HE Bangladesh. The study assessed four critical areas of the HE programs in Bangladesh, namely curriculum, assessment, faculty involvement, and administrative support towards quality improvement. The study used student perception as the primary provider of data for their research. Despite a small sample for research, their study concluded that there were three key areas for improvement in HE as per their findings. These were (1) course and program objectives that align with the university's mission; (2) Assessment of the learning outcomes; (3) Lack of knowledge and understanding of faculty and

administrators in teaching-learning theories. Mazumder et al., (2012) stated that “Fitness of Purpose” was a very rudimentary definition of quality in HE that is frequently adopted by many. According to their reasoning, due to the lack of consensus between different stakeholders involved in HE, it was difficult to come up with a standard definition of the purpose of HE itself. As a result, it was impossible to come up with a definition of quality, as the purpose was not exclusively stated. Hassan (2017) stated that quality in HE may be looked upon from the perspective of 5 different standards or traits or from the perspective of 3 dimensions. Different commissions have emphasized on the need for unlocking the potential of Bangladeshi human resource through education and training. Chaudhary, et al., (2009) stated that there is a long run connection between quality HE in a country and economic growth through the creation of viable human resource. However, due to issues with quality of HE, both in private and public universities, there are challenge in achieving this aim. Mobasser and Muhammed (2010).

The commercial aspect of HE has also been highlighted. Akareem and Hossain (2016) stated that due to the privatization of HE through the private education act, there is now a commercial aspect to HE in Bangladesh. They conducted research to understand student’s perception towards quality in HE. As per the rationale of their research, it was stated that because private universities were competing against each other to attract students, there was now a profound marketing effort underway by the private universities to attract as many students as possible. As a result, each university wants to convey a perception of quality to their prospective students. The objective of their research was to identify these factors that influence student’s perception about a university’s quality. They concluded that scholarship opportunities, extracurricular activities, student’s age, student’s previous result, and even their parents’ education were having a significant influence on their perception of quality of higher education. At the same time, once a student was enrolled into a university, that particular university had itself an influence on the student’s perception of quality. Islam (2014) stated that education created capacity within a country and people, and stated that education was of paramount importance to creating development. Islam (2014) carried out research to study the quality, diversity and accessibility of higher education in Bangladeshi public universities. It stated that HE was the fastest growing sector of education compared to the other sectors. He stated that HE should be standard (referring to quality assured), as well as welfare and sustainable

development oriented. Education systems need to be fortified. Moreover, it also stated that the quality of higher education was especially important for a developing country such as Bangladesh. He stated that this country was in need of building up its human resource or human capital and could not afford the ill effects of sub-standard HE. He stated that only quality HE could provide a sustainable and high-quality work force, which in turn is needed to grow the economy of Bangladesh. Islam (2014) concluded that in order to improve the quality of higher education there was the need to address such issues as need based education, accountability and transparency in administration, transparency in recruitment, modification of syllabus, medium of instruction, teacher-student politics, teacher evaluation, as well as modern equipment. Overall, the research concluded that the main lacking was in participatory and research-based education.

HE was the primary component as well as catalyst in creating a knowledge-based resource society in Bangladesh, Ali (2014). He stated in his research that growth in the economy can only be realized through growth in human capital, and that the both were actually correlated. According to Ali (2014), quality HE can ensure that student's minds are enriched with time relevant, technology specific and up to date information that will enable to become effective human resources. He stated that HE's contribution can only be realized if effective QA is exercised. Sarkar et al. (2013) conducted research into the challenges of quality HE in Bangladeshi public universities. They stated that for the public universities, proper use of financial budgets was a key hindrance to quality of HE. It was stated that due to this phenomenon there was insufficiency in research facilities. Deficiencies in HEIs in Bangladesh were recognized in the UGC's Strategic Plan for Higher Education 2006-2026, and in the Government of Bangladesh's National Education Policy (NEP) 2010. The Strategic Plan, inter alia, encouraged the establishment of an unbiased Accreditation Council for both public and non-public universities in Bangladesh. Following the pointers made in the Strategic Plan, the Ministry of Education (MoE) prepared and launched the Higher Education Quality Enhancement Project (HEQEP) in mid-2009 with the monetary assist of the World Bank.

Strategic Challenges for QA in Bangladeshi Higher Education, stated that accreditation in higher education is a collegial process of self-review and peer review for improvement of academic quality and public accountability of institutions and programs. It mentioned, the

challenges that the QA in HE is facing are as follow: Institutional, faculty development, inequalities and disparities, regional inequalities, financing in HE and excellence in quality HE. HEIs both private and public has many flaws when it comes to QA. It has been identified in numerous reports and research papers that there are significant shortages of qualified teaching staff. There is a lack of sufficient teacher's training initiative and an absence of state-of-the-art teaching. In addition, there is serious capacity issues which hampers quality teaching. For example, a lot of HEI have class sizes several times larger than optimum capacity. This leads to limited teacher–student interaction with limited scope to adapt teaching according to student needs. In summary, capacity shortage hampering quality education extends to other physical infrastructure including libraries, laboratories, research facilities, virtual learning systems, learning zones, study spaces, sports zone and open spaces; all of which are essential for quality education. World Bank (2017); Rahnuma, (2020). There is a number of private universities that have indulged in commodifying of their services by setting high tuition fees with less focus on quality education, research and innovation. In addition, some universities are yet to establish IQACs (in a total of more than 100 universities have established IQAC).

The world has already moved in to the age of industry 4.0 where the new skill sets are required by graduates to be effective in the industry. There is a greater risk that existing HEI curriculum, teaching and QA processes in place may not be adequate to prepare students. In addition, external risks such as the current Corona Virus scenario can have a significant impact on HEI and QA. At a time like this, where traditional class room teaching is not possible it is imperative that digital means are employed in order to continue educational services. However, a lot of the universities do not have the capacity to take online classes. Even if online classes are possible there is an urgent need to ensure quality assurance in conducting assessments, exams, assignments. British Council (2012); AUNQA (2011).

2.7 Role of CCDR, TLP, SPA Process, and Stakeholders' Involvement

2.7.1 Role of CCDR

Curriculum refers to a well-defined and prescribed course of studies, lessons and activities, which students must complete to fulfill the requirements for acquiring the degree. “Curriculum” is an interactive process developed among learners, teachers, materials, and the environment. Chen (2007). Moreover, curriculum is a historical accident—it has not been

deliberately developed to accomplish a clear set of purposes. Curriculum might also be described as the “social environmental in motion”. It is the sum complete of all the things to do and experiences supplied through the educational institutes’ learners for achieving the preferred objectives. The courses of studies are basically a recommendation for curriculum activities and procedures, an information for instructing to follow. In educational process, a curriculum is a set of courses, and their content, offered at a university. According to Walker and Boni (2013), the all-encompassing view of “curriculum” relates to what is taught (content), how content material is taught, realized and assessed (pedagogy) and who the recipients and beneficiaries may be (students, enterprise and society). This concept of curriculum speaks to the motive of higher education in any given society in phrases of how the knowledge, competencies and attributes that graduates acquire will equip them to cope with the professional and social demands they may encounter. Curriculum is frequently one of the principal issues in the instructional field. Educators and instructors are worried about what selections are to make about educating content material and methods. As for the parents, they would like to know what their teenagers are going to learn. Learners are also concerned about what types of content they are going to have in class. “Curriculum” looks to be considered greatly as what teachers are going to train and, in different words, what students are going to learn. In fact, “curriculum” is additionally carefully related to how properly the learners learn—the outcomes. Thus, as an umbrella term, “curriculum” includes a lot of issues, for example, instructing curriculum, learning curriculum, trying out curriculum, administrative curriculum and the hidden curriculum. This paper affords applicable literature related with the term “curriculum” to assist clarify what is the entity that we need to be involved about in the HEI context. Undergraduate education is turning into much less specialized – due to the fact the world is altering so swiftly that a slender self-discipline will no longer stand the test of time. With this trend additionally comes growing attention of enduring values and skills, OECD Education, (2030). The Various concepts of curriculum and the factors involved in curricula making by Su, (2012), this paper’s the findings were as follow: how a curriculum is planned poses itself as one of the most essential elements that predetermines the success and impact of curricular implementation. Curriculum planning and T-L are intently related to every other, and so are the curriculum planning and effects. In order to achieve satisfactory outcomes, the issue as to what the essence of “curriculum” is about should be clarified before any curricular endeavors, such as curriculum planning, implementation, and even evaluations, are attempted.

The adverse effect of misalignment is further amplified by the lack of student awareness of their position within the curriculum. Meij and Merx, (2018). In the phrases of Cunningham, curriculum is a tool in the hands of the artist (the teacher) to mold his material (the pupil) in accordance to his ideal (objective) in his studio (the school). The material is relatively self-active, self-determining human being who reacts and responds consciously. According to Fanghanel (2009), academics perceive curriculum influences as operating at four different levels. The four levels in order of significance are: the individual academic; the discipline; institutional context and external context. Longstreet and Shane (1993) mirrored different view of curriculum which includes decision making: Curriculum is a historic accident—it has no longer been intentionally developed to accomplish a clear set of purposes. Rather, it has developed as a response to the growing complexity of educational decision making.

Freeman and Ewan (2014) stated in their paper that to acknowledge the essential role of networks in defining learning outcomes and standards, sourcing exemplars to develop good practice guides, developing benchmarking skills, harnessing collaboration between academics and practitioners, and developing discipline-relevant methods for inter-institutional comparability of course learning outcomes and standards. Evidence confirms that peak bodies (e.g. Deans councils and groups of higher education providers) are well placed to establish, resource and provide leadership for such networks, especially if seed funding is available to initiate the process of design and development of the curriculum. Packianathan and Narayanan (2014) presented a framework for graduate employability skills. A competency gap was also identified for management graduates. The study concluded that curriculum changes impacted the graduate skills of prospective job seekers. Preparing curriculum to be related with the actual world can guide pupil participation, their motivation and grasp for the educational subjects, as well as getting ready them for adult life, Lombardi (2007). He stated curriculum to be developed the following steps can be followed: placing national statements of vision, socio-economic context and development, educational values and education policy in a curriculum context; setting out the vision, aims and objectives of the curriculum at the various stages of education, the transitions between each and links to further education, higher education, work and lifelong learning; explaining the educational philosophy underlying the curriculum and the approaches to teaching, learning and assessment that are intrinsic to that philosophy; prescribing requirements for curriculum implementation, monitoring and evaluation, including

the provision of clear advice to teachers about appropriate pedagogy and assessment methodologies; and to policy makers across the education system about the requirements of the curriculum and how they can contribute to the realization of the curriculum vision; providing guidelines to teacher educators and, if appropriate, textbook writers; outlining the curriculum structure; its subjects or Learning Areas and the rationale for the inclusion of each in the curriculum; If appropriate, allocating time to various subjects and learning areas in each grade or stage. Education planners might also need to determine on the relative significance of fidelity—precise utility of the curriculum in its authentic form—versus permitting instructors to make diversifications that meet their learners’ needs. Planners can reveal implementation to apprehend how to assist the process, through asking 4 integral questions: what are instructors doing? what are students doing? how are substances being used? and what form of records ought to be accumulated to reply these questions? Potential strategies for data and assessment can encompass direct observation, checklists, self-reports, and student portfolios.

Amitage et al., (1999) provides a practical framework by setting out a sequence of six stages for curriculum developments are as follow: Select a manageable course development task; Consider the ideological basis for the course, to identify its key values beliefs and assumptions; Conduct a need analysis: if favorable, continue development work to ensure the proposed course really is worthwhile and practical; Develop statements of purpose (aims and objectives) to set clear intention and outcomes in the light of the above; Specify content and sequence then organize appropriate learning and assessment experience, to enable learners to achieve the intentions and purposes; Establish appropriate evolution and feedback procedures, to review and improve the effectiveness of the course for learner. Education planners might also need to determine on the relative significance of fidelity—precise utility of the curriculum in its authentic form—versus permitting instructors to make diversifications that meet their learners’ needs. Planners can reveal implementation to apprehend how to assist the process, through asking 4 integral questions: what are instructors doing? what are students doing? how are substances being used? and what form of records ought to be accumulated to reply these questions? Potential strategies for facts series can encompass direct observation, checklists, self-reports, and pupil portfolios. The National Center on Educational Outcomes (NCEO), in consultation with state directors of special education, teachers, parents, policy groups, and local school administrators, has developed a model for conceptualizing the broad range of

educational outcomes relevant to special education and the goal of productive adult status. The model has eight outcome domains: presence and participation; accommodation and adaptation; physical health; responsibility and independence; contribution and citizenship; academic and functional literacy; personal and social adjustment; and satisfaction.

According to Hargreaves and Fink (2006); Su (2012) focused research on the various concepts of curriculum and the methods of curriculum making stated that the TLP and Assessment is the underpinning concept of curriculum to achieve the anticipated outcomes of the graduates. Curriculum development may include attention to the following key components of sustainability of curriculum: depth; endurance; breadth; justice; diversity; conservation; resourcefulness; The curriculum development and modification are influenced through the context and culture within which it occurred; The stakeholders involved in the modification or development process of curriculum is expected to be empowered. According to McGuinness (2018), cognitive, interpersonal and intrapersonal skill as well as key competencies consist of skills, dispositions, attitudes and values, expertise domains (including inter disciplinary) are required to be included. These KSAs will be taught, demonstrated and assessed under the guidelines or policies of curriculum. According to Also, the requirement for QA are to be addressed and curriculum is expected to be implemented through various method, such as, T-L method, instructing and assessment. Constructive alignment is viewed as a key component in education design. However, this requires time and effort in designing instructing and evaluation, Ali (2018). The graduate outcome and the importance of HE processes in enhancement of the outcome, it is important that there is a moral and ethical accountability to make certain that curriculum offers for the holistic improvement of graduates, Scholtz (2016). According to Scholtz (2016), effective curriculum is based on backwards planning, which starts from the identification of outcome effects and how these can be measured, and then determines the how to reach and lead to these outcomes. To be relevant, the curriculum also desires to connect to learners' daily lives, interests, and motivations, and enable for differentiation of learning experiences to meet exceptional students' needs. Curriculum planning includes the implementation of extraordinary sorts of instructional and organizational strategies that are targeted on accomplishing most advantageous student development and graduate outcomes.

According to McNaught and Young (2011), at Hong Kong mentioned that the curriculum is to be enhanced in depth, and modernized in content. The curriculum structure is flexible, and every student should have the option to select almost any pair of topics and pursue a Major. Students can also pursue one or even two minors. The curriculum should have the flexibility for students to select their own courses and preferences among offered courses. According to Harden, (2000), the windows through which the curriculum map can be explored may include: (1) the expected learning outcomes; (2) curriculum content or areas of expertise covered; (3) assessment; (4) learning opportunities; (5) learning location; (6) learning resources; (7) timetable; (8) educators; (9) curriculum management; (10) learners. The term 'light review' has been adopted for the critiques, where the focal point is on format and planning for the new curriculum, as well as tracking and documenting the changes and modification for the curriculum. Academics working independently to improve content material have been contributing in the curriculum development and production process. While development of curriculum, the faculty is supposed to focus on method and policy and uncertainty, Taylor (2017). QA and curriculum improvement are complicated ideas as it requires the plan for improvement to be developed before issue of modification arises. Gawie (2014). It has also been argued that further investigation is needed before a concrete understanding of the type of change needed in the higher education and to reflect global changes in the curriculum and being mapped. Moreover, Further investigation is needed in order to identify what 'graduations might mean in the twenty-first century and also to gain further insight into lifelong learning as an individual and social skill for the students.

Tam (2013) stated in his paper that, learning outcome helps students to understand what is expected out of them and what the students are going to achieve at the end of the academic life, thus graduation. At the course or program level, identifying and to get guided through curriculum are beneficial as students know about the outcome, TLP and evaluation. Universities mission and vision is aligned with the program or course level outcome. The alignment collaborative leads to the attainment of the outcome by the students at the same time achievement of the universities' objective. Through Curriculum, the three domains of HE, such as: outcomes, TLP, Assessment process and evaluation need to be aligned to obtain consistency and coherence in KSA achievement by students. In this light, the adoption of the Outcome based education (OBE) can assist to embrace a greater systematic strategy to the design and

achieve. The last observation was to include the stakeholders' view and opinion in designing and developing curriculum as well as for the modification. According to Sukdee, et al. (2017), Key success in quality assurance of bachelor degree courses in the field of education should consist of the following four management components: I. System and mechanism of curriculum administration; II. Quality of lecturer; III. Learning management and student assessment, and IV. Student potential improvement.

The PRISMS model, proposed by Bligh (2001), propagated new strategies for curriculum development including increased use of technology and problem-based learning, and emphasized the need for more clinical experience in medical school and more protected time for learning during residency. The PRISMS model can be broken down into each of its components as followed: Product-focused: as the curriculum should emphasize applications to clinical practice and be practice-based.; Relevance to communities and students: meaning that curricula should be planned around outcomes with a focus on local needs, and revised and reviewed frequently; Inter professional: in that a culture of multi professional and interdisciplinary learning should be promoted, with emphasis of teamwork and collaboration between all persons involved in the care of the patient ; Smaller class sizes and shorter courses: further emphasizing the product-focused goal of the curricula allowing learners to ultimately care for patients in diverse settings including urban, rural, community sites, and academic teaching hospitals.; Multisite and Symbiotic: in that each of the above components combine to form a cohesive and coherent philosophy and product.

According to Mazumder et al. (2012) universities can define quality in terms of academic standards in respective areas. These areas have been listed as teaching, learning, research, course, curriculum, admission procedures, physical resources, academic advising, faculty involvement, etc. The stated that these areas where academic standards could be applied could potentially be segregated into an input, management and control and output process for higher education. Human Resource Development and Higher Education by, Sequeira (2012) summarized that different types of learning outcomes result under different learning conditions. Due to individual differences the learners develop different learning styles. There is a difference in pace of learning- Self-paced, Teacher-paced, Group-paced. Many resources are available to teacher or can be developed or acquired by them. They are also required to teach

under various constraints, e.g., Class size, Time available, Resources available, Students background, Location of learning. Students differ from class-to-class and institution-to-institution due to several factors, e.g., intelligence, Temperament, Aptitudes, Social, Cultural background, Communication skills, Physique, Attitudes, Motivation, Interests, Values, Learning Styles.

2.7.2 Role of Teaching-Learning Process

According to Alexander (2007), teaching practices are the particular activity and discourse that take place inside a lesson plan and class; and an approach to physically enact the strategies. Teaching-Learning constitutes the core of education. It is the responsibility of the educational institutions to ensure effective teaching and learning for quality in education. For the purpose of effective teaching learning following factors are very critical: Quality of the teaching staff; Appropriate teaching-learning methods; Use of lesson plan; IT integration in teaching; Development of original thinking; Skill Development mechanism;

Harden et al., (1984), proposed a model for educational strategies in T-L planning with the SPICES as Student-centered; Problem-based; Integrated teaching; Community-oriented. Harden et al., (1984) also proposed that T-L can be as follow: student centered, problem based; integrated teaching; community oriented; elective study period; and systematic approaches. Improvement of curriculum for incorporating suitable and quality T-L method has become very important as the society is going through different change process, the new digital era had begun due to technological advancement, evolved applied sciences are part of the university education and process. The rapid technological know-how development calls forth new challenges for the teachers, who frequently have to observe their learners' digital way of life and continually develop the methods of instructing and learning. Teachers have to develop and use quality T-L to have educational leadership. These T-L methods includes students' digital skills and these tactics are especially challenging for teachers, Andersone (2014). Teachers required the fundamental expertise to improve and use learner-centered methods. The teachers are required to know and have feedback regarding the gap in their T-L techniques as well as the strengths and weaknesses of their teaching style. Besides, Teachers' support and feedback are critical to ensure that the new curriculum is appropriately implemented. Moreover, quality and teaching-aid and resources are vital to make sure that the new curriculum is properly

implemented. Competence-based training used is a new concept for most teachers, therefore quality and T-L resources need to be accessible for both teachers and students. Mosha (2012).

According to Tanner, et al., (2019), the volume of theoretical work undertaken in large lecture theatres can be off-putting to new students, who can feel isolated and can struggle with the new content and learning environments. In the first year, students often cannot visualize how the individual subjects covered are going to lead them to their degree. According to Smart, et al., (2000), the T-L environment is a very important part through which students gain learning, develop capabilities and interests, thus making T-L a central dimension to student success. Student engagement is a term used to describe student's dedication and engagement with the individual learning. Student engagement through teams increases the team work ability as well as leadership interpersonal skill.

Borg (2015) found that there are some scopes for CPD (continuous professional development) over conventional procedures for T-L, which includes practical methodological problems such as reading, using technology and interactive class room management. However, due to CPD and implementation of this, the teachers' engagement and work increases to ensure the engagement of students in the classroom as it involves plan, methodology and proper assessment with the infusion of technology. Through CPD teachers focuses on reflection, inquiry, the sharing of expertise, and issue for student outcomes. Curriculum, T-L and assessment are inextricably linked. When all three are aligned, it ensures students outcome. Ironically, in Bangladesh, a fresh university graduate can right away become teacher if the student has a merit result. But a good result does not necessarily indicate or ensure that the graduate will be a good teacher and has good knowledge regarding T-L techniques. This problem can be address dint wo ways, such as: there can be training o T-L for new teachers. The other one is, retaining the good teachers who are already proven or increase the age of retirement of the teachers. QAM will ensure the proper T-L and accountability. The effects of correct monitoring and evaluation systems are fundamental for the improvement of the academic system, both from a bottom-up and top-down approach. Huet (2011). The following are some of the strategies to teach in a multicultural classroom setting. In an online role-play student might also take on a quantity of roles relying upon the diagram of the role-play. These roles would possibly require collaborative problem fixing (Mc Laughlan and Kirkpatrick,

(2008) or dealing with ethical dilemmas. Demetrious (2007) that require students to reflect on consideration on differing perspectives. Team building and team work allows collective problem solving to have more desirable effect; Herrington and Herrington (2006); Furthermore, McCormack (2008) identified that the contribution of an individual teacher to student motivation cannot be properly identified by survey and student feedback. This feedback or survey questionnaire may cover the teaching instance, the level of student self-motivation, the nature of the topic, and the structure of the course. In the university environment where a wide range of teaching instances occur, a set question about the teacher's contribution to student motivation will not return useful information. Furthermore, given that intrinsically motivated students rate this question lower; and a high score on this type of question may not be indicative of good teaching.

Thurlings and Diggelen (2019) focused on how teachers perceived their realistic knowledge on studying and feedback. The first conclusion of this study was once that gaining knowledge of theories can be identified by the practical and hands on exercises. Bidabadi (2016) mentioned in the study, a proper T-L method/approach helps the students to query their preconceptions, and motivates them to learn, by including real life scenario and problem-solving techniques. But each time the teachers select T-L method, they are confronted with some obstacles and requirements such as, teachers conduct and outlook. Also, there are some obstacles which are related with the teachers' behavior and others are associated to legal guidelines and regulations. Finally, it is expected that there is an essential function for teachers in HE to be more concerned regarding the T-L technique. This will assist different university teachers to be acquainted with advantageous T-L procedures and therefore, curriculum planners and faculty members can enhance their T-L methods.

Murray (2008) found that, today nearly 100% of North American universities make use of student evaluations, and according to survey conducted at the university, around 70% of faculty members support the use of student evaluations. Moreover, on most campuses, student evaluation of teaching is conducted for two main purposes: (1) to provide feedback to teachers that will facilitate improvement of teaching (formative evaluation); and (2) to provide data on teaching performance for use in formal decisions on faculty retention, salary increments, tenure, and promotion (summative evaluation). Regarding the validity of student evaluation of

teaching, the view is that these are quite acceptable, as they are determined by classroom teaching behaviors of the instructor, and they are moderately accurate as predictors of student learning of a course content. Although evaluation may be affected to some extent by external variables such as “popularity” or “leniency”. But these evaluations by students are determined primarily by what the instructor actually does in the classroom, which in turn is an important determinant of student learning and performance. Furthermore, McNaught (2008) found that, 87% of the students in Hong Kong have broadband internet access, virtually all (99%) of them have mobile phones, 90% have desktop computers, 98% use emails, and a vast majority (81%) read and comment on blogs. Many of these figures are considerably higher than the data collected a year before in Australia. This shows that the expectations of technology use in education by the students in Hong Kong may well be high. There is a relationship between students valuing the e-Learning available to them and their perception of their development of generic capabilities. However, correlations between students’ e-Learning experience and their learning performance in formal assessment tasks have not been found; this may not be surprising in ‘blended’ situations where much of the T-L is conducted face-to-face, and may also reflect the nature of the assessment tasks.

It is not feasible to have good T-L but without the supply of proper teaching aid, material and resources overall the infrastructure for T-L. It also includes of the library resources, computer services and audio-visual services together with student services inclusive of accommodation, counseling and sport/gymnasium services. But there are additionally the central services of the university which include admission, accounts, administration and retention (Ellis, 1993). Hong Kong’s first T-L evaluation technique has started successfully. By focusing on content instead of regulations, the T-L panel has mitigated the criticisms against the UK’s quality-process audits (Massy, 1996). The European Commission's White Paper T-L, identifies a key issue in terms of investment in human and intellectual capital development. It argues that funding in formal HRD and training/education are supposed to be equal to the funding on the infrastructure. Thus, the paper argues that there is a requirement for change in the nature of expenditure on HRD. Pedagogy for Employability by (Pegg et al, 2012) stated that real life and hands on T-L, has a deep effect on graduate employment and have to be integrated into curricula and T-L. In order to maximize studying for employability and the educational institutes, it is vital that it has to be supported by the T-L, which includes reflection and

articulation of the outcome achieved. It may additionally be feasible to include work-related knowledge of or simulated work experience.

2.7.3 Role of Student Performance Assessment Process

Assessment of student performance is an important factor of curriculum that has contribution for curriculum operation and implementation. Continuous assessment of the students is required for mastering KSA which they acquire through T-L. It is mentioned that teachers may include and combine to combine continuous assessment with the curriculum and T-L techniques, to enhance the KSA of the students, Mikre (2010). According to Gravel (2018) there are two steps in defining a skills assessment strategy; The domains of the assessment is Knowledge, performance and capacity assessment. According to The Center on Standards and Assessment Implementation, Assessment experts and teachers (state personnel, district administrators, site-level administrators, teachers, and school support personnel) must have appropriate working knowledge of assessment concepts and KSA that are relevant to their professional responsibilities. The list below indicates three levels at which such knowledge and skills may be needed: basic knowledge (What is it?); basic application of knowledge/skill (How do I do it?); highly competent—or expert—application of knowledge/skill (how do I teach others?). It is advisable that teachers should provide remarks and feedback to students after assessment, based on their learning. In order to improve KSA, students should be given the opportunity to self-assess themselves, differentiate between good performance and identify the mistakes. Feedback on assessment has to be essential for KSA improvement. Therefore, teachers who rely on grades or marks as assessment tools, are implementing less effective tools for improvement of KSA of students, Nitko, (2004). Students' evaluation by themselves (self-assessment and peer evaluation) in the written form for helps teachers to know the feedback from them. Therefore, the remarks from students have to no longer be left aside, due to the fact a few students vent their expectation, frustration and gap through the remark forms. The findings of this study are preliminary, however, and the benefit of students' qualitative remark requires further exploration and research. Self-reflection and peer feedback is an important tool for proper assessment. Santhanam (2005). The assessment and evaluation process ensures the T-L process taking place is effective or not, provides data and information for further improvement and inception; the curriculum content is validated against requirement of KSA and applicability. The evaluation and assessment process consist of three basic levels,

such as: (i) the first is the entire system of assessment and evaluation of student performance which includes different assessment techniques (ii) to verify, or certify, that students have completed satisfactorily the curricular standards and pre-requisite and (iii) provides feedback on the curriculum content, implementation, effectiveness of T-L and overall assessment process, like outcome achievement. Muskin (2015). Designing assessments in a way that they are in shape for the meant reason is essential to make sure their reliability, validity, transparency and usability. According to Abate (2003), HEIs must continually refine and replace student assessment process to replicate modern practice and requirement, modify or improve the methods of T-L and curriculum to ensure that the students are improving the KSA. Benjamin Bloom et al., (1956) published a framework, familiarly known as Bloom's Taxonomy, for categorizing educational goals. The framework, elaborated by Bloom and his collaborators, consisted of six major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. These domains are useful tools for curriculum development and modification of T-L and assessment of student performance based KSA. According to OECD (1999), scientific approach of assessment and evaluation is taking place in the world and students' analytical ability should also be assessed. Similarly, when statistics is given in the shape of tables, charts, graphs, etc., the capability to examine data can be assessed, and where some manipulation of variety is required certain components of arithmetic can be assessed. Such tasks will provide the assessment of different KSA in various ways. Other tasks will examine solely scientific procedures involving drawing evidence-based conclusions and demonstrating grasp of scientific concepts. This paper also mentioned Validity, reliability transparency and usability.

Furthermore, Ya-hui and Li-yia (2008) found that there should be a communication and feedback process between the Teachers (assessors) and learners (assess) and the feedback is supposed to be based on data and concrete reports. The assessment of student engagement is difficult and poses few limitations. Lawson et al. stated that assurance of learning (assessment process) is a part of both quality enhancement and QA process, implemented in HE. The researchers stated that determining program learning outcomes, and systematically gathering evidence to measure student performance is important aspect for QA. They concluded that this was imperative to develop a systematic assessment of program goals, which ultimately provides a basis for curriculum development, continuous improvement, and accreditation.

2.7.4 Stakeholders' Involvement

Among the others the following Stakeholders are involved in HE institutions:

- **Student:** students are expected to go through different T-L techniques and assessment so that the theoretical knowledge, skill and ability meets the stakeholders' demand. Herrington and Herrington (2006).
- **Parent:** Monthly communication between teachers and parents might offer the feeling of the responsibility that parents might also have about their capacity to assist students. Also, teachers can also possibly achieve an understanding of how culture shapes ones' definition of social norms, specifically parental involvement. Teachers may additionally view parents' involvement in a different way and see parents as successful collaborators. According to Webinar Booklet (2014), the availability of policies, constructions and particular possibilities for parents and communities to get involved in the HE processes may increase the quality of education. Parents contribution as stakeholders in the education process is already there. Some traditional examples of boundaries to collaboration and feedback of that are included following: policies exist however they are no longer honestly enforced; Collaboration is there in pen and paper, however they are no longer completely organized to put it into practice; Policies exist however assets are no longer reachable to assist their implementation; Educators experience reluctant to contain parents in making choices on academic issues; Parents are solely invited to come to educational institutes when there are issues in relation to their child. As a result, receiving an invitation to attend a teachers' meeting has a terrible connotation and makes parents reluctant to attend.
- **Community:** Professionals such as psychologists and social employees can provide contribution in dealing with students with extraordinary needs. For instance, expert counselors may furnish a number of useful advises and service for those with disabilities. Community contributors can assist the educational institute's administration in the implementation of the curriculum through co-operating. In addition, the community contributors can additionally volunteer and act as faculty board members. Community can help in assisting admission campaign, facts posted in the website, notifications of ranking and social service things ensure the quality policy, mechanisms and consequences to the community as well as in the university. Kumar (2017).

- **Govt. and Professional Organization:** Other stake holders in the curriculum improvement consist of the government and the expert rules commission that presents license to graduates from faculties and universities. Professionals and neighborhood participants can aid in curriculum improvement and development from government reports, or on the overall performance of educational institutes or with the aid of useful information from teachers, students and administrators and university can help in marketing of the educational process. Sadler (2012).
- **Employer and Industry:** Communication and involvement of employers, the enterprise and trade unions, agencies or associations is advisable for the HEIs. Employers can also be surveyed about their needs, which can then be integrated into the curriculum if suitable. Study applications and institutions ought to be clear about their stakeholders and can use fine assurance instruments to make sure their suggestion is well received and required for the HEIs. Randhahn and Niedermeier (2017).
- **Alumni/Graduates:** Generally, the organization have to constantly consider surveying the different stakeholders (such as graduates, employers, politics, society etc.) as alumni and use the knowledge of alumni to improve the quality of education. Randhahn and Niedermeier (2017).
- **Academic and Administrative staff:** The current academic staff should be going through Continuous Professional Development as well as the administrative staff. They are also considered as stakeholders of HEIs. If requires the institution requires to partner with other related stakeholders for feasible outcome. Matkovic, P. et al, (2014). A significant factor in the analysis of feasibility is related to capacity of human resources identified in the previous state. The feasibility analysis of an education process is significantly improved by the contribution of the academic staff. For a successful implementation of QA policy and plans, present teaching staff has to possess sufficient expertise to execute courses that would provide compliance of with stakeholders; demand of KSA. University may explore an option to develop a joint study program with a partner/ industry, as to ensure commercial viability of a new curriculum. Matkovic, P. et al, (2014).

From academic perspective, stakeholder refers to a person who has invested in the welfare and success of an educational institute and its students, which includes administrators, teachers, workforce members, students, parents, families, community members, local business leaders, and elected officials such as board members, town councilors, and country representatives. Moreover, stakeholders may additionally also be collective entities, such as local businesses, organizations, advocacy groups, committees, media outlets, and cultural institutions, in addition to agencies that signify unique groups, such as teachers' unions, parent-teacher organizations, and associations representing superintendents, principals, boards, or teachers in specific disciplines. In a word, stakeholders have a "stake" in the faculty and its students that means that they have personal, professional, civic, or monetary activity or concern. Tran (2016) suggested that without collaboration from industry with regards to formulation of graduate outcomes, universities will fail in their mission to provide quality education to students. According to Hellin (2019), internal stakeholders include the faculty, the students and the higher education teachers' own community while external stakeholders refer to the higher education policy and the labor market. Stakeholders can be involved in identifying issues as being critical to the future development of the university. They are:

- The quality of the courses being delivered.
- The quality of the resources, technology and equipment that support the delivery of the courses.
- The quality of the academic staff who design and deliver the courses.
- The quality of the students being accepted onto the courses.
- The quality of the graduates being produced.

Koppi, et al. (2012) found that, universities may include the stakeholders as experts or advisers to improve or enhance the graduate employability. These graduate attributes are also identified and developed through the industry survey. Industry additionally indicated provided assistance for WIL for the improvement of technology and technical KSA and ensuring that graduates are absorbed in the job market as soon as they graduate and they are employable. Additionally, extra training and focus on KSA improvement particularly on the lifelong learning skill is included for the improvement of graduate employability. This approach addresses the balance between employability skills and lifelong learning. Moreover, the improvement of KSA and

assessed through outcome along with the guidance of all stakeholders including universities, industry, expert bodies, enterprise associations and especially students will provide the groundwork curriculum, T-L process and assessment process. The involvement of stakeholders may include external part such as: study tour or industry visit where students go out to industry (e.g. enterprise placements, internships, field visits and community projects) and as well as internal models where industry comes to students (e.g. visitor speakers, case studies, industry-linked tasks and simulated experiences). The benefit of this type of model is supposed to be evaluated by both industry, academics as well as by students based on the outcome achieved which is mutually agreed upon and developed. Furthermore, it is encouraged that all stakeholders collaborate on the implementation of an outcome based approach. Agreement on such outcome based education may also lay the foundation for mutual recognition of the outcomes, and will ensure the balance between employability competencies and lifelong learning. CIP showcases and keep documentation of the strength and best practices for the stakeholders to inform them regarding the improvement of KSA through HE processes. More important, CIP as utilized through Project AQIP, described universities role, outcome and objectives, matches and balances with external stakeholders' demand. Those role, objective and outcome then designs and develops the layout and operation of structures and tactics towards carrying out the institution's mission. Padró (2005). According to DOC Report (2010) participation and communication between the internal people (teachers, administrative staff and students) and stakeholders is a key factor in policy decision making. It is usually being identified as a fundamental indicator of proper governance. Education councils develop and design academic policies, which consist of regional or countrywide ministers, governments, parliaments members. In fact, it is one of the most essential formal bodies for governments to make decisions and to ensure an efficient way for involvement and participation of stakeholders.

2.8 Present context of CCDR, TLP, SPA Process, and Stakeholders' Involvement

Under the supervision of the Quality Assurance Unit (QAU), UGC, these more than 100 universities have set up more than 100 Institutional Quality Assurance Cells (IQACs). Each IQAC will have a group of Self-Assessment Committees (SACs). Each program offered by the university will have its own SAC. The more than 100 universities who have registered their IQACs have reported a total of 812 SACs to the QAU under UGC. These 812 programs

offering entities have been conducting or have finished carrying out their own Self-Assessment (SA) process, with the input and assistance of both external and internal stakeholders within the university. Neazy (2018). The Self-Assessment process is capped with an External Peer Review once the committees have completed their self-assessment reports. The External Peer Review body is composed of a 3-person element, comprising one foreign expert and two local experts. The self-assessment process employed by the respective program offering entities within the universities comprises of a system of feedback given by five key stakeholders. This feedback is collected by the program offering entity and assimilated to produce statistically verifiable conclusion about current quality. The respective areas of quality against which feedback is provided include Governance, Curriculum Design and Review, Physical Facilities, Admission Progress and Achievements, Teaching and learning, Assessment of students' performance, Student Support Services, Staff and Facilities, Research and Extension, Internal Quality Assurance Process; (SA Manual, UGC, MoE, HEQEP, BD)

QAM refers to a set of administrative and procedural activities with systematic evaluation in appreciate of standards, feedback, remedial measures and monitoring. The complete gadget is focused on procedure output, which refers to quality in the training and non-stop improvement, which consists of faculty development, exterior evaluation, linking educational packages with corporate world, adopting properly practices and growing exceptional tradition in all walks of educational management. The technique through which QA things to do will be performed and great in education will be certain have to be in place, good managed, periodically reviewed, evaluated and up to date for non-stop improvement. The three main process of QAM in HEIs according to SA manual are SA Process, EPR and Improvement Plan. Top management of the university should have commitment for developing quality culture which recognizes the importance of quality assurance of practice (Table 2.5).

Table 2.5: Quality Assurance Areas and Standards of Higher Education in Bangladesh

(Source: IQAC and SA Manual of UGC)

No.	Areas	Indicators	Standards
A	Curriculum Content, Design, and Review	<ul style="list-style-type: none"> • Involvement of Stakeholders • Need Assessment • Content and Structure 	05

No.	Areas	Indicators	Standards
		<ul style="list-style-type: none"> Defining Course Learning Outcomes Skill Development Mechanism or Strategy Evaluation and Review 	
B	Teaching, Learning, Assessment	<ul style="list-style-type: none"> Teaching – Learning Quality Staff Appropriate Teaching-Learning Methods Use of Lesson Plan Technology Integration Focus Skill Development Mechanism Assessment of Student performance 	10
C	Students Support Services	<ul style="list-style-type: none"> Academic Guidance and Counseling Co-curricular and Extra-curricular Activities Career and Placement Alumni Services Community Services 	08
D	Process, Management, and Continuous Improvement	<ul style="list-style-type: none"> Internal Quality Assurance System Conduct Self-assessment following a Cycle Continuously and Systematically Review the Effectiveness of the Procedures to Meet the Objectives 	03

According to the IQAC and SA Manual of UGC, MoE and World Bank-HEQEP, the areas of curriculum, T-L, Student Performance Assessment is termed as Curriculum Content, Design and Review, T-L and Student Assessment. According to the QAM of Bangladesh, curriculum refers to a well-defined and prescribed course of studies, lessons and activities, which students must complete to fulfill the requirements for acquiring the degree. Self- Assessment will facilitate the integration of the procedure in redesigning, modernizing and updating the curricular to accommodate the job market requirements.

2.8.1 Curriculum Content, Development and Review

According to the IQAC and SA Manual of UGC, MoE and World Bank-HEQEP it is termed as Curriculum Content, Design and Review. According to the QA mechanism of Bangladesh, Curriculum refers to a well-defined and prescribed course of studies, lessons and activities, which students must complete to fulfill the requirements for acquiring the degree. Self-Assessment will facilitate the integration of the procedure in redesigning, modernizing and updating the curricular to accommodate the job market requirements. The curriculum performs a quintessential position in accomplishing the mission and goals of the university together with the supposed getting to know effects and typical effectiveness of the programs. Curriculum format and evaluate method consist of the curriculum performs a imperative role in accomplishing the mission and goals of the programs. Curriculum design and review process include: Involvement of stakeholders; Need assessment; Content and structure; Defining Courses Learning Outcomes (CLO); Skill development mechanism or strategy and Evaluation and Review.

SA-Manual identified the following standards in this context of CCDR:

- Curriculum load is foremost and induces no pressure
- Courses in the curriculum from decrease stage to greater are precise arranged
- Teaching techniques are certainly mentioned in the curriculum
- Assessment techniques are absolutely cited in the curriculum
- The curriculum is high-quality in accomplishing day-one competencies

The Standards of CCDR according to SA Manual:

Standard 2-1: University ought to have a well-defined method to layout and overview the curriculum of educational packages periodically.

Standard 2-2: There ought to be a program precise physique or committee with representation from the foremost stakeholders to take care of layout and redecorate of curriculum.

Standard 2-3: Designed curriculum with legitimate groundwork and all modifications in the curriculum with specific reasons should be desirable documented.

Standard 2-4: Curriculum need to the aligned with program objectives, supposed gaining knowledge of effects thru desirable skill mapping.

Standard 2-5: Designed curriculum has to satisfy the mission and described graduate profile.

National Qualification Framework (NQF) of BD adopts four domains of Learning Outcome in the framework. These four Learning Outcome Domains also provide a common connection across all levels of higher education qualification in Bangladesh. The recognition of all qualifications is achieved through the fulfilment of the four Learning Outcome Domains to the proper level. According to NQF, the implementation of these four Learning Outcome Domains will help prepare graduates for the fourth industrial revolution. The Learning Outcome Domains significant to Bangladesh are fundamental, people, thinking and personal Domain. Curriculum format and evaluate method consist of the curriculum performs an imperative role in accomplishing the mission and goals of the programs (SA Manual, World-Bank and UGC HEQEP project, n.d.). The following table shows the Improvement plan for the development of curriculum of the six universities from the first phase.

Table 2.6: Summary of CCDR in PSAIP of the Six Universities (Source: NQF of BD)

University	CCDR
University of Dhaka	<ul style="list-style-type: none"> • Development of a standard curriculum. • Establish a curriculum evaluation system. • Inclusion of subject related web links and information regarding collaboration in the departmental website. • Documentation of changes in the curriculum as a reference for future revision. • Review of the curriculum of all programs 2. Ensuring curriculum design from content based to outcome based 3. • Improving English language and knowledge on ‘Career Development’ through club activities. • Introducing short courses, certificate courses for professionals
University of Rajshahi	<ul style="list-style-type: none"> • To modernize and update the curricula according to the needs of the society • To design curriculum that accommodates the curriculum objectives and learning outcomes’ development;

University	CCDR
University of Rajshahi	<ul style="list-style-type: none"> • To establish a curriculum design and review process incorporating views of • To introduce seminar, presentation, industry tour, internship programs in curriculum • to address issues regarding leadership, social responsibility, scholarship, community involvement, ethical values and professionalism; • All faculties training in abroad for curriculum design Introduce • Curriculum which will reflect the objectives of the program and the Department which will must be tuned with intended learning outcomes of the course units (ILO) • Allocation of adequate time in the curriculum to accommodate the soft skills development of the students such as English language knowledge, ICT, personality development
SUST	<ul style="list-style-type: none"> • Alignment of ILOs • Skills development • Review and Documentation • Lack of experience of faculty members. • Introducing field work and skill training program • Improve graduate employability by career counselling.
Stamford University	<ul style="list-style-type: none"> • Careful execution of the changes of the new Curriculum • Equality between duration of Class Hour and Credit Hour • Introduce new policies on Orientation Courses • Introducing ‘Tutorial Courses as ‘New Platform’ to develop additional skills
Stamford University	<ul style="list-style-type: none"> • Curriculum can be rearranged as soon as possible taking consideration of internship and including Intended Learning Outcomes (ILO) and some references for each course.
BAU	<ul style="list-style-type: none"> • Update of Course and Curricula According to Need • Graduate profile must be defined. • Shifting from content-based to outcome-based learning

University	CCDR
BAU	<ul style="list-style-type: none"> • Curriculum Committee, Regular review • Introducing of lesson plans in appropriate format for better learning. • Internships should be Included into the Curriculum
Islamic University, Kushtia	<ul style="list-style-type: none"> • Improvement of the curriculum system considering the international benchmarks. • Major Curriculum revision in view of explicit learning objectives and intended learning outcomes (ILOs) for different programs. • providing various trainings to teachers for development of curriculum. • Documentation of changes in the curriculum
	<ul style="list-style-type: none"> • To introduce and design outcome-based Curriculum Introduce an interactive teaching and learning • Periodic review of the curriculum according to the opinion of stakeholder and experts • Introduce outcome-based curriculum

2.8.2 Teaching -Learning

Teaching-Learning constitutes the core of education. It is the accountability of the academic establishments to make sure advantageous instructing and getting to know for satisfactory in education. It constitutes the core of education. It is the accountability of the instructional institutions to make sure fine educating studying for satisfactory in education. For the purpose of high-quality teaching learning following elements are very vital. SA Manual (2015). For the purpose of effective teaching learning following factors are very critical: Quality Staff; Appropriate T-L Methods; Use of Lesson Plan; Technology Integration; Focus; Skill Development Mechanism; Teaching learning method, in fact, sets the stage for the entirety in phrases of mastering outcomes. Efforts in this vicinity pay excellent dividends in phrases of attainment of learning desires and satisfactory of schooling as well. Attainment of learning goals depends on the function and involvement of students and teachers in the process. Teachers want to be diligent in transferring new knowledge to the students successfully so that the goal of instructing learning succeeds. The instructors ought to use modern educating

strategies to make the students keen, centered and fascinated to study the courses taught, and are capable to maintain a scholarly method for enticing students in educational things to do.

SA Manual prescribes the following standards in this context:

- Teaching learning practices be interactive, motivating, advertising an experience of accountability and commitment.
- Teaching getting to know practices contain realistic evidence, provokes necessary thinking, and encourages students to observe obtained knowledge in the real-life conditions focusing on greater order of learning.
- Teaching mastering practices ought to combine the use of technology and additionally ought to integrate the use of science and also supply students with possibilities to use of competencies of tutorial preparation, each inside and outdoor the classroom.
- Teaching learning practices ought to provide enough scope to combine co-curricular and extra-curricular things to do for intended talent development.
- The instructing learning techniques and possibilities should ensure that the identified capabilities are transferred to the students.
- Use of lesson design ought to be formalized in teaching studying practices with perfect documentation and access.

The Area of Evaluation in T-L:

- Teaching-learning is interactive and supportive
- Class measurement is most effective for interactive educating learning
- Modern units are used to enhance teaching-learning process
- Diverse techniques are used to acquire getting to know targets
- Lesson plans/course outlines are supplied in enhance to the students
- Students attained extra realistic thoughts from actual existence scenario aside from lecture room teaching.

According to NQF (2020), all higher education qualifications is modular or unified, based on benchmarked standards and learning outcomes. As such, all teaching and learning activities carried out by a student is quantified and measured. A qualification is formed by individual courses that cumulatively achieve the minimum graduating credits for the relevant qualification level. A course is characterized by learning outcomes that are translated into credit values and

is measured by student learning time. This will be the academic currency, which a graduate of the Bangladesh higher education sector may carry forward for the purposes of career or educational advancement. For NQF, the general measure of one credit is 40 notional hours. However, basing on the nature and type, different activities will attract different notional hours. These are dependent on the type of learning-teaching activities as described in. Suggested Notional Hours per Credit (NQF 2020) is as follows:

Table 2.7: Notional Hours per Credit

(Source: NQF 2020)

No.	Learning-teaching activities	Notional hours for 1 credit
1.	Lecture, Tutorial, Seminar	40
2.	Lab, Studio or Clinical Work	60
3.	Industrial/Workplace Learning	80

The proposed notional hours for each of the learning activity include assessment, self-learning and preparatory work. Thus, a four-credit subject (theory + practical) having many possible combinations of total learning-teaching hours. The award of the qualification at the respective level is described by the minimum graduating credits required for the completion of that level. Students is required to take and achieve the learning outcomes (pass the courses taken) in order to achieve the minimum graduating credits. Thus, if a course has 130 as its minimum graduating credits, a student must take and successfully complete required number of courses which amount to 130 credits for graduating.

Table 2.8: Summary of T-L Process in PSAIP of the Six Universities (Source: NQF)

University	T-L Process
University of Dhaka	<ul style="list-style-type: none"> • Train teachers to design standard lesson plan. • Arrange pedagogical training program for new teachers. • Enhance the scope of project-based learning. • Train teachers on teaching, learning and assessment. • Organize regular meeting by student adviser with current students to exchange ideas.

University	T-L Process
	<ul style="list-style-type: none"> • Making online learning resources available in website so that students can easily access. • Develop and disseminate the various pedagogical issues related to teaching. • Teaching-learning practices need to be improved focusing more practical examples to relate theory to solve the real life problems
University of Rajshahi	<ul style="list-style-type: none"> • To ensure effective teaching-learning for quality education (for attaining intended learning outcomes) • Provide continuous assessment evaluation result to students on time • Preparation of Course outlines and lesson plans with innovative and interactive teaching pedagogy and development of teaching portfolio. • Introduction of internship in the local IT industry for the student to gain industry level experience. • Taking necessary steps to make ILO clearer to academic staff and students and to make the assessment principles, methods and practices aligned to the ILOs. • Provide modern teaching aids for the teaching staffs in classroom. • Students evaluation on teacher's performance will be initiated. Software will be developed and be connected to the RU server for the student feedback to ensure online anonymous feedback submission. • Establishment of staff development program that supports excellence in teaching-learning and assessment. • Introducing Bloom's taxonomy in teaching learning and assessment • Formulation of policy for the assessment of students' performance.
SUST	<ul style="list-style-type: none"> • Assessing ILO: Workshops needed to define ILOs, map out students' results with the achievement of the ILOs and assess the effectiveness of teaching-learning to achieve ILOs. • Teaching-learning environment: Infrastructure development related to physical, academic and research environment • Technology usage: Multimedia facility and number of computers have to be increased

University	T-L Process
	<ul style="list-style-type: none"> • Lesson plan: Formalize the process of preparing lesson plan and document them • Pedagogical training: Proper pedagogical training for the faculty members • Improving educational experiences for students.
	<ul style="list-style-type: none"> • Recruitment of teaching faculty to minimize the teacher student ratio and improving teaching quality. • Supporting students to avail expensive lab materials. • Improving teaching –learning communication with students. • Introducing innovative and interactive teaching pedagogy and developing effective teaching portfolio. • Introducing student feedback mechanism, teachers’ evaluation and peer observation. • Engagement of students in community service
Stamford University	<ul style="list-style-type: none"> • Regular Teacher Evaluation • Enhance Teachers Training and Workshop at department • Improve Student Advisory System • Improve Proficiency of English among students • Classes must be more interactive, student-centered and in a congenial environment. The outcome-based teaching-learning should be introduced. • Formal evaluation system of all faculty members and teaching methods could be introduced which is crucial to improve quality of teaching-learning and also for transparency. • Ensure use of innovative teaching techniques by the teachers to make the students keen, focused and interested to learn
BAU	<ul style="list-style-type: none"> • Peer Observation in Teaching–Learning Process • Lecture Rooms with proper Audibility and Visibility for all the Students. • Course Schedule and Module Outline should be Given to Students in Advance • Faculty members should be Provided with Teaching Pedagogy Classes. • Teaching-learning methods should ensure presentation and communication skills of the students

University	T-L Process
BAU	<ul style="list-style-type: none"> • Improving students centered learning. • Improving the status of “interactive lecture” based teaching in the class room
Islamic University, Kushtia	<ul style="list-style-type: none"> • Improve on the use of diverse methods of teaching-learning and use of digital devices as teaching aids • Develop scope for students to engage in co-curricular and extra-curricular activities. • Create e-learning environment. • Inviting visiting/guest faculty. • Formal training for teachers to enhance their teaching skills • Introducing lesson plan with innovative and interactive • Provide modern teaching aids for the teachers in classroom • Introduce industry visits for matching with theory and practice. • Establishment of formal feedbacks from the students for improvements and effective teaching-learning process • Introduce innovative T-L

*Only related and common issues are taken from PSAIP

2.8.3 Student Performance Assessment

The motive of higher education is to make the students capable of the use of expertise and appreciation to identify, clarify and grant excellent feasible options to problems and emerging problems touching on to individual, workplace, society and the country. Students are required to acquire the multiple competencies to make them capable of serving the purposes of higher education. Students acquire these a couple of abilities thru the success of supposed studying outcomes of find out about programs. Area of Evaluation for Student Assessment Process as per SA Manual are:

- All about evaluation system are duly communicated to students on the commencement of the term/semester
 - Assessment system meets the goals of the course
 - Assessment comments are furnished to the students immediately.
 - The questions of examinations replicate the content material of the course.
- Both formative (quizzes, assignments, term papers, non-stop assessments, presentations etc.) and summative evaluation (final examination) techniques are followed.

According to NQF of BD (2020), the assessment of the learning outcomes can be multi-fold, over time and appropriate to the course. Assessment measures the achievement of learning outcomes. Students are usually required to achieve all learning outcomes in order to pass. The use of grading system and evaluation, assessment, such as credit, merit and distinction are indicative of the level of achievements of the learning outcomes. Assessments based on explicit/defined criteria are benchmarked using an external moderation system at the individual institution. All assessments are required to include timely and systematic feedback to students. The Standards of Assessment of Students are properly knowledgeable about the criteria, processes, techniques, equipment and rubrics that will be used to verify performance. Student Performance in SA Manual:

- Standard 5-7: Students are properly knowledgeable about the criteria, processes, techniques, equipment and rubrics that will be used to verify performance.
- Standard 5-8: In line with instructing gaining knowledge of pupil overall performance evaluation approach ought to be targeted on greater order learning.
- Standard 5-9: Assessment technique ought to be comprised of a set of a couples of things to do to measure the attainment of gaining knowledge of consequences and skills.
- Standard 5-10: Assessment system has to be designed to check competencies and abilities of student for integration and application of understanding and analytical approaches.

Table 2.9: Summary of SPA process in the Six Universities
(Source: NQF of BD)

University	SPA Process
University of Dhaka	<ul style="list-style-type: none"> • Continuous assessment to the students • Formulation of policy for the assessment of student performance in compliance with graduate profile and ILOs • Providing course outline Introducing standardized grading scheme/rubric by required training
University of Rajshahi	<ul style="list-style-type: none"> • To introduce fair, effective procedures to assess achievement of course learning outcomes by the students • Continuous assessment strategy/ bloom taxonomy

University	SPA Process
SUST	<ul style="list-style-type: none"> • Assessment methods: Assessment workshops needed to establish clear, fair and effective assessment methods. • Absence of any method for Curriculum and learning outcome assessment
Stamford University	<ul style="list-style-type: none"> • Implementation of tools to assess students' skill. • Formulation of policy for the assessment of student performance.
BAU	<ul style="list-style-type: none"> • Online System in Maintaining Attendance and Publishing Results. • In addition to randomly reviewed question papers improving students' performance by testing their abilities of applied knowledge and analytical approach.
Islamic University, Kushtia	<ul style="list-style-type: none"> • Provide training/workshop to teachers on the use of formative assessment tools including Rubrics, Checklist, Behavioral Observation, etc. • Introduce ILO based assessment

2.8.4 Stakeholders' Involvement

According to the PSAIP of University of Dhaka, the following are the suggestions for the involvement of the stakeholders in the QAM: Development of strategic plan for HRD (by 2022); Revision of curriculum based on feedback from alumni and employers; Invite alumni and employers to meet students for exchanging ideas; Periodic review of curriculum with the participation of stakeholders; Feedback from relevant stakeholders need to be obtained to identify the potential areas for improvement; Periodic review of curriculum with the participation of stakeholders; Collaborating with alumni to invite employers at the department once every year; Incorporating yearly student feedback; Need to work with the potential employers for job placement. University of Rajshahi has stressed upon Arrangement of community services regularly in every academic year. SUST's PSAIP included more detail involvement of stakeholders through the following: Application of research findings in industry, organization and teaching-learning; Addition of outreach and community, industry linkage programs with curriculum; Lack of Effective integration of different stakeholders; Organizing workshops for exchange of ideas and dissemination of research findings. Stamford university sorted out the following as their plan on stakeholders' involvement: Curriculum review should involve external peers and industry representatives; changes in curriculum must be tracked adequately after every review; opinion of the stakeholders should be taken into

account; Alumni was of the view that an in-plant training during the study program should be introduced for making them feel confident in facing challenges in the work places after graduation and therefore, internships with credit value should be included into the curriculum; Industry experts or experience engineers should be invited to give guest lectures; review of curriculum with consultation and participation of stakeholders which is common for all the universities; Recruit more professional or subject expert faculty to ensure students to choose electives or minor courses; to minimize the gap between the syllabus taught and industry requirement. BAU, as one of the most community collaborative universities among others, mentioned in the PASIP the following for the involvement of the stakeholders: attempts will be taken to discuss with different organizations, (Research, Extension, Industries, NGOs, Seed companies etc.) where the internees will work; Job Fair should be arranged in the campus; getting feedback from relevant stakeholders on a regular basis; industry and community partnerships should be strengthened with collaborative research program; engagement of employers and alumni to provide feedback on quality of graduates and curriculum improvement; stakeholder's feedback be obtained in teaching-learning, research these needs to be formalized; introducing and improving guest speaker session with industry practices, group-based learning, case studies etc. Islamic university noted the following in the PASIP: explore for more MoUs with sister institutions in the region and elsewhere for exchange program and credit transfer; formal Alumni Association of the departments; establishing a system of collecting and compiling opinions of the stakeholders while designing curriculum; industry / organization visit by the students for obtaining practical knowledge and relate theory with practice; Incorporating some community activities in the program; organizing workshops with national and international experts for academics and students; organizing conferences in collaboration with international professional bodies in every three years.

Initially after independence, when the country was young, Bangladesh's main higher education institutions were public. Bangladeshi higher education was once highly subsidized. During this time only a few public universities catered to the needs of millions. This translated into higher education being considered as a luxury in a society of mass illiteracy. Public universities were few in number, and poorly equipped to deal with research and modern requirements of education. It was recognized that public universities alone could not produce the skilled human workforce, which was needed not only for human resource development of the nation through

supplying teachers, instructors, researchers and scholars in the institutions like schools, colleges, technical institutes and universities, but also for creating technological revolution in the field of agriculture, industry, business and commerce, medicine, engineering, transport, communication and in the service sector etc. Graduates need meaningful career advice from pre-tertiary enrollment to the post-tertiary stages to increase their employability especially their person-job fit which is essential for career growth and job meaningfulness. The need for self-awareness, including awareness of the competencies they possess and how they align to different career paths is critically important for today's graduate. The experience gap as reflected in job advertisement requirements for entry level jobs imply that most graduates cannot immediately match employer requirements and have to engage in activities that give them practice work experience which would convince employers that they could hit the ground running if employed.

Various programs have been undertaken to create knowledgeable and capable Human Resources for the country through improving the quality of education and increasing accessibility to Secondary and Higher Secondary, Technical and all tiers of higher education. As a result of the Government's policy, 60 percent woman instructors in the Government primary schools were recruited, range of girl teachers has extended from 21 percent in 1991 to current 62.67 percent, in accordance with the report in 2017 on HRD by means of BD Economic review. Health area has witnessed amazing development due to Government's priority to the Health, Nutrition and Population Sector beneath the Millennium Development Goal. Both fertility and mortality costs have come down. Remarkable development has been made in decreasing infant and maternal mortality and in growing common lifestyles expectancy. Malnutrition has also been reduced significantly. After the successful completion of 'Integrated Health, Population, Nutrition Sector Development Program', 4th sector program has been initiated for 2017-2022. Moreover, in order to improve the overall development of women and children, National Women Development Policy 2011, National Action Plan, National Plan For the prevention of violence against women and children 2013-2025, National Child Policy 2011 and Child Marriage Prevention Act 2017, has been formulated. In this regard the Deoxyribonucleic acid (DNA) Act, 2014 has also been enacted. The position of Bangladesh is gradually improving in the Human Development Index (HDI) as a result of implementation of various development programs. According to the Human Development Report (n.d.),

Bangladesh has improved its ranking to 139 position where in 2014 compared to 142 in 2014. However, towards the turn of the last century, the need for skilled and semi-skilled human resource started to be recognized for overall development of the country and poverty alleviation.

CHAPTER THREE: CONCEPTUAL FRAMEWORK

Usually, a researcher is required to visualize a working model comprising concepts and their relationships by which prior conceptions can be proven or refuted. The researcher has to explain visually the concepts, determine the phenomena for the research and find out the relationship between variables that need to be studied. The researcher also needs to mention the units of measurements, tolerable degree for the errors, and find out the applicability of the dimensions. This chapter mainly discusses the theoretical framework of the study, which is constructed prioritizing constructs and their relationships, which have been tested in view of the suggested statistical parameters. The proposed theoretical and experimental framework makes the study viable in favor of injecting QAM in HEIs (public and private) for the enhancement of KSA of the graduates. The conceptual framework portrays several hypothesized relationships primarily derived from the literature and studies. In this chapter, the constructs and their relationships are presented, which are linked to the literature and relevant discussion discussed in the previous chapters.

3.1 Theoretical Underpinning

The researcher finds out whether there are theories as well as hypotheses highlighted in the previously published studies that can be related to the problem of the study, and then identifies which theories are useful to explain the phenomena in hand. Generally, related literature aids the researcher to figure out whether there are enough studies conducted by other scholars, and how the problems were dealt during the study. The researcher also develops hypotheses that are mainly formulated from the previously published studies, and check out the background regarding the research problem. The chapter 2 mainly discusses the steps of conducting the study, process of opting for the variables, and the development mechanism of the hypotheses. The conceptual framework of the study underlies some particular theories proposed by Harbison and Myers (1964); Swanson and Holton (2009) on KSA and HRD relationship.

Harbison and Myers (1964) developed three-dimensional approach which are economic, political and social to understand the impact of HRD in different countries. In study, on HRD by Richard A. Swanson and Elwood F. Holton III (2001), it has been stated that the practice defines the boundaries of HRD. The focus on the theory and research was limited, but for a

relatively new discipline (e.g. HRD) to grow, evolve, and meet the demands of the professional, more efforts are needed to identify its foundations. Moreover, HRD practitioners play a pivotal role when creating a demand for the research that addresses the critical issues that they face at work. According to Swanson (2008), human resource development is a phenomenon that is chiefly influenced by two main factors: (i) Training and Development and (ii) Organizational Development. It can therefore be stated that the quality of training, education, and development has a direct influence on the development of HRD as well as the national economy.

Table 3.1: Theory and Definitions of Human Resource Development

S/L	Author	Theory and Definition
i.	Harbison and Myers (1964), as cited by Swanson and Holton (2009)	Human Resource Development is the process of increasing the knowledge, the skills, and the capacities of all the people in the society.
ii.	McLean and Mclean (2001), as cited by Swanson and Holton (2009)	HRD is any method or recreation that, both at the beginning or over the lengthy term, has the possible to improve adults' work-based knowledge, expertise, productivity, and satisfaction, whether or not for private or group/team gain, or for the advantage of an organization, community, nation, or, ultimately, the entire of humanity (p. 313).

According to Swanson and Holton (2009), “organizations are human-made entities that rely on human expertise to establish and achieve their goals.” They have defined HRD as the process of developing and unleashing expertise in hopes of improving individual, team, work process, and organizational system performance. HRD is a method of growing skills, competencies, knowledge, and attitudes of people in an organization or in a country. The graduates turn into human resource solely when they are able to cope with and expedite the organizational activities delegated. Therefore, HRD ensures that the organization yield competent human resource to obtain its desired goals. Furthermore, according to McLean and McLean (2001), HRD is any procedure or exercise that, both at the beginning or over the lengthy term, has the achievable to improve adults' work-based knowledge, expertise, productiveness and satisfaction, resulting in the development of an organization, community, nation, or ultimately,

the complete of humanity. This definition stated that the improvement of KSA of workforce can turn them into human capital.

3.2 Operational Definition of Key Terms

The primordial aim of developing working definition for the variables used in constructing the framework is to opt for a definition from an existing theory. The process usually start form analyzing literature, and then defining definitions for the constructs. In this study, the definitions of the factors are selected from existing theory, but some of the factors are described combining statements retrieved from the multiple sources. The study incorporated seven indicator variables: CCDR, KSA, QAM, SI in HE, TLP, SPA and HRD reaped from literature, three of which are endogenous and the rest are exogenous in nature.

The operational definitions of this terms are mentioned below:

- **Human Resource Development (HRD)**

As mentioned in the theoretical background, HRD is the procedure of growing the knowledge, the skills, and the capacities of all the human beings in the society. Harbison and Myers (1964); Swanson and Holton (2009). According to Richard Swanson (2008), Distinguished Research Professor of HRD at the University of Texas, the primary components of HRD are organizational development and training. He also argued ‘organization development’ as the process of “systematically implementing organizational change for the purpose of improving performance.” He defined training and development as the “process of systematically developing expertise in individuals for the purpose of improving performance.” He stated that HRD activities are carried out either directly or indirectly under a variety of contexts, and are not exclusive to the organization itself. He posited that the factors that has impact on the HRD are sometimes treated as direct factors, sometimes they are considered as complementary factors, and sometimes they are highlighted as imbedded factors. Swanson (2008) concluded that the factors that has impact on the development of human resource do take place in a variety of organization at the national and even at the international level. The ASTD (American Society for Training and Development) defines HRD as follows: “human resource development is the technique of increasing the capability of the human resource through development. It is therefore the method of including value to individuals, groups or a corporation as a human system”.

According to South Pacific Commission “HRD is equipping people with relevant skills to have a healthy and satisfying life.” Based on these theories discussed above, and considering researches published, the operational definitions for HRD is stated as “the process of increasing the knowledge, the skills, and the Abilities of the people of Bangladesh.”

- **Knowledge Skill and Ability**

According to Premuzic, T.C. and Frankiewicz (2019), the primatial goal of HEI is generally pragmatic, to boost up the graduates’ employability, and to develop them as a treasured contributor to the economy. Even if the value connected to a university degree is beneficial to those who gain it, organizations can assist change the narrative through inserting less weight on “higher education” as a measure of intellectual competence and job potential. Instead, the organizations put more value on honing KSA and some additional abilities. Now-a-days, HE is not only viewed and expected as knowledge creation center but also as a place for the enhancement of skill and capability of students.

The continuous initiatives carried out through the universities and the government is to make certain that the essential skills are included in the curricular and should be met through the students’ personal efforts to accumulate and hone these skills. Magdalene (2008) stated that the opportunity for students to have experiential interaction through work (either paid or voluntary), so that they can meet experienced people in a more exclusive management patterns and personalities. Such effort in actual working surroundings will be instrumental for improving effective mindset, and for the better adaptability, which amplifies problem solving skills among the students. Hence, KSA, in this thesis, refers to the development of graduates/students by offering them a particular curriculum, teaching-learning method, and a proper assessment plan to assess their skills. The skill and ability can also be commonly referred to the employability skills that a student develop over time.

- **QAM in Higher Education Institutes (HEIs)**

According to UNESCO, higher education at the tertiary level usually starts after completing 12 years of primary, secondary and higher secondary study. The development of any modern nation has been found to be linked to the quality of its education system. Adegbesan

(2011). QA is a set of policies process or actions performed by the institutions or external bodies. Common wealth of Learning (2012); Opre and Opre (2016); Assurance Agency for HE (2012); Vlăsceanu et al., (2007). The research includes the HEIs, which are university-colleges, and not under the umbrella of National University. As of today, there are 151 Universities successfully operating in Bangladesh, 103 of which are commissioned as private institutions having a single act (According to UGC website 2020). In this study, both the Public and private universities are considered as the HEIs in Bangladesh. In this study, we considered universities, which have undertaken QA activities and have set up a separate wing named IQAC, for the survey. Furthermore, QAM is the activities that are initiated by IQAC under the guidelines of UGC, MoE, BD, but the activities are funded and monitored by HEQEP- World Bank; and this initiative allowed only 69 universities to set up a separate department named IQACs in Bangladesh. The QA process is termed as QAM in Higher Education arena of BD as this was the first Government initiated QA process through a permanent structure of IQAC, which involved TLP, CCDR SPA and SI as factors of QA.

- **Curricular Content Development and Review**

Goodson (1994) describes curriculum “as a multifaceted concept, constructed, negotiated and renegotiated at a range of stages and in a variety of arenas”. The view of Godson shaded the interactive aspect of the curriculum. The factors, which are involved in the development of curricula, determine how a curriculum is deliberated to pose itself as one of the most essential elements, and predetermines the success/impact factor of the implementation. Shao-Wen Su (2015). In order to gain outcomes, the essence of the curriculum is required to be identified, such as curriculum planning, implementation, and even evaluations can be attempted. According to Kumar (2017), the triad of curricular, co-curricular and extra-curricular activities, which expand their horizons of knowledge and contribute to development of minds, is necessary for the overall development of the students. Based on the aforementioned discussion, CCDR is termed as multifaceted process of incorporating KSA, developing and updating content for the student, and modifying the content based on the stakeholders’ suggestion.

- **Teaching –Learning Process**

Adebakin et al., (2015) stated in the paper that the current complicated work environment turns into a challenge for Nigerian universities to equip and internalize vital thinking skills, creativity, information processing, decision-making, struggle management and decision skills, team-work and leadership competences among the younger people. Teaching such lifestyles abilities can be brought into every component of the university curricular with fantastic educating competencies that inspire interactive learning, knowledge application to actual existence problems, peer.

The way teaching and learning takes place has to hone students' potential to communicate; work amicably and efficaciously with others; analytical, decisive and imperative when fixing problems, and behave professionally and be ethically sound when making judgments. Additional abilities that would add value to the quality of graduates, like functionality to lead and manage others, possess entrepreneurial capabilities and capable to manipulate records for private use. The paper speculated that the TL process are supposed to not only focus on the knowledge or intellectual component but also to include method to enhance skills and ability. QAM is not only used to evaluate the efficiency and appropriateness in teaching and learning but also to ensure the dissemination of high-quality education, Sofowara (2010). The above papers mentioned TLP as a part of QAM in HE which adds value to the graduates and aid in developing their KSA. Hence, in this thesis, teaching-learning process refers to as a part of curriculum in HEIs, which is student centered, interactive, and ensures student engagement likewise focuses on the development and enhancement of KSA incorporating modern technology, which involves stakeholder's involvement.

- **Student Performance Assessment Process**

According to Mikre (2010), assessment is one of the fundamental issues of curriculum exercise that has salient contribution for advantageous curriculum operation and implementation. Students gain significant KSA and expertise by continuous assessment. Designing such assessment mostly depends on the awareness and expertise of the teachers. In a study, it has been stated that the teachers must combine layout for continuous evaluation in academic ways to achieve learning outcome of students. According to Klieme

and Leutner (2006), social change, social cohesion, and opportunities for societal improvement are all centered on the instructional/educational stage of the participants of a society. The research emphasizes the significance of the learning outcome. The graduates of the HEIs, who go through instructional and assessment process, can be turned into human resources if the TLP and assessment is centered on outcome based, and the outcome is aligned with the societal change and improvement. In this research SPA referred to as continuous process to assess KSA, extra and co-curricular activities of students keeping in mind the educational outcomes set for the graduates to turn them into human resources.

- **Stakeholders' Involvement in HE**

Stakeholders are those who have some type of claim on the offerings of the company (“claimants”) or those who can have an effect on the workings of the business in some way, i.e., “influencers” Mitchell, Agle, and Wood (1997). The Assessment Manual and Quality Assurance Manual symbolizes the stakeholders of HEIs as follow: Alumni, Employer, Academic and Non-Academic staff and student in this thesis, the stakeholders of higher education are considered as the Students, Graduates/Alumni, Academic Staff, Non-Academic Staff, Employers of the graduates/Industry, Parents or Guardians.

Some stakeholders can be “affected by “as properly as “affect” companies. Kaler (2002). An effective quality system as embodied by the Monash Quality cycle relies on the effectiveness of the evaluation/assessment system by changing the process to accommodate the needs of its stakeholders. Stakeholders in fundamental education groups or people who are no longer aide by any law. They are additionally no longer well organized and their contribution is simply voluntary and unreliable. Abubakari and Al-hassan (2016) argued that to make them effective, there is the need to create a platform for them to frequently meet and discuss and become aware of the problems, share obligations and make sure that these responsibilities are carried out well. In the ever-increasing world of competition, educational institutions can survive only if quality is added in all walks of their service. The suggestions on revision of curriculum to include newer areas of knowledge and skill development as per industry, community, parents’ requirement are incorporated to convince the employers of the commitment of the institution towards quality. Kumar (2017).

The working definitions of the key operational items are summarized in the following table:

Table 3.2: Working Definition of the Key Operational Terms

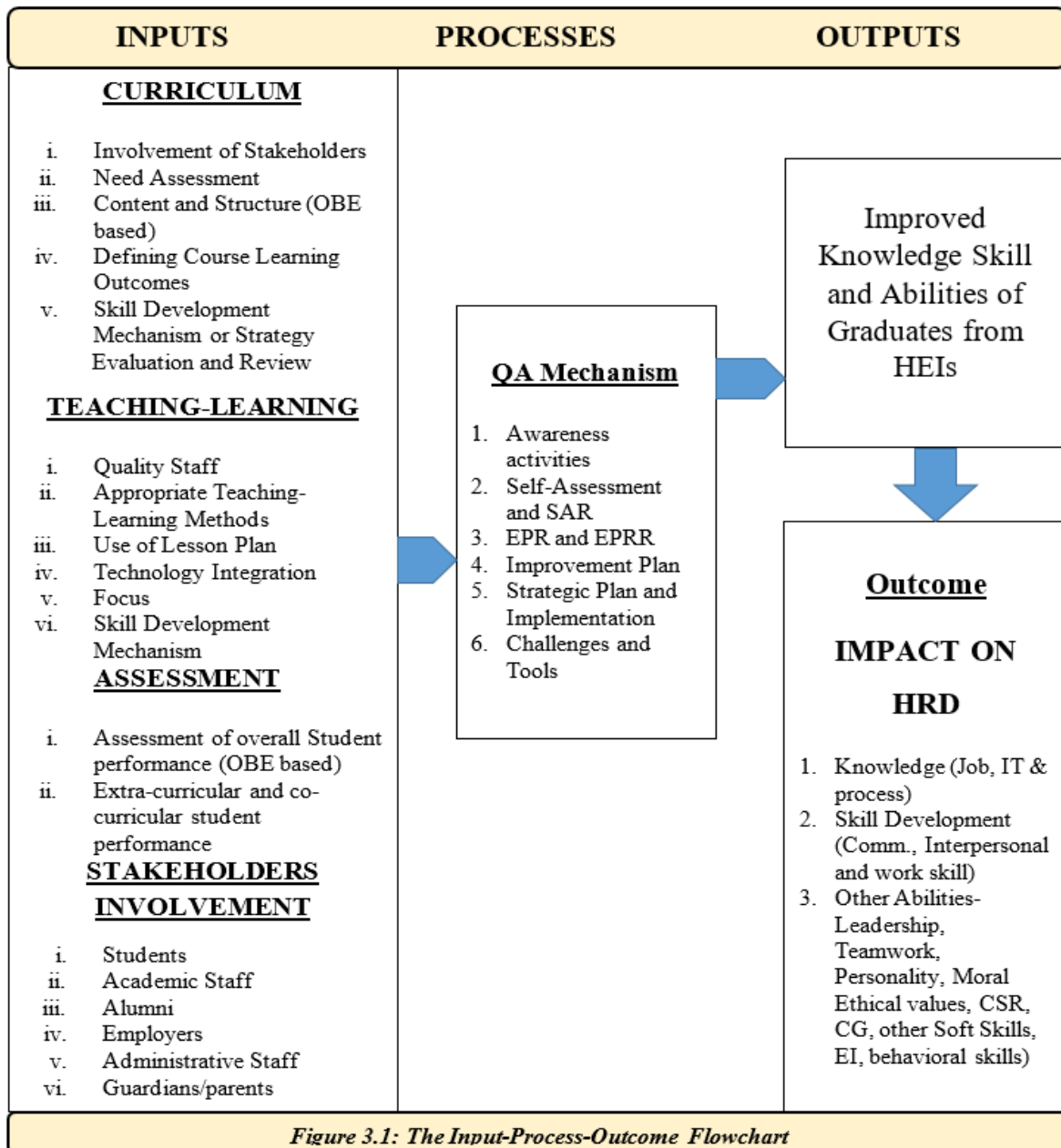
Human Resource Development (HRD)	HRD is the process of increasing the knowledge, the skills, and the Abilities of the people of Bangladesh.
Knowledge Skill and Ability (KSA)	The Knowledge, skill and ability in other words can also commonly referred to as Employability Skills or Graduate Attribute. Graduates/students develop skills by studying a particular curriculum, teaching-learning method and the KSA assessed by the universities which have undergone QAM by IQACs.
QAM in Higher Education Institute (HEI)	QA mechanism refers to the Institutional Quality Assurance activities initiated by University Grants Commission (UGC), Bangladesh, Ministry of Education (MoE), BD and funded and monitored also by World Bank Higher Education Quality Enhancement project in 2015.
Curriculum Content, Development and Review (CCDR)	A multifaceted process of incorporating Knowledge Skill and Ability developing content for the student; regular update of the content and modification of Curriculum in HEIs
Teaching-Learning (T-L)	Teaching-Learning method refers to as part of educational process in HEIs, is student centered, interactive, ensures student engagement and focuses on development and enhancement of KSA using modern technology and which also involves stakeholder's involvement.
Student Performance Assessment (SPA)	It is a continuous process to assess KSA, Extra and co-curricular activities of students as an educational output/outcome for human resources.
Stakeholders' Involvement (SI)	Students, Graduates/Alumni, Academic Staff, Administrative Staff, Employers of the graduates/Industry, Parents or Guardians of the students; of these 69 universities which have IQAC process and set up;

3.2.1 Variables/Constructs Development from other Literature

Table 3.3: Relationship with theories/literature review and identification of variables

Adopted from	Identification of Variables
Harbison and Swanson (2008)	KSA and HRD
UNESCO and Adegbesan (2011); Common wealth of Learning (2012); Opre and Opre (2016); Assurance Agency for Higher Education (2012); Vlăsceanu et al., (2007)	QAM in HEIs
Goodson (1994); Longstreet and Shane (1993); Shao-Wen Su, (2012); Kumar (2017)	Curriculum Content, Development and Review
Adopted from	Identification of Variables
Sofowara (2010); Adebakin et al (2015) Mikre (2010); Klieme and Leutner (2006)	Teaching-Learning Process Student Performance Assessment
Mitchell, Agle, and Wood (1997); Kaler (2002); Abubakari and Al-hassan (2016); Kumar (2017)	Stakeholders (Students, Academic and Non-Academic Staff, Alumni, Parents/Guardians, Employers)

3.2.2 Input-Process-Output Flowchart with Constructs



3.3 Relationship and Hypotheses Development

Hypothesis refers to an unproven proposition, a possible solution to the problem statement or simply an assumption to be proven by the study and implemented as solution of the problem in hand. As the proposed model is underlying the cause and effect relationship, the hypotheses are mainly explanatory or causal. In the study, both the dependent and independent variables establish some causal relationships. In deductive research, a hypothesis is necessary as it develops declaration which predicts an answer to the research question. It is primarily based on the findings of previous research (gained from evaluation of the literature) and possibly previous experience. The ultimate goal of deductive research is to figure out whether or not to accept or reject the hypotheses as stated. When formulating research techniques (case, statistics series instruments, etc.), wise researchers are guided through the hypothesis. In this way, the hypothesis offers route and focal point to the research.

As the proposed potential research is based on our national interest; hence, it may focus on QAM in BD where innovative solutions and tools to QA may not be well documented or recently being started, but its effects and factors are scarce; therefore, the proposed research hypotheses may include the impact of the different variables/areas of the QAM initiated in BD, which may be relevant to the HRD, such as CCDR, TLP, SPA and SI.

3.3.1 Hypothesis One (1)

Relationships among the CCDR, TLP and SPA and QAM in HEIs are derived from the research conducted by Kumar (2017). The research says that commitment to offer excellent education and gaining knowledge through properly designed and systematic curriculum delivery is at the core of quality assurance policy. Quality policy contributes to institutionalizing the QA processes. A range of excellent assurance approaches are institutionalized focusing around instructor quality, curriculum delivery and pedagogy, research and training, skill improvement of students, orientation programs for standard personal improvement and wide range of activities which equip the students to face challenges. In the ever-increasing world of competition, educational institutions can survive only if quality is added in all walks of their service stated by Kumar (2017).

It is not always clear and understandable how university management and faculty members should develop and implement internationalized curricula at HEIs for quality education process in the context of Georgia's HE system. The main idea is to incorporate T-L strategy, stakeholders' involvement and assessment method to make the curriculum more effective and quality driven mentioned by Amashukeli (2018). Tran (2016) suggests a multi-faceted assessment system for assessing student engagement. The process emphasizes a qualitative strategy to know how the graduate attributes are being developed at the same time, the quantitative strategy is required to determine the improvement of KSA is taking place or not. The identification and assessment of graduate attributes in HE can be done by focusing on the student engagement that is required to enhance employability. Based on the above literature and as all the findings derived from the other studies, it can be posited that the variables: CCDR, TLP and SPA and QAM are interdependent, and there are relationships existed among them which can be depicted as follow:

Hypothesis one (1)-D is reflected from the research by Yulia Stukalina (2018) presented in the *10th International Scientific Conference of "Business and Management 2018"*. She mentioned while determining the main standards for internal and external quality assurance in the European HE area that, quality in HE is associated with quality teaching in the agenda of achieving academic excellence – one of the main strategic goals of a modern university. Moreover, QA in complex academia settings is maintained in all functional areas and at all organizational levels provided that there are efficient QAM backed by mature quality culture. Besides, Internal and external quality assurance procedures in higher education complement each other ensuring synergy of these processes for the greatest benefit of all higher education stakeholders. The collaboration or the partnership between academic establishments and employers has proved to be a realistic way to extend university responsiveness for the economy, to bring genuine instructions from the market into the university curriculum, to enhance capabilities preferred through cutting-edge employers, and thus, to enhance employability for students and graduates. Nonetheless, the improvement and implementation of a sustainable and positive collaborative activity/program to enhance graduate employability has added many challenges for both universities and enterprises.

Thi Tuyet Tran (2016) mentioned where the key factors for the research is graduate employability, higher education, labor market, university-enterprise collaboration or the partnership between academic establishments and work place has proven to be a realistic way to expand university responsiveness for the economy, to deliver proper classes from the market to the university curriculum, to enhance capabilities preferred through modern employers, and thus, to enhance employability for students and graduates. Nonetheless, the improvement and implementation of a sustainable and positive collaborative activity/program to enhance graduate employability has introduced many challenges for both universities and industries. In order to increase effective collaboration and partnership between academia and stakeholders, strengths and threats need to be identified, and a frequent purpose which addresses mutual advantages to all stakeholders needs to be build. Stakeholders' involvement in the QA process is also a descriptive conception since it requires descriptive analysis, and should conducted by gathering data from five different stakeholders, such as Academic and Administrative staff; Employers, Guardians and Alumni.

3.3.2 Hypothesis Two (2)

This hypothesis is derived from the following researches. All the findings are indicative towards the process and challenges of Quality Assurance Mechanism, and will have a significant influence on the improvement of graduates' KSA. Among them, the study conducted by Long et al. (1999) has identified that the Education is a background characteristic of the individual that influences a successful induction of training and development in the organization once they have completed their education and joined the workforce. Additionally, Australian researchers Blandy et al. (1999) stated that a proper and comprehensive education actually reduces the number of training hours needed to turn the employees into a competent resource when they join the workforce, and thus increase the employability. The coordination between HEIs and HRD and contribution of HEIs in HRD of Bangladesh is minimum. The anticipated and required HRD is no longer taking place due to lack of quality in HE; The reason is mentioned by Shamsuddoha and Dilruba (2012) as lack of proper teaching-learning environment and absence of QAM in HE.

3.3.3 Hypothesis Three (3)

Karim (2019) mentioned the development of life skills education is a dynamic and evolving process, which should involve children, parents and the local community in making decisions about the content of the program. There is a lack of life skill integration in HE curricula. According to Hassan and Sallahuddin (2014), for HRD, first step needs to be taken by the government. Basic education and health sector need to be addressed and developed for HRD. Every year thousands of people come to the job market, but they are not getting the desired job. It outlined that, in Bangladesh though there are many graduates from HEIs, but they are not properly skilled and capable, and there is a skill gap or mismatch between the HEIs and the job market. As a result, in our country people hardly get their job on the basis of their academic background especially for business students and other discipline as well. Based on the above literature, it can be proclaimed that the findings are indicative, and there is a gap found between the graduates KSA produces by HEIs in BD.

3.3.4 Hypothesis Four (4)

Nair et al., (2007), presented a research, which was based on a meta-data analysis and reviewed research associated with HRD policies and practices in Brazil, China, India, Italy, Japan, Lebanon and Qatar, National policies on HRD, in which he examined the assessment of HRD practices. The paper stated that the developing countries' NHRD should be focused on education and QA of HE; It identified that developing nations face serious troubles in placing up advantageous accreditation mechanisms due to lack of capable human resources and sufficient monetary resources. Setting up an accreditation mechanism for cross-border higher education is nearly not possible for developing countries, but QA in HE is an important factor and is necessary for the NHRD. For the nations that are both economically and socially developed such as Japan, the main focus is no longer on the education due to the fact that 99% of the Japanese workforce is already literate. Whereas, economically developed countries such as Qatar and Lebanon, require to consider quality education stressing mainly on HRD. In India, NHRD policies such as the NEP, 1986 and Program of Action in 1992 extended enrollments in education to 95%. The focal point of HRD in Brazil has been shifted from education to training and skill development. However, for HRD, skill enhancement and education are the priority in all these countries. According to Jamil et al. (2013), HRD relates to developing knowledge, skills and abilities and improving individual attitude by manpower planning, education,

training, and the sufficient opportunities. Additionally, the paper stated that HRD is an important factor for economic development and positively impact national productivity. However, HRD is also country specific, and hence unique to region and geography. Jamil et al. (2013) conducted research incorporating the factors effecting human resource development in Pakistan. The study argued that the phenomenal growth of the economies in Asia are due to the performance of their human resources. In order to conduct this research, the researcher used a population of managers from more than 40 public sector organizations in Pakistan. They concluded that, along with social Justice, poverty alleviation and technical training, education were the major factor in HRD in Pakistan. The above discussion provides a solid base for proposing several hypotheses; therefore, we propose the following four hypotheses:

Table 3.4: Research Hypothesis

H1A: CCDR ↓ QAM	Curriculum Content Development and Review process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.
H1B: TLP ↓ QAM	Teaching- Learning process of QA Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.
H1C: SPA ↓ QAM	Student Performance Assessment process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.
H1D: SI ↓ QAM	Involvement of Stakeholders in Quality Assurance Mechanism in Higher Education process has significant positive impact on improvement of Graduates' KSA.
H2: QAM ↓ KSA	The Role and Challenges of Quality Assurance mechanism in Higher Education Institution has significant impact in Improvement of KSA of Graduates.
H3: Existing KSA gap	There is a Gap existing in KSA between HEIs and requirement for HRD.
H4: Challenges of HRD	There are challenges faced by the HEIs for Human Resource Development in present context of Bangladesh.

3.4 Conceptual Framework and Model

Conceptual framework has been developed from the relevant theories and literature as the constructs and relationships are identified in the aforementioned sections. Six primary hypotheses have been established in the proposed model in hopes of testing the conceptions formed between and among the variables. The variables CCDR; SPA; TLP; and SI in QA mechanism influences positively the improvement of the graduates' KSA. Improvement of KSA of the graduates from the HEIs influence HRD of Bangladesh. The Theoretical part is written considering the established relationship between KSA and HRD, which was derived from the theory of Harbison and Myers (1964), Swanson and Holton (2009).

3.4.1 The conceptual framework

The conceptual Framework is based on partially the theory, and other variables are derived from literature. All the variables are derived from the background and literature review presented in Chapter 2. The relationship and concept are depicted below:

Table 3.5: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 1

Number	Research Questions, Hypothesis and Objective	
RQ1-A:	How can the A. Curriculum Content, Development and Review (CCDR), B. Teaching-Learning process (TLP), C. Student Performance Assessment Process (SPA) process and D. Stakeholders' Involvement in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	FACTOR 1: Curriculum Content Development and Review Process (CCDR)
H1-A:	Curriculum Content Development and Review process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.	

Number	Research Questions, Hypothesis and Objective	<p style="text-align: center;">FACTOR 1:</p> <p style="text-align: center;">Curriculum Content Development and Review Process (CCDR)</p>
SO1-A:	To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: A. Curriculum Content Design and Review, B. Teaching-Learning, C. Student Performance Assessment process and D. Involvement of Stakeholders in the process and to document the required process.	

Table 3.6: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 2

Number	Research Questions, Hypothesis and Objective	<p style="text-align: center;">FACTOR 2:</p> <p style="text-align: center;">Teaching- Learning Process (TLP)</p>
RQ1-B:	How can the A. Curriculum Content, Development and Review (CCDR), B. Teaching-Learning process (TLP), C. Student Performance Assessment Process (SPA) process and D. Stakeholders' Involvement in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	
H1-B:	Teaching- Learning process of QA Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.	
SO1-B:	To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: A. Curriculum Content Design and Review, B. Teaching-Learning, C. Student Performance Assessment process and D. Involvement of Stakeholders in the process and to document the required process.	

Table 3.7: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 3

Number	Research Questions, Hypothesis and Objective	
RQ1-C:	How can the A. Curriculum Content, Development and Review (CCDR), B. Teaching-Learning process (TLP), C. Student Performance Assessment Process (SPA) process and D. Stakeholders' Involvement in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	FACTOR 3: Students' Performance Assessment (SPA)
H1-C:	Student Performance Assessment process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.	
SO1-C:	Examine empirically the overall relationship between elements of the QA Mechanism and HRD in Bangladesh, specifically: Curriculum Content Design and Review, B. Teaching-Learning, C. Student Performance Assessment and D. Involvement of Stakeholders in the process.	

Table 3.8: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 4

Number	Research Questions, Hypothesis and Objective	
RQ1-D:	How can the A. Curriculum Content, Development and Review (CCDR), B. Teaching-Learning process (TLP), C. Student Performance Assessment Process (SPA) process and D. Stakeholders' Involvement in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	FACTOR 4: Stakeholders Involvement in Quality Assurance Mechanism (SIQAM)

Number	Research Questions, Hypothesis and Objective	FACTOR 4: Stakeholders Involvement in Quality Assurance Mechanism (SIQAM)
H1-D:	Involvement of Stakeholders in Quality Assurance Mechanism in Higher Education process has significant impact on improvement of Graduates' KSA.	
SO1-D:	Examine empirically the overall relationship between elements of the QA Mechanism and HRD in Bangladesh, specifically: Curriculum Content Design and Review, B. Teaching-Learning, C. Student Performance Assessment and D. Involvement of Stakeholders in the process.	

Table 3.9: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 5

Number	Research Questions, Hypothesis and Objective	FACTOR 5: Quality Assurance Mechanism (QAM)
RQ2:	What are the Roles and Challenges of QAM to improve Graduates' Knowledge Skill and Ability in HEIs?	
H2:	The Role and Challenges of Quality Assurance mechanism in Higher Education Institution has significant impact in Improvement of KSA of Graduates.	
H4:	There are challenges faced by the HEIs for Human Resource Development in present context of Bangladesh	
SO 2:	To measure the Role and Challenges of QA mechanism on the improvement of Knowledge Skill and Ability of graduates, to unearth the opinion of respondents those who are involved with the Higher Education and QA activities.	

Table 3.10: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 6

Number	Research Questions, Hypothesis and Objective	
RQ3:	Is there any Gap existing in KSA requirement between HEIs and HRD of BD?	FACTOR 6: Knowledge Skill and Ability (KSA)
H3:	There is a Gap existing in KSA between HEIs and requirement for HRD.	
SO 3:	To identify the gaps that exist in KSA by investigating the role of QA mechanism in HEIs in developing Human Resources of Bangladesh.	

Table 3.11: Relationship between Research Question, Hypothesis, Specific Objectives and Factor 7

Number	Research Questions, Hypothesis and Objective	
RQ 4:	What are the challenges faced by the HEIs in developing the Human Resource of Bangladesh?	FACTOR 7: HRD
H4:	There are challenges faced by the HEIs for Human Resource Development in present context of Bangladesh.	
SO 4:	To suggest steps to meet the challenges for the further Development of Human Resource through HEIs of Bangladesh.	

3.4.2 Conceptual Model

Thus, based on the above discussion, literature review, research questions, objective of the study and relationships between the variables, the following model is developed for the study.

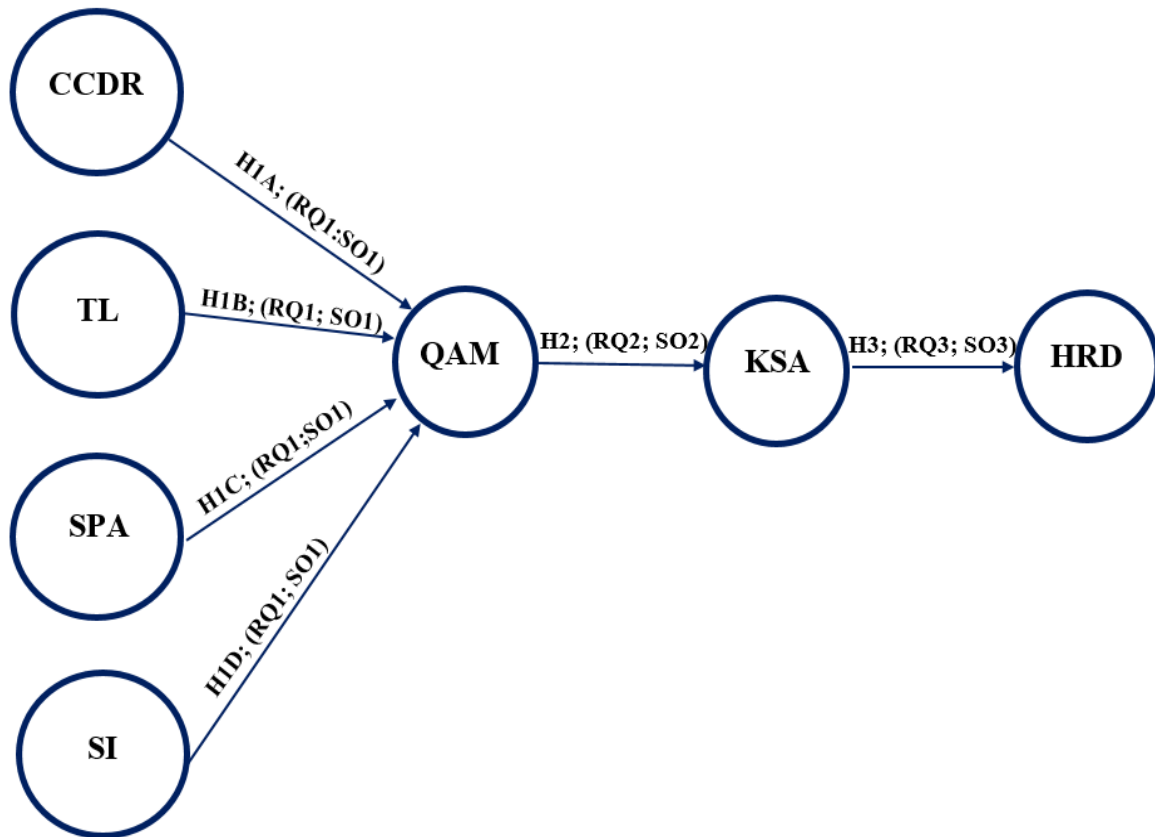


Figure 3.2: Conceptual Model with Hypothesis

CHAPTER FOUR: METHODOLOGY

Methodology is the aggregate of distinctive strategies that are used through the researcher to check out unique situations. It is indispensable for the researcher to recognize the philosophical function of research problems to apprehend the extraordinary aggregate of research methods. There are usually three kinds of paradigm. Strategy of this find out about is survey. Surveys allow the researcher to gain facts about practices, conditions overviews at one factor in time thru questionnaires or interviews. Quantitative analytical methods are then used to draw inferences from this fact concerning existing relationships. The use of surveys approves a researcher to find out about more variables at one time than is usually feasible in laboratory or area experiments, at the same time as data can be amassed about actual world environments. A key weak point is that it is very challenging to recognize insights concerning to the reasons of or strategies involved in the phenomena measured. There are, in addition, quite a few sources of bias such as the maybe self-selecting nature of respondents, the factor in time when the survey is carried out and in the researcher him/herself thru the layout of the survey itself. Survey research generally entails a massive target audience to accumulate a massive quantity of data. This is a quantitative approach having a predetermined set of closed questions which are quite convenient to answer. Because of the simplicity of such a method, excessive responses are achieved. It is one of the most normally used techniques for all sorts of research in today's world. Previously, surveys had been taken face to face solely with possibly a recorder. However, with development in technological know-how and for ease, new mediums such as emails, or social media have emerged. Methodological preference of this learn about is combine technique easy and the method is cross sectional. Approach to concept improvement in this study is deduction approach. With deduction, a concept and speculation (or hypotheses) are developed and a research method designed to check the hypothesis. There are three primary strategies to concept development: deduction, induction and abduction. With deduction, a theory and hypothesis (or hypotheses) are developed and a research method designed to check the hypothesis. With this in mind, the nature of the research introduced in this thesis is exploratory, constructing on current information and theories, however additionally being receptive to any new or as but no longer concept of relationships or phenomena. This part presents an overview of the techniques undertaken in this thesis to answer the research questions in Chapter One, and to take a look at the hypotheses proposed in chapter three. These

steps are also summarized in Figure 4.1 figuring out the sections of this chapter concerning to every step. This research is a causal relationship based exploratory research (cause and effect), where cause is the QAM in the HE and the effect is on HRD. Exploratory in nature because this study seeks to explore the effect of QA implemented in the IQACs, and analyzing the effect on the overall HRD through HEIs of Bangladesh. The design of the research is empirical as stated in the conceptual framework (chapter 3), cross sectional survey is included as well as qualitative data collection. This research used quantitative dominating, as well as qualitative analysis and the approach is gradually inductive, deductive and then inductive in nature.

At the beginning, it was inductive, before research questions and objectives, questionnaires were primarily developed by interview of the experts in the HE, QA and HRD field. Then the deductive approach was followed for the questionnaire survey and finally again the inductive process by conducting interview with the experts for the qualitative data survey. A quantitative dominant simple mix method survey methodology and the use of self-administered questionnaires has been adopted to gather facts about the underlying constructs proposed in the conceptual model. These constructs are CCDD, TLP, SPA, SI and KSA. These constructs have been operationalized through multi-item measures the use of 5-point Likert scales, and the objects used to measure them had been adopted from formerly tested scales. The instrument is to accumulate the facts of this thesis and it was once divided into seven parts, inclusive of questions measuring the supposed constructs and demographic questions. Because this questionnaire was once administered in a non-English-speaking area, a dual approach of returned translation was once carried out as endorsed by using cross-cultural methodological researchers. Brislin et al., (1973); Malhotra et al., (1996); Temple (1997). To make certain that the wording and technical phrases of this questionnaire was once clear and comprehensible and the equivalence of the instrument was once achieved, questionnaire guide was organized. A pre-test was once performed prior to conducting the ultimate survey. The questionnaires had been validated and piloted prior to the distribution. The methodology seeks to generate concept to recommend feasible relationships amongst the implementation of QA, and a vary of inner elements and impact on HRD (e.g. table 4.1). Further, though, it seeks to analyze the activities and opinions of considerable stakeholders in the HE, QA and HRD off Bangladesh.

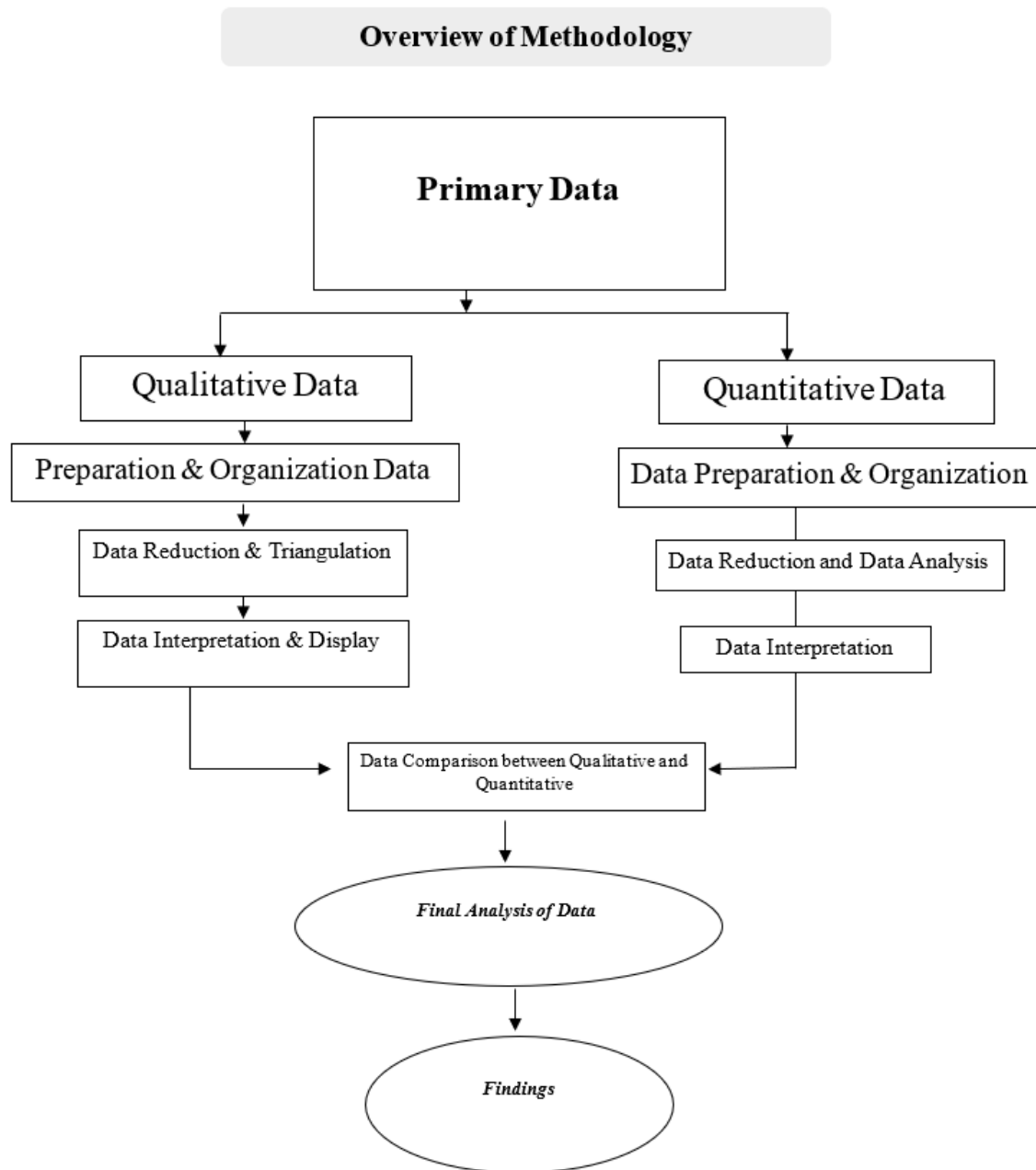


Figure 4.1: Overview of Methodology

4.1 Research Philosophy

A research philosophy is belief about the approaches in which information about a phenomenon must be collected, analyzed and used. Besides, a research philosophy is a faith about the way in which facts about a phenomenon need to be gathered, analyzed and used. It can be described as the improvement of the research background, research information and its nature (Saunders and Thornhill (2007)). Research philosophy is additionally described with the assist of research

paradigm. In the phrases of Cohen, Manion and Morrison (2000), research paradigm can be described as the wide framework, which consists of perception, beliefs and perception of numerous theories and practices that are used to habits a research. It can additionally be characterized as a unique procedure, which includes a variety of steps thru which a researcher creates a relationship between the research goals and questions.

The term 'research philosophies' refers to structures of beliefs and assumptions about the improvement to knowledge. This capability that research philosophy incorporates vital assumptions about the way in which researcher's view the world. These assumptions form all factors of the research study. According to the definition given by means of Gliner and Morgan (2000), "paradigm is a way of questioning about and conducting a research. It is no longer strictly a methodology, however more of a philosophy that guides how the research is to be carried out (p.17)". Research paradigm and philosophy contains a range of elements such as individual's intellectual model, his way of seeing thing, specific perceptions, range of beliefs closer to reality. This thought influences the beliefs and value of the researchers, so that she can furnish legitimate arguments and terminology to provide dependable results. Research philosophical paradigm are units of beliefs and practices that modify inquiry inside a discipline by way of imparting lenses, frames and tactics thru which study is carried out Steven and Edwards, (2008). Research philosophy directs the point of view from which researcher formulate research questions, design how trouble can be investigated, choose research plan as nicely as discover what strategies are used and how information is collected, analyzed and interpreted. Steven and Edwards (2008). The researchers do no longer constantly certainly state the philosophical stance on which the study is based; however, one can perceive the stance by means of cautiously analyzing the literature review, figuring out the research question, appreciation the motive of the study and analyzing the researcher's approach. Carr, (1994). Moreover, the researcher's information of each sorts of research method recommend accurate decision of the methodology for the problem recognized. Research strategies are chosen that facilitate to design a study systemically, to gather information and inspect data. Boyd (2001). Qualitative and Quantitative are the two main research techniques or strategies used in research. "Qualitative is a systematic, interactive and subjective method used to describe existence experiences and provide them meaning" Burns and Grove (2006). This type of research is conducted to describe and promote appreciation of human experience such as QA

in HEIs. While, “Quantitative research is a formal, objective, and systematic procedure in which numerical statistics are used to gain data about the world” Burns and Grove (2006). To recognize the research philosophy, the researcher need to improve the talent of reflexivity, which capability asking questions about the beliefs and assumptions, and treating these with the identical scrutiny as researcher would practice to the beliefs of others. Research is a vital phase for the increase of any occupation in today’s world. Polit and Beck (2008). According to Donaldson and Crowley, as mentioned via Northrup (1992), “a discipline is characterized through a unique perspective, a wonderful way of viewing all phenomena”. Philosophy of a occupation serves as a guide for the exercise and research. Steven and Edwards (2008). The key factors of philosophy consist of “ontology” and “epistemology”. Ontology offers with nature or entails the philosophy of reality; whereas, the time period epistemology comes from the Greek phrase “episteme” ability knowledge. In easy term epistemology is the philosophy of information or how we come to recognize the actuality. Gortner (1993). There is no single ‘best’ enterprise and management research philosophy. Each philosophy contributes a special and precious way of seeing the organizational world. All research philosophies make three main sorts of assumption: ontological, epistemological and axiological.

We can distinguish distinctive philosophies through the variations and similarities in their ontological, epistemological and axiological assumptions. Easter-Smith et al. (2006) have discussed about three unique factors of research paradigm or three approaches to assume about research philosophy. Research philosophies can be differentiated in terms of the place their assumptions fall on the objectivism–subjectivism continua. Objectivism comprises assumptions of the natural sciences. It entails realist ontology (which holds that social entities exist in fact exterior to and unbiased from social actors), epistemology centered on the discovery of fact through capability of observable, measurable facts, and claims to have a value-free, indifferent axiology. Theoretical assumptions about ‘what’ can be acknowledged is termed as Ontology. Ontology issues researchers’ assumptions about the nature of the world and reality. Ontological assumptions decide what research objects and phenomena to focus on, and how researcher see and approach them. It is a frequent assumption that are created to recognize the actual nature of the society to recognize the reality, positivism, interpretivism and realism. Positivism relates to the philosophical stance of the natural scientist. This entails working with an observable social fact and the quit product can be law-like generalizations

comparable to these in the physical and natural sciences. Theoretical assumption about ‘how’ knowledge is derived is recognized as Epistemology, it concerns assumptions about knowledge – how we comprehend what we say we know, what constitutes acceptable, legitimate and legit knowledge, and how we can communicate expertise to fellow human beings. Epistemological assumptions decide what type of contribution to knowledge a researcher can make as a result of the research. It is common parameters and assumptions these are related with the outstanding way to inspect the nature of the actual world. Axiology refers to the function of values and ethics inside the research process, which contains questions about how we, as researchers, deal with our very own values and additionally with those of our research participants.

Management and business research can be understood in phrases of 4 social research paradigms: functionalist, interpretive, radical structuralist and radical humanist. These paradigms add the dimension of the political purpose for research to the objectivism–subjectivism continua. This research is incorporating goal continua due to its quantitative evaluation nature. Management and enterprise research include 5 essential philosophies: positivism, imperative realism, interpretivism (deducing via interpretation), postmodernism and pragmatism (seeing the actual situation, analyzing empirically, from the actual world and accumulating data). Causal research (model- purpose and effect- organizing purpose and effect relationship between multiple variables.)

The major method related with the utility of natural science methods to social research is positivism. It is a philosophical method to the advent of knowledge that can be characterized through the following. (1) an emphasis on empiricism – that is knowledge based on empirical commentary (2) trying out of theories (3) improvement of widespread laws. The thought of Positivism is immediately related with the thinking of objectivism. In this form of philosophical approach, scientists provide their point of view to consider social world with the assist of objectivity in vicinity of subjectivity. Cooper and Schindler (2006). According to this paradigm, researchers are fascinated to accumulate widespread statistics and facts from a massive social pattern rather of focusing details of research. According to this position, researcher’s very own beliefs have no value to have an impact on the research study. The positivism philosophical method is generally associated with the observations and experiments to gather numeric facts Easter- Smith et al., (2006) Positivists agree with that fact is steady and

can be discovered and described from a goal point of view Levin (1988), besides interfering with the phenomena being studied. They contend that phenomena be removed and that observations be repeatable. This frequently includes manipulation of fact with versions in solely a single impartial variable so as to become aware of regularities in, and to form relationships between, some of the constituent factors of the social world. The positivist paradigm of exploring social fact is based totally on the philosophical ideas of the French philosopher August Comte. According to him, remark and reason are the fantastic potential of appreciation human behavior; authentic understanding is based totally on experience of senses and can be acquired through statement and experiment. At the ontological level, positivists expect that the fact is objectively given and immeasurable the usage of properties which are unbiased of the researcher and instruments; in different words, understanding is goal and quantifiable. Positivistic thinkers undertake scientific strategies and systematize the expertise era process with the assist of quantification to enhance precision in the description of parameters and the relationship amongst them. Positivism is worried with uncovering fact and presenting it through empirical ability, Henning, Van Rensburg and Smit (2004). According to Walsham (1995) the positivist function maintains that scientific knowledge consists of data whilst its ontology considers the fact as impartial of social construction. If the research learn about consists of a secure and unchanging reality, then the researcher can adopt an 'objectivist' perspective: a realist ontology - a belief in an objective, actual world - and indifferent epistemological stance based totally on a belief that people's perceptions and statements are either actual or false, proper or wrong, a belief based totally on a view of information as hard, actual and acquirable; they can employ methodology that depends on manipulate and manipulation of reality. Positivism regards human conduct as passive, managed and decided by external environment. Generally, the pedagogical groundwork for 'traditional' patterns of teaching is underpinned through this realist and objectivist views of knowledge. This is reflected in academic tactics in this study due to the fact it employs instructive strategies additionally alongside with constructivist strategies in a complementary, Hwang's (1996) view of positivist questioning associates it with a broad variety of theories and practices, such as logical positivism(non-realism), behaviorism, empiricism, and cognitive science.

Two or three predictions can be made on the foundation of the earlier discovered and defined realities and their inter-relationships. "Positivism has a lengthy and prosperous historic

tradition. It is so embedded in our society that expertise claims no longer grounded in positivist concept are sincerely disregarded as a scientific and consequently invalid" Hirschheim (1985). This view is not directly supported through Alavi and Carlson (1992) mentioned that all the empirical research had been positivist in approach. Positivism has additionally had a particular successful affiliation with the physical and natural sciences. There has, however, been a great deal debate on the trouble of whether or not or no longer this positivist paradigm is entirely appropriate for the social sciences. While it shall no longer problematic on this debate further, in this study in view that it is the case that higher education, QAM and HRD, it is regarded to be of the social sciences as a substitute than the physical sciences Hirschheim (1985). Indeed, some of the difficulties skilled in this research, such as the obvious inconsistency of results, might also be attributed to the inappropriateness of the positivist paradigm for the domain. Based on the above discussion this study can be designed in the following way:

Table 4.1: Social Paradigms and Organizational Analysis

Research Philosophy	Research Approach	Research Strategy
Pragmatic (Mix method) Positivism (Hypothesis and check)	Inductive Deductive (Hybrid)	Quantitative followed by Qualitative

Source: Developed from Burrell and Morgan (1982)

The following variable are created from the literature review and to form the conceptual framework:

Table 4.2: Constructs derived from Literatures

Variables	Constructs
Latent Variable (LV)	Quality Assurance Mechanism; Knowledge, Skill and Ability (KSA); Human Resource Development (HRD);
Exogenous/ Independent Latent variable	Curriculum Content, Design and Review; Teaching-Learning; Student Performance Assessment; and

Variables	Constructs
	Stakeholder's Involvement in Higher Education process.
Endogenous, Dependent Latent variable	QAM, KSA and HRD
Interrelated variable	QAM, KSA and HRD
Co- variance but not dependent or influencing each other	Curriculum Content, Design and Review, Teaching-Learning, Student Performance Assessment
Observed/ Proxy variable/Questionnaire Item	118 Questionnaire items on QA, Curriculum Content, design and Review; Teaching-Learning; Student Performance Assessment; KSA and HRD

4.2 Research Design

Data is collected for the survey using standard questionnaire through initial pilot study in from a HEIs and Employers' organization in personal level. The questionnaire was then revised and finalized after the development of full methodology and carried out based on individual response in the universities through IQACs. The combined use of primary and secondary information has allowed for a triangulation of information sources and has thus expectedly increased the overall consistency of the analysis. The cross-sectional survey was incorporated for the questionnaire survey. Additional data was gathered through the additional questionnaire for academic and administrative staff of HEIs on QA process. Moreover, from employer and alumni data is gathered to analyze the gap existing on KSA. A variety of research processes such as research design, design of sampling, instrument development, analysis of data, etc. are addressed in this for this research.

QA in higher education institutes is a very novel area of academic research in the context of Bangladesh, without precedent in terms of research design and scope. This approach is chosen to better understand selected use of the QA mechanism of HEIs (public and private) within Bangladesh, which have been initiated since 2015 and its effect on HRD by QA on their graduates. Hence, due to these novelties this study has adopted a mainly exploratory research design, but with primary quantitative and qualitative data, as well as secondary data collection. Therefore, in this study a mixed methodology approach was used to facilitate interpretation of

the participants' experiences of “Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh.” During the quantitative phase, randomly selected respondents, stakeholders (Academic and Non-academic staff, Parents/Guardians, Alumni, students, employers) of HEIs of 6 universities, Shahjalal University of Science and Technology (SUST), University of Rajshahi, Islamic University of Kushtia, Bangladesh Agricultural University (BAU), University of Dhaka and Stamford University of Bangladesh. The interview gathered from the experts in the fields of HE, QA and HRM during the qualitative phase.

A.D. de Groot, a well-known Dutch psychologist and a chess specialist carried out some of the most excellent experiments the use of chess in the 1940's. During his study, he came up with a cycle which is regular and now broadly used to conduct empirical research. It consists of phases with every section being as vital as the subsequent one. The empirical cycle captures the procedure of coming up with speculation about how certain topics work or behave and then checking out these hypotheses towards empirical information in a systematic and rigorous approach. It can be stated that it characterizes the deductive method to science. Inclusions of the study will be drawn from concretely empirical evidence, and consequently “verifiable” evidence. This empirical proof can be gathered through quantitative or qualitative methods. In today's world, the phrase empirical refers to series of facts the use of proof that is accumulated through statement or experience or through the use of calibrated scientific instruments. All of the above origins have one factor in frequent which is dependence of statement and experiments to acquire information and check them to come up with conclusions. Empirical research is conducted and analyzed using quantitative dominating and qualitative methods. As quantitative research techniques are used to acquire facts through numerical data. It is used to quantify opinions, behaviors or different described variables. These are predetermined and are in a more structured format. Some of the frequently used techniques are survey, longitudinal studies, polls, etc. Data collected from these are analyzed. Empirical evidence can also be analyzed either quantitatively and qualitatively. Using this, this study focuses on empirical questions for quantitative analysis and followed by qualitative analysis for supporting the empirical findings. In this study, analyzing the empirical evidence which is gathered by collection of quantitative data. By using this, the study finds out that the hypothesis is supported or not. There is a reason why empirical research is one of the most widely used method.

However, the nature of the study has been based on both an empirical design and exploratory. The design will be empirical because the research findings will be basing majorly on quantitative data collection, interpretation and findings. At the same time, it will be exploratory because the research aims to define the scope of the contribution of QA mechanism in HRD.

4.3 Type of Data

The researcher must select carefully at the preparatory stage of a research the kind of data is required for the analysis. Kothari (2004) stated that, in order to proceed further, researchers must define the method of data collection. Primary data can be considered as the most appropriate technique for performing a study for quantitative measurements and survey process Kothari (2004); Sekeran and Bougie (2009). In addition, using primary data helps the researcher to calculate all variables, including both subjective and objective methods. The primary data thus tests the selection criteria situation. Davis and Cosenza (1988). Since this research follows a deductive and inductive approach focused on a mixed method of quantitative and qualitative analysis, both primary and secondary data therefore seemed to be the most suitable choice for this particular research.

The data requirement for this study is from two different cases. The HEIs and HRD arena of Bangladesh. As mentioned above from the six universities, data is required from the six different stakeholders on QAM, TLP, SPA and SI in HE process. Data from the graduates and employers are required based on general KSA to identify the gap between HEIs supply of graduates and demand of Job Market. Additional data is required on internal QAM of the university to identify the process of QA in the HEIs. As this study will be based on empirical quantitative nature, the data will be analyzed by following statistical tool named Structural Equation Model (SEM). Qualitative data support the findings of the quantitative survey. As the qualitative interview has been collected from the experts in the field of Higher Education, QA and HRM. This research obtained primary data from both qualitative and quantitative surveys. And as secondary evidence, literature review for justification was used to validate the research based on the purpose of this study.

Primary data has been generated from an integrated quantitative and qualitative design. a structured questionnaire has been used to carry out a close ended experience survey of students,

alumni, academic-administrative staff, guardians and employers. Additionally, focus group discussions (FGD) have been held with academic staff, students and alumni using open ended unstructured questions to develop the research question and problem statement. Lastly, qualitative primary data has been gathered through interviews with experts of QA and HRD as well as from employers.

Secondary data sources have been generated from a content analysis of documents. These documents include reports produced by national organizations on the six universities, university annual/biannual reports, statistical data, documents produced by the IQA structure, reports by UGC to analyze the effects of IQA systems on quality improvement and governance, IQAC documents, database, newsletter, newspaper, UGC documents, UGC annual reports, self-assessment report (SAR), external peer review report (EPR) and improvement plan. These documents have been analyzed in a methodical manner to highlight key focus areas relevant to the implementation of QA in higher education institutions in Bangladesh. The official documents of IQAC and manuals of IQAC are also considered as the secondary data. Secondary data is also collected from institution such as the University Grant Commission (UGC), NSDA , Bangladesh Research and Education Network (BdREN), IQAC Manuals, Bangladesh Bureau of Statistics, Self Assessment Reports, Bangladesh National Qualification Framework (BNQF), IQAC Reports etc. as well as online directory such as Jstore, Emerald. Data were also collected from the reports from British Council, UNESCO, BANBEIS, Aus aid, Economic Review, Ministry of Education, Bangladesh Employment Federation, reports from Ministry of Employment and Manpower;

4.3.1 Sources of Data

As the research questions are directed towards QAM in the HEIs and also the HRD of Bangladesh, the primary and secondary sources of data are the stakeholders of HEIs, employers, graduates from this universities and government agencies related to HRD.

Academic staffs and Students are directly related to Teaching-Learning, Curriculum Development, Review and Modification, Student performance assessment, they are the primary sources of data for quantitative analysis. Administrative staff of the universities are related to IQACs and also involved in the implementation of QA process in the HEIs, hence

administrative staff are also a source. Alumni or graduates are the outcome of the HEIs who joins the job market and turns into Human resource of a country, they can provide the picture of the job market demand based on KSA. The employers of these graduates are also a source of information for the KSA requirement and the performance of the graduates from the HEIs, (SA Manual, IQAC 2014). Guardians of the students of the HEIs are another source of data as they are also involved in the HE processes. In Bangladesh's context, the graduates career choice to a certain extent is determined by their parents. The Government institution related to QA, HEIs and HRD are also a potential source of data for the thesis (e.g. table 4.3)

Table 4.3: Sources of Primary (Quantitative and Qualitative) Data

Sources of Data (Primary: Quantitative and Qualitative)					
S/L	Respondents	Interview	General Survey Questionnaire	Open Ended Questionnaire after Quantitative Survey	Additional Questionnaire On QA and KSA
1	Students	-----	✓	✓	-----
2	Academic staff	-----	✓	✓	✓
3	Alumni/graduates	-----	✓	✓	✓
4	Employer	-----	✓	✓	✓
5	Administrative Staff	-----	✓	✓	✓
6	Guardians/Parents	-----	✓	✓	-----
7	Govt. Officials related to Higher Education, Quality Assurance and Industry/HR	✓	-----	-----	-----

Quantitative Data Source

In Bangladesh, presently there are 151 Private and Public universities. Among them 46 are Public and rest (105) are privately owned. (UGC website). In 2015, under the project of Higher Education Quality Enhancement Project (HEQP), University Grants Commission (UGC) and Ministry of Education (MoE), initiated the drive of Quality Assurance of the Higher Education. The outcome of the project is Bangladesh Accreditation Council (BAC) is set up. The HEQP and institutionalized IQAC is presently in more than 100 universities and the process is going on in other universities. This study has taken the universities from the first (1st) phases from 2014. There were 13 universities which have successfully completed the QA process mandated by the UGC. From the first phase the six universities (06) are selected based on their type (public or private), (e.g., table 4.3); geographical location and specialization. From this six universities six different types of respondents are selected as the stakeholders of HEIs. They are: Student, Academic and Administrative staff, Alumni, Employers and Guardians. Among the different stakeholders the respondents are selected based on simple random sampling. Quantitative data and open-ended opinion are collected from these respondents for quantitative (General Survey Questionnaire) and qualitative data source.

The following table (e.g. Table 4.4) is showing six universities were selected form the first phase of UG, MoE and World Bank-HEQEP implemented QA process and completed in 2018. These universities are selected as the graduates are already in the job market from these universities after IQAC has implemented QA process.

Table 4.4: Six universities of Bangladesh Implemented QA process

	University of Dhaka	University of Rajshahi	Bangladesh Agricultural University	Shahjalal University of Science and Technology	Islamic University, Kushtia	Stamford University
Type	Public	Public	Public	Public.	Type	Public
Type	Public	Public	Public	Public. Science and Technology	Public Islamic university	Private
Establishment Date	1921	1953	18 August 1961	25 th August 1986	22 nd November 1979; Began operation in 1986	2002
Total Number of Students	37,018	25000	37,018	10922	15417	
Total Number of faculty/Schools	13	10	06	7	8	
Total number of Programs/ Departments	83	59	43	28	59	26, 13

Dhaka University Institutional Repository

	University of Dhaka	University of Rajshahi	Bangladesh Agricultural University	Shahjalal University of Science and Technology	Islamic University, Kushtia	Stamford University
Total Number of Academic Staff	1992	1000	562	552	412	
Total number of administrative staff	3887		380		425	
Total Number of Graduates			42,137			
Total number of Enrollment	5,800		6,075			
Total number of Institutes	13				3	

Qualitative Data Source

The qualitative data source is the experts from the different field of the relevant cases in this thesis. The fields are the QAM, HEIs, and HRD of Bangladesh. The government organization related to HE, QA and HRD are the sources of data. Other than that, officials who are in charge and were in the implementation phase of the QA process are also the potential source of data collection. Based on this fields, availability and considering the reachability the following experts are considered to be source of data for interview and qualitative analysis for the thesis. 15 experts from different field are selected based on judgmental and convenience basis for the qualitative analysis and interview.

4.4 Sampling Design Process

This segment addresses the process of designing samples which is very important for conducting a research as this allows samples to represent the entire study population. Kothari (2004) emphasized the process of sampling design and identified that process as the research nucleus. Sekaran (2000) emphasized that researchers should consider a few items when choosing a sample, such as target population, sampling frame collection, sampling procedure, and sample size.

Although, comfort sampling can be used in both qualitative and quantitative study, however it is regularly used in quantitative study whilst purposive sampling is usually used in qualitative study. Purposive sampling method cannot be used when the variables in the study are quantitative in nature and additionally in comfort sampling, the nature of the research is usually quantitative. Thus, the desire of approach to be used depends on the kind and nature of the study. Etikan. et el, (2020).

Both convenience sampling and purposive sampling share some limitations which consist of nonrandom choice of participants, that is to say the researcher is subjective and bias in selecting the subjects of the study. This impedes the researcher's capacity to draw inferences about a population. This research has regarded convenience sampling primarily based on the researcher's capacity to draw inferences about the populace of HEIs.

4.4.1 Population and Sample Frame

The study population is identified as the whole group that is being studied as stated by the research objective regarding the test sampling unit. The total number of universities which has undergone IQAC activities are 60 in 1st, 2nd and 3rd phase (e.g. table 4.5). Target population will be 100 selected universities from all phases among the 151 universities from private and public sector which have almost completed the IQAC project requirements. At present, the following (e.g table 4.5) universities, both private and public have undertaken the IQAC activities in three (03) different phases organized by QAU-UGC, MoE and HEQEP project:

Table 4.5: Population (Total number of universities undergone IQAC process in different phases)

<i>The list of universities under phase 1,2, and3 under HEQEP IQAC implementation by UGC</i>			
SL	Phase 1 (2015) 13 universities	Phase 2 (2016) 21 universities	Phase 3 (2017) 26 universities
1	University of Dhaka	Hajee Mohammad Danesh Science and Technology University	Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur
2	Rajshahi University	Patuakhali Science and Technology University	Mawlana Bhasani Science and Technology University, Tangail
3	Bangladesh Agricultural University	Sher-e-Bangla Agricultural University	Rajshahi University of Engineering and Technology
4	Bangladesh University of Engineering and Technology	Chittagong University of Engineering and Technology	Comilla University, Comilla
5	University of Chittagong	Khulna university of Engineering and Technology	Jatiya Kobi Kazi Nazrul Islam University, Mymensingh (JKKNIU)
6	Jahangirnagar University	Dhaka University of Engineering and Technology	Jessore University of Science and Technology (JUST)

SL	Phase 1 (2015) 13 universities	Phase 2 (2016) 21 universities	Phase 3 (2017) 26 universities
7	Islamic University Kushtia	Sylhet Agricultural University	Begum Rokeya University, Rangpur
8	Shahjalal University of Science and Technology	Independent University of Bangladesh	Pabna Science and technology university
9	Khulna University	International University of Business Agriculture and Technology	Bangladesh Textile University (BUTEX)
10	Jagannath University	Asian University of Bangladesh	Chittagong Veterinary and Animal Science University (CVASU)
11	American International University Bangladesh	Gono Bishwa bidyalay	The People's University of Bangladesh
12	Stamford University	Dhaka International University	Leading University, Sylhet
13	World University Bangladesh	South East University	BGC Trust University, Chittagong
14	-----	Daffodil International University	State University of Bangladesh
15	-----	Northern University Bangladesh	Green University of Bangladesh
16	-----	Eastern University	ULAB, Dhaka
17	-----	Uttara University	ASA University, Dhaka
18	-----	United international University	Sylhet International University
19	-----	University of Asia and pacific	Southern University Bangladesh, Chittagong
20	-----	BSMMU	North South University

SL	Phase 1 (2015) 13 universities	Phase 2 (2016) 21 universities	Phase 3 (2017) 26 universities
21	-----	BRAC University	University of Science and Technology, Chittagong
22	-----	-----	East West University
23	-----	-----	Bangladesh University
24	-----	-----	Premier University, Chittagong
25	-----	-----	Shanto-Marium University of Creative Technology
26	-----	-----	Primeasia University

Source: Self-Assessment Manual, Ministry of Education, UGC, HEQEP, IQAC, Bangladesh

Sample Frame

For probability and non-probability sampling the sampling frame is important (Kothari, 2004) referring to the target population (Malhotra, 2007). The sample frame for the study is the 69 different types of universities (e.g., table 4.6) which have undertaken QA process and institutionalized IQAC between 2015-2018.

Table 4.6: IQAC implementation by UGC in 69 universities
IQAC implementation by UGC in 69 universities from 2015-2018
1. Total 69 IQACs; Government/public= 30; Private= 39;
2. Medical=2; Vet and Animal Science =1;
3. Science and Tech= 12 (including 1 private);
4. Agricultural and Tech=5 (including 1 private)
5. BD Open University
6. Creative and Development related=2 (Both Private)

In 2015 the following 12 universities have institutionalized IQAC in the respective universities. (e.g., Table 4.7)

Table 4.7: The list of 12 universities undergone IQAC process in 2015

Phase 1: Universities (2015)	
1.	University of Dhaka, Dhaka
2.	University of Rajshahi, Rajshahi
3.	University of Chittagong, Chittagong
4.	Jahangirnagar University, Savar, Dhaka
5.	Islamic University of Kushtia, Kushtia
6.	Khulna University, Khulna
7.	Jagannath University, Dhaka
8.	Shahjalal University of Science and Technology, Sylhet
9.	American International University-Bangladesh, Dhaka
10.	Stamford University, Dhaka
11.	World University Bangladesh, Dhaka
12.	Bangladesh Agricultural University-Mymensingh

4.4.2 Unit of Analysis

A variety of distinct universities are defined as being section of the HEIs. Like the aforementioned, the HEIs have their own units of structures, activities, and levels, procedure of QA, governance, that make it exceptional within the broader HE sector. This study concentrates on one sector, QAM, in a huge range of higher education institutes. Furthermore, a variety of distinct QAM areas are defined as being criteria in the HEIs. Like the aforementioned, the QAM have their own units of structures, activities, and levels, process, governance, that make it exceptional within the broader mechanism. This study concentrates on four areas, CCDR; TLP; SPA; and SI;, in a different scale of QAM in HEIs. The research has focused quantitative and qualitative efforts to collect and analyze data from 6 universities that can provide elements in their policies, structures and processes for QA. The tools used for this study are Interview, and Structured Questionnaire Survey.

The respondents were selected from the list of stakeholders of HEIs (SA manual 2015); According to the manual the stakeholders are academic and administrative staff, alumni and employers, and students of the HEIs. The guardian as stakeholders of HEIs were selected from

the literature review. However, there were all together 6 different respondents or stakeholders of the HEIs including guardians.

4.4.3 Sample Size

The incorporated a statistical tool named ‘G*Power’ to determine the sample size of the study. With the effect size of 0.15 and the critical t-value of 1.96, the total sample size was estimated as 343. However, the study incorporated a sample size of 500, which exceeded the projected sample size. The Overall sample size from each university, the Sample size of additional questionnaire survey for academic and administrative Staff, sample size of interview and total respondents of a sample frame of the survey are (e.g. Table:4.8) given below:

Table 4.8: Sample, Unit, Size and Frame of the Survey

Over all Sample Size		
Sample	6 Universities (144 respondents from each university Total Respondents 864)	
Sample Unit	Stakeholders of HEIs: Academic staff, Non-academic staff, Students, Alumni, guardians/Parents and Employers	
Sample Frame (Total Respondents 864) Questionnaire Surveys with Open Ended Questionnaire	Respondents	Total Number
	Academic Staff	240
	Students	360
	Alumni	72
	Non-Academic Staff	72
	Guardians/Parents	60
	Employers	60
Sample Size from each university	Academic Staff	40
	Students	60

(Respondents from each university 144) Questionnaire Surveys with Open Ended Questionnaire	Respondents	Total Number	
	Alumni	12	
	Non-Academic Staff	12	
	Guardians/Parents	10	
	Employers	10	
Additional Questionnaire Survey For Academic and Administrative Staff (Total 312)	Respondents	From each University	Total Number
	Academic Staff	40	240
	Administrative Staff	12	72
Additional Questionnaire Survey For Academic and Administrative Staff (Total 132)	Respondents	From each University	Total Number
	Employer	10	60
	Alumni	12	72
Sample Size of Interview (Total 15)	Experts from Different Organizations on QA and HE		Number
	Vice Chancellors (1 Public and 1 Private universities)		2
	IQAC Directors (1 Public and 1 Private universities)		2
	IQAC Additional Directors (1 Public and 1 Private universities)		2
	Chairman UGC, BD		1
	Member, UGC, BD		1
	Member, QAU, UGC, BD		1
	Member, BAC		1

	Experts from Different Organizations on QA and HE	Number
	Director, SPQAD, UGC, BD	1
	Additional Director, NSDA, BD	1
	Employers (Multinational. Financial and Local and private)	3

Sample Size of General Quantitative Surve

While researchers agree that massive sample sizes are required to furnish adequate statistical strength and particular estimates the use of SEM, there is no widespread consensus on the excellent technique for figuring out sufficient pattern size. Generally, the issues for identifying pattern dimension consist of the quantity of observations per parameter, the variety of observations required for in shape indexes to operate adequately, and the quantity of observations per degree of freedom. Following the pre-test, the ultimate survey with the 118 objects was administered in the field. As it is suggested that the sample size should be 5 times more than the questionnaire items, the total respondents were according to that 500. Liu et al. (2014) argued that low standard error exists with a large sample size and a small sample size would trigger research problems as this would minimize the generalizability of the test Williams et al., (2014). The design is again parametric due to large sample size and used Likert scale. Sample measurement is necessary to gain a precise magnitude. Strength in SEM speculation is required for checking out comparable identical mannequin when any of the three algorithms (PLS) are used for testing. The list of the sampling units the six HEIs from the first phase is the sampling frame of this study.

General Survey Sample

This section of the chapter begins with a discussion of the sampling frame related to the final survey. This is followed by detailed descriptions to the procedures undertaken to administrate the collection of data. 118 questionnaire items followed by 5 open ended questions were distributed among 864 respondents from 6 different universities with 6 different categories of stakeholders.

General Survey Sampling Frame

Conceptual model determining the effect of QA process through CCDR, TLP, SPA and SI in the educational process on improvement of KSA which ultimately results in HRD. The focus on these stakeholders was because the other than Guardians or parents, all other stakeholders are considered in the self-assessment survey and IQAC process of QA mechanism implemented in 69 HEIs by 2017 in Bangladesh, IQAC, SA manual (2015),

Not only can this interest be seen in the national context but also in the literature. Thus, the focus of both literature review, stakeholders and academics suggest that improvement of KSA through Curriculum will develop the human resource. With that in mind, it is assumed that this thesis will provide a new insight into how QA process in HEIs can develop HRD of Bangladesh, which has not been investigated before. To approach Stakeholders for survey, six universities through IQAC have been chosen because reaching the stakeholders through IQAC is more effective. The stakeholders formed the final sample of this thesis due to the following:

- similarities these stakeholders have between them and the relationship they share with HEIs.
- Therefore, in agreement with Kent (2001), the sample frame in this thesis that can be most readily accessed (six different stakeholders of HEIs) is considered as the target population.
- these six universities are from the First phase of IQAC operation and QA process implementation phase; and
- the researcher has access to the all six universities, as she is additional director of IQAC of a university and with extensive contacts throughout the HEIs. Thus, she was in position to control expenses and address problems that may arise in data collection.

According to the UGC, there are 151 universities in Bangladesh. Out of these 100 universities has IQAC operation and QA process implementation by 2021. In the first phase on 2015, there were 13 universities which have undergone QAM implementation process and institutionalized IQAC in the respective universities (e.g., table 4.7). Six of these HEIs were invited to participate in this survey to obtain a representative sample and maximize the response rate. Those were excluded because they were not from the first phase. As a result, six HEIs agreed to participate in this research (e.g., Table 4.8). These HEIs had been placed in exceptional

components of Bangladesh, and this significant pattern helps decrease any attainable geographical bias Wong, (2004). In regard to the sample size, it is not possible to determine *a priori* the overall number of stakeholders is unlimited. Malhotra (1996, p.366), defines purposive sample as “a structure of comfort sampling in which the populace factors are purposely chosen primarily based on judgment of the researcher”. Similarly, Dillon et al. (1993, p.229) view purposive sampling as involving “selecting positive respondents for participation in the study possibly due to the fact they are consultant of the populace of activity and/or meet the particular desires of the research study”. This kind of pattern used to be chosen for use in this thesis, as it is based totally on these units or factors make contributions to answering the particular research query at hand. Churchill (1995); Kinnear and Taylor (1999).

The type of sample used in this thesis was a ‘purposive sample’, in which the different stakeholders were surveyed. Those who met the criteria of being:

- Stakeholder of the HEIs
- More precisely, Students, Alumni, Academic staff, non-academic staff, Employer and parents/guardians of HEIS were included in the data to be analyzed.

Sample Size of Interview and Open-Ended Question

The type and number of qualitative questions, which method is used for collecting data from the respondents also from the Experts including the number of respondents is included in the Table (e.g., Table 4.9). given below:

Table 4.9: Sample Size of Qualitative survey

SL	Type and number of Qualitative Question	Method	Respondents	Number of Respondents
1.	Five (5) Open Ended questions after Survey questionnaire	Survey	All six Stakeholders of HEIs from six universities	515
2.	Ten (10) Interview Questions	In depth Interview	Experts in different Govt. Organization and Industry related to HE, HRD and QA	20

4.5 Sampling Technique

Sampling method is used to determine the sample size. Sampling is involved with the decision of a subset of folks from inside a statistical populace to estimate traits of the entire population. Each statement measures one or more properties (such as weight, location, color) of observable bodies unique as independent objects or individuals. In survey sampling, weights can be utilized to the facts to modify for the sample design, in particular stratified sampling. IQAC database of six universities are considered as the sampling frame, because all the information about the population can be collected from this frame. As the population of the respondents are the stakeholders: academic and administrative staff, alumni and employers, students and guardians of these universities, so there could not be census but sampling of population was required. The analysis of the study requires population of interest and they are the stakeholders of the HEIs. Moreover, the population is heterogeneous, hence the sampling required non probability purposive multistage sampling technique. But in within the different stakeholders like students or other, the study has incorporated simple random sampling. Sampling technique was semi structured due to the heterogeneous respondents; (e.g. table 4.12). Qualitative survey based on interview, included 15 different experts' opinion on 10 questions based on QA and HE and KSA. For this interview, the snowball sampling technique was incorporated.

For general education, two universities University of Dhaka and Rajshahi university is taken. The sample size from general education is 200. From Science and Technology 100, Agricultural university 100, Islamic university 100 and from private university is 100. As the academic, administrative staff, students, alumni and employers are higher in the University of Dhaka and University of Rajshahi, therefore the sample size is 200 for general education. According to sampling technique proportional allocation (a kind of weight of stratified random sampling) should be used. This could be justified due to some special constraint(s). The six universities (e.g. table 4.11) were chosen based on the following criteria:

- Type: Public-Private (5 Public (out of 9) and 1 Private (out of 3) in total 13 (Including BUET, though it did not start the QA process in 2015 phase but is listed in first phase)
- Geographical location: Inside and outside the capital city Dhaka
- Specialization: General Education, Islamic, Agricultural, Science and Technology

This sampling technique can be termed as judgmental as well as convenience sampling. Sampling technique for different strata as stakeholders of HEIs is the simple random strategy for the academic, administrative staff, students, alumni and employers of the universities. Six stakeholders from the different universities are selected based on the sampling technique from each stratum different strata (sub-population) according to their involvement in HE and QA process. However, this can also be termed as convenience sampling (e.g., table 4.10); However, the strength of this study is sample size. As sample size is large ($n=864$) from six different universities and six different stakeholders. Sampling technique among the strata/sub population for general survey for six stakeholders are included in the following table (e.g., Table 4.10).

Table 4.10: Sampling Technique among the Strata/ Sub population for General survey

Sampling Technique among the Strata/ Sub population			
Tools	Respondent	Number	Sampling Technique
Questionnaire survey	Academic Staff	40	Simple Random Convenience sampling based on program; Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA Through Data Collector with the assistance from IQAC
Questionnaire survey	Non-Academic/ Administrative staff	12	Simple Random Convenience sampling based on program; Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA Through Data Collector with the assistance from IQAC
Questionnaire survey	Alumni	12	Simple Random Convenience sampling based on program; Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA Through Data Collector with the assistance from IQAC

Tools	Respondent	Number	Sampling Technique
Questionnaire survey	Students	60	<p>Simple Random Purposive sampling based on program;</p> <p>Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA</p> <p>Through Data Collector with the assistance from IQAC</p>
Questionnaire survey	Employer	10	<p>Simple Random Convenience sampling based on program;</p> <p>Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA</p> <p>Through Data Collector with the assistance from IQAC</p>
Questionnaire survey	Parents/ Guardians	10	<p>Simple Random Convenience sampling based on program;</p> <p>Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA</p> <p>Through Data Collector with the assistance from IQAC</p>

Tools	Respondent	Number	Sampling Technique
Open Ended Questions	All six (6) Stakeholders	864	Simple Random Convenience sampling based on program; Scheduled survey in Google form through info from IQACs of respective universities on Curriculum (Content, T-L and Assessment) and KSA Through Data Collector with the assistance from IQAC

This additional questionnaire (I-C) for Employer and Alumni distributed to the following respondents:

Table 4.11: Number of Respondents (Employer and Alumni) from each Universities for Additional Questionnaire

SL	University	Academic Staff	Administrative Staff
1	University of Rajshahi	40	12
2	University of Dhaka	40	12
3	Islamic University, Kushtia	40	12
4	Stamford University	40	12
5	Shahjalal University of Science and Technology	40	12
6	Bangladesh Agricultural University, Mymensingh	40	12
Total		240	72

This additional questionnaire (I-D) for Academic and Administrative staff of HEIs are distributed to the following respondents:

Table 4.12: Number of Respondents (Academic and Administrative staff) from each Universities for Additional Questionnaire

SL	University	Alumni	Employer
1	University of Rajshahi	12	10
2	University of Dhaka	12	10
3	Islamic University, Kushtia	12	10
4	Stamford University	12	10
5	Shahjalal University of Science and Technology	12	10
6	Bangladesh Agricultural University, Mymensingh	12	10
Total		72	60

In the following table (e.g., Table 4.13) included the overview of overall sampling technique.

Table 4.13: The overview of Sampling Technique

The Overall Sampling Technique		
SL	Description	Sampling Technique
1	Only from the first phase of 2015, total 13 Universities were listed.	Judgmental Sampling
2	Six (6) Universities out of 13 universities were selected based on type, size and specialization	Convenience sampling
3	Six (6) stakeholders of HEIs were taken as respondents	Convenience sampling; Stratum, different Strata (sub-population);
4	Among the stakeholders, students, academic staffs were more in number. Employers and guardians and alumni were less due to reachability. Administrative staffs were also, less than Academic and students due to less involvement in QA process and number with 145 items	Simple Random Purposive sampling
5	Interview Questions for experts in different field	Judgmental Sampling (Purposive)

4.6 Questionnaire Development Process

This section demonstrates the questionnaire development process including instrument development, reliability of the questionnaire, pre-test and item modification and validity of the measurement scale. The questionnaire is developed to examine the conceptual framework and hypothesis of the study. A general survey questionnaire is designed with 145 items in 5 Likert scale. This questionnaire survey is designed to collect data on TCCDR, TLP, SPA and SI in the QA process and how it increases KSA and the effect of KSA on HRD. From the six universities, six stakeholders are the respondent of this general survey. This survey questionnaire is analyzed based on SEM, statistical tool. This questionnaire is followed by 10 open ended questions to receive the opinion of the stakeholders on HE, QA, KSA and HRD of

the Bangladesh. Two sets of additional questionnaires are developed to find out the gap of KSA between job market demand and graduates from HEIs. Again, this questionnaire is designed to identify the different perception of Employers and alumni of HEIs, to analyze the KSA gap. The second set of questionnaires designed for the academic and administrative staff to identify the perception on the QA process, implementation, areas in the HEIs. There is a questionnaire for conducting interview of the experts in the field of QA in HEIs, KSA and HRD. This questionnaire is open ended interview technique based to identify the perception and opinion of the experts in the area of these fields.

4.6.1 Instrument

The 5 different instruments were designed by eliminating the measurement errors. Diamantopoulos et al., (1994); As Hansen stated “It may additionally occur from many special sorts of causes, and rely on the prerequisites under which the survey is taken. Some of the prerequisites under which a survey is taken may also be beyond the manipulate or specification of the survey designer.”(Hansen *et al.*, (2012). The respondent, situational, measurer and measurement instrument as an error are eliminated for proper survey feedback and responses from the respondents by pre-testing, pilot survey and elimination. As Hansen stated “Condition’s difficulty to manipulate in survey layout however which would possibly be considered as various between the conceived repetitions of the survey are the precise options of interviewers (if it is an interview survey) and different personnel chosen to do a range of elements of the work, the precise assignments every is given, and different comparable variable factors. These prerequisites in the conceived repetitions of the survey decide the averages, variances, correlations, and different anticipated values of a variety of features of the individual measurements.” Hansen *et al.*, (2012) ; Semyon G. Robinovich, (2005); F. Curtis Breslin, et al., (2000).

Other prerequisites can be managed to ensure the validity and reliability of the survey outcomes by defining all the factors. These prerequisites in the conceived repetitions of the survey decide the averages, variances, correlations, and different predicted values of a variety of features of the individual measurements. The survey can also be either an entire census or a sample, and a precise survey is considered as one trial. For simplicity we shall consider the case of estimating a percentage from the survey Rybowskiak et al., (1999); Hansen *et al.* (2012). The instruments

are also designed to collect data on the research problem questions, Hypothetical question, Leading question, Question relying on memory, Question requiring prior knowledge, Sensitive question, mutually exclusive question, long question, double barreled question is eliminated and only relevant but not overlapping questions are included in all the instruments. Semyon G. Robinovich, (2005); F. Curtis Breslin, et el. (2000).

The following table (e.g., Table 4.14) describes the different types of instruments for the general survey questionnaire, open ended question after general survey questionnaire, additional question for employer and alumni, additional question for academic and administrative staff, interview questions.

Table 4.14: The List of different types of Instruments

Instruments			
1	(I-A) General Survey Questionnaire	145 items, 5 Likert Scale	Quantitative
2	(I-B) Open Ended Question after General Survey Questionnaire	Structured, 5	Qualitative
3	(I-C) Additional Question for Employer and Alumni	40	Quantitative
4	(I-D) Additional Question for Academic and Administrative staff	42	Quantitative
5	(II-A) Interview questions	Structured, 10 items	Qualitative

Quantitative Instrument Development: (I-A) General Survey Questionnaire

This section provides a justification for the quantitative approach used in the thesis. It further emphasizes the use of a survey methodology using self-administered questionnaires as being appropriate for data collection from the stakeholders of HEIs as respondents. Basing on the existing literature of QAM and HRD, this thesis developed a theoretical and conceptual model to test the research questions identified in Chapter One (01), and the hypotheses in Chapter Three (03). Punch (1998) mentioned that the methods used to conduct the research should be in appropriate with the research questions. Therefore, a quantitative approach was chosen in

this thesis to test the hypotheses and then to answer the research questions followed and then by open ended questions for qualitative analysis. Quantitative methods, according to Neuman (1997), 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”. Amaratunga et al., (2002) outlined that applying quantitative technique serves the researcher to establish statistical evidence on the strengths of relationships between both exogenous and endogenous constructs. These also emphasize that the statistical results provide directions of relationships when combined with concept and literature. Hence, this thesis pursuits to measure underlying variables, as “measurement of the variables in the theoretical framework is an integral phase of research and an essential issue of quantitative research design” Cavana et al., (2001). While quantitative methodology is unable to generate concept or furnish the in-depth explanations of qualitative enquiry. Cavana (2001); Amaratunga et al., (2002). Though quantitative methodology can affirm the hypotheses and grant strong reliability and validity. Added to this, this methodology has been efficiently used in comparable research of Lamagna et al., (2016). In different words, due to the fact the goal of this thesis is to empirically inspect informal relationships amongst the underlying constructs, this methodology used to be deemed to be fit. Churchill, (1995); Clarke, (1999); Punch, (1998).

The items used in the questionnaire is, mainly, adopted from prior studies related to the scope of the research. All Items of the questionnaire will be reworded to fit into the research context. The study incorporated four indicator variables: Teaching-Learning, Curriculum content and modification, Student Performance assessment and stakeholders; involvement in all the process. Each variable comprising several items coded in a Liker scale ranging from strongly disagree (1) to strongly agree (5). Structured Questionnaire survey technique is followed to gather quantitative data which will consist fixed and closed ended questions. Five open ended questions are added at the end of the questionnaire to draw qualitative data from the survey questionnaire. The questionnaire is designed based on three areas of QA, CCDR, TLP, SPA and SI as well as on KSA and HRD. Self-administered questionnaire comprising 5 categorical questions (divided into five categories) with 140 questions with 5 Scale Likert scale ranging from strongly agree to strongly disagree.

The questionnaire was partially adopted from SA Manual and IQAC manual of IQAC, UGC, World Bank-HEQEP; Questionnaire from UNESCO- IIEP publication where the researcher was an author. Skill set- questionnaire partially were adopted from Self-assessment questionnaire from SA Manual. The content material of the questions used are mostly adopted from the literature C.lamagna (2016) and SA Manual 2015, employability lists. The following are some abilities in the literature: While capabilities may additionally differ with industries; they consist of understanding how to learn, conversation skills, creativity, trouble solving, interpersonal skills, leadership, presentation skills, use of technology, and capacity to feature as section of a team. In addition to data technology and facts administration skills, different soft skills managers reflect on consideration on quintessential in personnel are: strategic planning, managing customers, and alternate management (Institute of Management, 1997). The European Union Commission's listing (2011) referred to verbal exchange in foreign languages, digital competency, cultural awareness, and expression, and the US Department of Education Employability B. El Mansour, J. C. Dean; skills listing consists of communication, team-work, problem-solving, initiative and enterprise, planning and organizing, self-management, learning, and technology. The proposed conceptual model was evaluated using a sample of stakeholders from HEIs of Bangladesh. For this purpose, a 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 comments and collect information on Curriculum Content and Modification, Teaching-Learning and Student Performance Assessment. Second, it is a tremendous tool, specially when the investigator does no longer require, or has little manipulate over behavioral activities/ Yin, (1994). Third, it gives correct capability of assessing facts about the pattern and allows the researcher to draw conclusions about generalizing the findings from a pattern of responses to a populace. Chisnall, (1992); Creswell, (1994). Fourth, it is more involved about causal research conditions (Hair et al., 2003). Finally, it is viewed beneficial due to the fact it is quick, inexpensive, efficient, and can be administered to a massive pattern. McClland (1994); Churchill (1995); Sekaran (2000); Zikmund (2003). Hair et al., (2003) regards massive samples (i.e., 200 or greater respondents) as one of the primary motives for the use of a survey research method. In order to reap a greater response rate, it was once essential to have the

respondents begin with the least important questions and end with most vital touchy questions Janes (1999), Robertson and Sundstrom (1990). That is, if demographic questions appear early in the questionnaire, plausible respondents might also grow to be too disaffected to continue, ensuing in no response, Bourque and Fielder (2003). For example, questions associated to age or income can be embarrassing or threatening to respondents at the commencing of a survey, Malhotra (1996).

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) recommended that, “a general rule of thumb is that questionnaires should not exceed six pages”. The questions in this thesis including the covering letter were presented on six pages, within the recommended length. The questionnaire was printed on both sides of the paper to reduce the impression of the survey getting long. Questions were also properly organized and spaced to minimize eyestrain for convenience. Further, as sequencing of questions can influence the nature of the respondents’ answers and can lead to an error in analysis; Kinnear and Taylor, (1996), considerable attention was provided into the logical sequencing of questions. That is, the questionnaire was designed to represent the objective of the research, moving from one topic to another in a logical way, with questions focusing on the completed area before moving to the next, Tull and Hawkins (1990) and reaching to the HRD as discussed in conceptual framework.

The wording and language used in this questionnaire was kept as simple as possible to communicate and reach the all stakeholders, even those who are not acquainted with QA related technical terms. Questions are clear, answerable, unbiased, and suitable to the higher education. As recommended by Janes (1999), Fowler (1992), and Frazer and Lawley (2000), the respondents should be able to read and understand the words used in the instrument, as this will encourage them to complete the questionnaires. As a result, any ambiguity or unclear words were eliminated from the questionnaire.

The draft of instrument was presented to a number of experts (e.g. appendix) in the field to identify any anticipated problems (e.g. next section of pre-test). This procedure also serves to establish validity and reliability; Churchill (1995); Frazer and Lawley (2000). In addition to

this, great care has been taken by the researcher to develop the instrument precisely with easy to follow instructions, which has been found to increase response rate; Janes (2001); Sanchez (1992), Babbie (1990), and minimize measurement errors Sanchez (1992). Respondents were invited to participate in this survey through a cover letter enclosed on the first page of the instrument (e.g. Appendix 2). The cover letter is important because it encourages respondents to complete and return the questionnaire; Lukas et al., (2004), Churchill (1995). This letter introduced the study and its objectives and assured confidentiality and anonymity of the respondents as well as providing the researcher's contact details.

Due to the effectiveness in gathering empirical data from large samples McCelland (1994), questionnaires are the most frequently used method of data collection, Clarke (1999), Saunders et al., (2003). The questionnaire is "a reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives" Sekaran (2000). It is an important instrument in a survey when the researcher is familiar with the variables that need to be measured Bailey (1994), and widely used in the context of QA, Curriculum and HRD, Han (1991); Bowen and Shoemaker (1998); Bloemer and de Ruyter (1999); Pritchard et al., (1999); Hennig-Thura et al., (2002); Kim and Cha (2002); Wang et al., (2006). These concerns make the use of a questionnaire the most tremendous information collection tool for this thesis. In this thesis, the questionnaire used to be divided into seven components (e.g. Appendix 2). Based on the conceptual framework of the study, the questionnaire was developed. The questionnaire consisted of six (6) parts including the demographic part. The second to fifth parts covered the items comprising the constructs (discussed in chapter 3) in the proposed conceptual model - while the first part covers aspects of demographics. These are presented in the questionnaire as follows:

First Part

The first part is the introduction to the topic and to the researcher followed by the demographic information of the respondent/participant of the survey. This part is focusing on demographic description of the respondents along with a brief introduction to the thesis and requesting the permission for the survey. The demographic part consists of 7 questions.

Second Part

The first (1st) part holds 50 questions on opinion regarding Curriculum Content. Review and modification; Teaching-Learning (T-L) and Student Performance Assessment (SPA), followed by Stakeholders' involvement in HEIs. The questions related to the Curriculum Content and Modification, Teaching-Learning and Student Performance Assessment the effect of Stakeholders' Involvement in QA process tools for the improvement of Knowledge, Skill and Abilities of graduates. (e.g. Table 4.17)

Third Part

The third (3rd) part holds 29 questions in Four (04) subsections on Quality Assurance Mechanism in the HEIS. The Challenges, areas of QA and QA tolls related questions are included in this section. The first subsection has 5 questions on Influence of QA in developing Knowledge Skill and Ability (KSA); The second subsection holds 10 questions on the challenges of QAM in improving KSA in the university? The third section contains seven (07) questions on How are graduates' KSA affected by QA process in the following areas in the university? The fourth (04) subsection consist of eight (7) questions on How important are the following areas for KSA Improvement in the university?

Fourth Part

The fourth (4th) part holds the questions related to How are Graduates' following KSA are affected by the QA process in the university? And in total there are 25 questions. The first subsection contains five (05) questions related to the Knowledge, second one ten (10) questions on Skill. Five (5) questions on Communication Skill and Five (05) on Interpersonal skill. third one on Ability with ten (10) questions.

Fifth Part

The fifth (5th) part holds 14 questions in on general opinion on Human resource development of Bangladesh and how QA process is effecting the HRD and How the Improvement of Graduates' KSA through QA Process, can influence the overall Human Resource Development (HRD) of Bangladesh (BD)?

Sixth Part

In the last part, six (6) there are five (05) open ended questions for the respondents on the HRD of BD, general opinion on QA process, improvement of Knowledge Skill and Abilities and how QA process can contribute to HRD and what are the challenges in improving KSO in HEIS for development of Human Resources. This part questions are analyzed in the qualitative section.

This Overview of general survey questionnaire (e.g. Table 4.15) incorporates different parts of questions, Question, Objective, relation with the Hypothesis, expected analysis and any Special information included which are describes in Table 4.15

**Table 4.15: Overview of General Survey Questionnaire
(I-A and B) General Questionnaire Survey**

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Any special information
Part A: 1-7	Demographic Data; to know about the stakeholders Involvement	To analyze the respondent's type and Detail;	H1 D	Descriptive Statistics	Tick Mark based
Part B: 1-40	To indicate opinion regarding Curriculum Content, Teaching-Learning and Assessment, stakeholders Involvement in HE in respective university	Curriculum Content, Teaching-Learning and Assessment, stakeholders Involvement	H1A, H1B, H1C, H1D	Quantitative Analysis	Likert scale (1-5)
Part B: 40-50	To indicate opinion regarding QA tools for Curriculum Content, Teaching-Learning and Assessment in respective university	To analyze the presence and usefulness of QA Tools of QAM	H1A, H1B, H1C, H1D	Quantitative Analysis	Likert scale (1-5)
Part C:	Influence of QA in developing Knowledge Skill and Ability (KSA)	QAM effecting KSA of Graduates	H2	Quantitative Analysis	Likert scale (1-5)
Part C: 56-60	Influence of QA in developing Knowledge Skill and Ability (KSA)	QAM effecting KSA of Graduates	H2	Quantitative Analysis	Likert scale (1-5)

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Any special information
Part C: 6-15	What are the challenges in improving KSA in the university?	Challenges of QAM in improving KSA of Graduates	H2	Quantitative Analysis	Likert scale (1-5)
Part C: university? (61-67)	How are graduates' KSA affected by QA process in the following areas in the	QAM effecting KSA of Graduates	H2	Quantitative Analysis	Likert scale (1-5)
Part C: (68-74)	How important are the following areas for KSA Improvement in the university?	Areas of QAM Effecting KSA of Graduates	H2	Quantitative Analysis	Likert scale (1-5)
Part D:	How are Graduates' following KSA are affected by the QA process in the university?	QAM effecting Knowledge, Skill and Ability of Graduates	H3	Quantitative Analysis	Likert scale (1-5)
Part D: (75-80)	Knowledge	QAM effecting Knowledge of Graduates	H3	Quantitative Analysis	Likert scale (1-5)
Part D: (81-90)	Communication Skill	QAM effecting Communication Skill of Graduates	H3	Quantitative Analysis	Likert scale (1-5)

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Any special information
Part D: (91-95)	Interpersonal Skill	QAM effecting K Interpersonal Skill	H3	Quantitative Analysis	Likert scale (1-5)
Part D: (96-106)	Ability	QAM effecting Ability of Graduates	H3	Quantitative Analysis	Likert scale (1-5)
Part E: (107-118)	How the Improvement of Graduates' KSA through QA Process, can influence the overall Human Resource Development (HRD) of Bangladesh (BD)?	KSA improvement of Graduates effecting HRD	H3	Quantitative Analysis	Likert scale (1-5)

Quantitative Instrument Design (General Survey Questionnaire)

Curriculum Content Development and Review (CCDR)

In the paper “Various concepts of curriculum and the factors involved in curricula making” through Shao-Wen Su mentioned that there are range of curriculum ideas and the elements which are to be consider to make curricula; the paper recognized how a curriculum is deliberate and poses itself as one of the most necessary elements that predetermines the success and impact of curricular implementation. Curriculum planning and education are intently connected to each other, and so are the curriculum planning and outcomes. In order to obtain excellent outcomes, the difficulty is to determine what the essence of “curriculum” is about and be clarified earlier regarding curriculum planning, implementation, and even evaluations. The gap in the research is probing into the associated literature does no longer act as the principal thrust of the paper; However, it paves the way to argue for a broader view of curriculum and the curriculum improvement process, particularly when a curricular assessment or student assessment is undertaken. Key elements of the paper had been curriculum, curriculum development, curriculum evaluation, instructing methods, teaching objectives;

Student Performance Assessment

The paper “Assessing graduate attributes for employability in the context of lifelong learning: The holistic approach proposed by SU Ya-hui Feng Li-yia, in the context of assessment of graduate attributes for employability in of lifelong seeks to inspect graduate attributes and their evaluation from a holistic perspective. The paper is based on secondary data, dependent variable is employability, independent variable is evaluation and KSA; According to the paper, provision of knowledge, capabilities and skill in HE not to be conceived as enough ever for graduates nor as a focus point for employability. Rather, the paper stressed on improvement of graduates as human “being”, which requires ontological constructions with subjectivity in the core and includes lifelong learning. The way of developing graduate attributes in this experience shifts from the acquisition of only knowledge, skills and capabilities. This paper suggests a multi-faceted evaluation system for assessing HE students’ engagement with real life. The system emphasizes a qualitative strategy to understanding how properly graduate attributes are developed, whilst acknowledging that the quantitative strategy is no longer thereby completely useful. The underlying point is that assessment, if it is to provide a meaningful impact on graduate attributes development, need no longer to adopt single and

traditional methods but can take a number of varieties as distinctive approaches of grasp students' competencies of life skill, in order to do justice to their attributes and to the improvement of their employability in the context of lifelong learning. It was expected that the dialogue of the identification and evaluation of graduate attributes in the paper, by focusing on pupil engagement, can make a contribution to the appreciation and improvement of graduate attributes in higher education. The paper additionally referred to that Communication between the assessor and the assessed are required, and have to be supported through documents/reports. The evaluation of students' engagement with work related skill and life skill is difficult. It mentioned. students might also encompass subjective experiences and reflective ideas based totally on incomplete, fragmented reminiscences that may also lead to biases and prejudices; multi-faceted assessment, regardless of offering a full perception of graduate attribute development, may additionally be viewed as an unrealistic approach, due to the excessive time required. This explains why grading systems, with the advantage of continuous assessment have an advantage in higher education systems. Yet, if the improvement of employability is to be addressed in higher education, a multi-faceted technique of assessment is to be implemented, which can do justice to the full spectrum of graduate attributes development. But it requires further research.

Feiye Zhang and Shenghao Guo (2014) considered education as the independent variable, HRD as the dependent variable and outlined that, in the innovation of performance management idea and driven by advanced technology of HRD, the value of developing evaluation system get increasingly attention from academic and practice. Human resource is significant and higher education is the crucial method of HRD. QAM and student assessment is an important part of HE, also has a great impact on HRD. By identifying and realizing the impact of the QAM in HE and particularly the assessment process, can have positive contribution to HRD. The future scope of the research is by higher education assessment system, stakeholders can be convinced of the goal and direction of higher education, provide guidance in the process of assessment. Furthermore, according to the assessment the stakeholders will understand the present situation and level of education, analyzing the gap between HE and job market for feedback. With economic and social transformation, china is in urgent need of HRD, higher education is the main method of HRD, and assessment process in HE will play a vital role.

Stakeholders' Involvement

Feiye Zhang and Shenghao Guo (2014) mentioned that stakeholders have an important role in preparing the goal and direction of HE, giving guidance in the process of assessment and for analyzing the gap between supply of KSA from HEIs and demand of job market for feedback. HRD in South Asia by Satish Pandey, Gertrude I. Hewapathirana and Dinyar M. Pestonjee outlined that effective inter-sectoral collaboration amongst industry, agricultural entrepreneurs/farmers, government agencies and NGOs are critical if South Asian countries are to develop effective social support systems for their people. No country can become a stronger nation until it builds its human capabilities with education, training and employment opportunities and delivers quality life in organizations, cities and villages. ThiTuyet Tran (2016) stated that the collaboration or the partnership between academic establishments and offices has proved to be a realistic way to extend university responsiveness for the economy, to convey real instructions from the market into the university curriculum, to enhance abilities preferred through current employers, and thus, to beautify employability for students and graduates. Developing partnerships capability that numerous pursuits and expectations are represented.

Universities are attempting to verify what specific capabilities and skills are needed by employers and how they evaluate the graduates in the recruitment process. Based on the assumption that employers' perceptions replicate the desires of the labor market, universities consequently regulate their instructional applications and associated activities. Employers' views are no longer the solely statistics source for universities to predict the labor market want for two reasons. First, employers may additionally once in a while be incorrect in identifying potential employees, perceiving the talents and attainable of graduates, and predicting feasible introduced value introduced through the graduates. This is in particular probably to appear in a global context, for example, when graduates are trained in a structure and cultures that are unfamiliar to the employers. Second, the missions of universities are now not only restricted in making job ready students for the future needs in the labor market, but additionally regrading reworking the future of the labor market and bringing new values into society outlined by Yuzhuo CAI in in the paper of enhancing overseas Chinese graduate employability: the case of Chinese graduates with Finnish academic qualifications.

Teaching-Learning Method

Work, skills development for employability and education for sustainable development by Rupert Maclean and Victor Ordonez outlined that a fundamentally changed, increasingly interdependent world demands new paradigms of education and training, how to teach. Sequeira (2012) outlined those different types of learning outcomes result under different learning conditions. Due to individual differences the learners develop different learning styles. There is a difference in pace of learning- self-paced, teacher-paced, group-paced. Many resources are available to teacher or can be developed or acquired by them. They are also required to teach under various constraints, e.g., class size, time available, resources available, students background, location of learning. Students differ from class-to-class and institution-to-institution due to several factors, e.g., intelligence, temperament, aptitudes, social, cultural background, communication skills, physique, attitudes, motivation, interests, values, learning Styles.

The questionnaire items of CCDR, TLP, SPA and SI for General Survey Questionnaire are derived from the above-mentioned papers and literature review (i.e., chapter 2). All the sources are included in the following table (i.e., Table 4.16).

Table 4.16: Sources of the Questionnaire items for General Survey Questionnaire (Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement)

	Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement	Source/s	Adopted/ Adapted /Developed	∞
1.	Curriculum is reviewed and updated at regular intervals in compliance with the rules	Shao-Wen Su (2012)	Adopted	.984
2.	Opinions from the relevant stakeholders are duly considered during review of the curriculum	Shao-Wen Su (2012)	Adopted	.984

	Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement	Source/s	Adopted/Adapted/Developed	∞
3.	Assessment of students' competencies are regular	SU Ya, FENG Li-yia <i>et al.</i> , (2012.)	Adopted	.983
4.	Assessment strategies are explicitly mentioned in the curriculum	Shao-Wen Su (2012)	Adopted	.984
5.	Curriculum content addresses the program Objectives (PO) and program learning outcomes	Developed	Adapted	.984
6.	Program objectives and program learning outcomes focuses on the improvement of KSA	Developed	Adapted	.984
7.	The entity collects alumni feedback to update the learning outcomes of the program	Pandey, Gertrude I; ThiTuyet Tran , (2016)	Adopted	.984
8.	Lesson plan is prepared by teachers	Shao-Wen Su (2012)	Adopted	.984
9.	The entity provides co-curricular and extra-curricular exposures to the students	SA Manual, (2015)	Adopted	.984
10.	Information from job market analysis is linked during curriculum modification	SA Manual, (2015)	Adopted	.984
11.	Teaching-learning is interactive	Maclean and Ordonez (2007)	Adopted	.984
12.	Teaching-learning is supportive	Maclean and Ordonez, (2007)	Adopted	.984
13.	Class size is optimum for interactive teaching learning	Maclean and Ordonez (2007)	Adopted	.984

	Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement	Source/s	Adopted/ Adapted /Developed	∞
14.	Assessment systems, includes skills and abilities assessment	SA Manual, (2015)	Adopted	.983
15.	Teaching-Learning methods are focused to achievement of PLO	Sequeira (2012)	Adopted	.984
16.	Diverse methods are practiced to achieve Intended Program Learning Outcomes (PLO)	Sequeira (2012)	Adopted	.983
17.	There is an arrangement in the entity to provide an academic guidance and counseling	Sequeira(2012)	Adopted	.984
18.	T-L and PLO includes Knowledge Skills and Abilities development	Sequeira(2012)	Adopted	.984
19.	The learning environment is conducive for the students	Maclean and Ordonez (2007)	Adopted	.984
20.	Teaching-learning is affecting the improvement of KSA of students	Sequeira (2012)	Adopted	.984
21.	Students' progress is regularly recorded and monitored	SU Ya-hui, n.d.; FENG Li-yia et el. (2014)	Adopted	.984
22.	Teachers provide regular feedback to the students about their progress	SU Ya-hui, n.d.; FENG Li-yia et el.,	Adopted	.984
23.	The entity maintains individual student's records properly	SU Ya-hui, n.d.; FENG Li-yia et el., (2014)	Adopted	.984
24.	Assessment systems are duly communicated to students at the outset of the term/semester	SU Ya-hui, n.d.; FENG Li-yia et el., ((2014)	Adopted	.983
25.	The students are provided feedback immediately after assessment	SU Ya-hui, n.d.; FENG Li-yia et el. (2014)	Adopted	.984

	Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement	Source/s	Adopted/Adapted/Developed	∞
26.	Fairness and transparency are maintained in assessment system	SA manual (2015)	Adopted	.984
27.	Assessment systems, includes Curricular and Extra- curricular activities	(SU Ya-hui, n.d.; FENG Li-yia et el., (2014)	Adopted	.984
28.	Modern systems are used to improve teaching-learning process	Sequeira (2012)	Adopted	.984
29.	Teaching strategies are clearly stated in the curriculum	Shao-Wen Su (2012)	Adopted	.984
30.	PLO achievement of students are regularly monitored	(SU Ya-hui, n.d.; FENG Li-yia et el. (2014)	Adopted	.984
31.	Tracing the graduates through survey regarding employment and career is important	Zhang and Guo (2014)	Adopted	.984
32.	Employer satisfaction surveys	(Pandey, Gertrude I et. el.	Adopted	.984
33.	Involvement of employers in study program revisions	Pandey, Gertrude I et. el.,	Adopted	.984
34.	Involvement of Alumni in study program revisions	Pandey, Gertrude I et. el,	Adopted	.984
35.	Involvement of Guardians in study program revisions	(Pandey, Gertrude I et. el.,	Adopted	.984
36.	Job Market analyses	Zhang and Guo, (2014)	Adopted	.983
37.	Graduate Profile	Pandey, Gertrude I et. el.,	Adopted	.984

	Curriculum Content and Modification. Teaching-Learning, Student Performance Assessment and Stakeholders' involvement	Source/s	Adopted/ Adapted /Developed	∞
38.	Program self-assessment (department self-study)	IIEP-Employability (2015)	Adapted	.983
39.	University-community linkage programs	Zhang and Guo (2014)	Adopted	.984
40.	Practical and hands on experience is included in programs	SA Manual (2015)	Adapted	.984
41.	Course evaluation (by student surveys)	C. Lamagna et el. (2016)	Adapted	.984
42.	Program evaluation/ Exit survey (by student surveys)	C. Lamagna et el. (2016)	Adapted	.984
43.	Teacher's supervision and monitoring	C. Lamagna et el. (2016)	Adapted	.983
44.	Industry-University linkage programs	C. Lamagna et el. (2016)	Adapted	.984
45.	Programme monitoring (by students' survey panel, analyses of university statistics)	C. Lamagna et el. (2016)	Adapted	.984
46.	Assessment of student's workload (by survey)	C. Lamagna et el. (2016)	Adapted	.984
47.	Teacher's Performance Evaluation by student	C. Lamagna et el. (2016)	Adapted	.984
48.	Training and development of Teachers	MeeraAlagaraja (2015)	Adopted	.983
49.	Teachers' involvement in Research work	MeeraAlagaraja (2015)	Adopted	.984
50.	Teacher-student Ratio	SA Manual (2015)	Adapted	.984

QA Mechanism

NHRD and Educational Challenges facing India and China: A comparative assessment by in 2015 by Meera Alagaraja (n.d.) provided a framework for identifying a systematic and integrated strategy for addressing unique NHRD and educational challenges. Rupert Maclean and Victor Ordonez (2007) outlined that a fundamentally changed, increasingly interdependent world demands new paradigms of education and training, recognizing whom one teaches have radically changed. Manzoor Ahmed and James H. Williams (2008) outlined that Mechanisms for selection of students for higher levels of education have been widely regarded as tough but fair. Furthermore, the paper outlined the importance of QAM in HE. Zhang and Guoin (2014) outlined that HE evaluation is an important part of higher education, also has a great value for HRD, it can provide strategy for current HE and HRD.

QA Tools

According to Harvey (1995), the more dominant approaches currently emphasize the quality of student learning, and QA systems would thus have the main purpose of enriching the learning experience for students. QA mechanisms also vary with regard to their purposes. They may focus on accountability to internal and external stakeholders or be geared to the support of internal change processes. Mohd. Aminul Karim (2010) outlined that looking into the future along with making oneself competent with necessary knowledge, skill, and competencies maybe what graduates should constantly pursue.

S. Adedeji and Omolara A. Campbell (n.d.) mentioned that there has been slow growth in the demand for educated labor. The education system has failed, such that schooling provides few (or no) skills. It mentioned that there is need for HE policy, which will respond to the long-festering problems of access, quality, financing, management and address the graduate and labor market mismatch within the nation's university system, and seek to bring this system more in line with global good practices. Furthermore, it included that federal government should encourage public-private partnerships (PPP) at all levels of education in the country. This will go a long way to reduce the burden of government budgets on the education sector. The processes and procedures for the establishment of private universities should be made much easier and investors' friendly by the National Universities Commission (NUC). The government should be increase the investment in both public and private universities in BD to

ensure the employability of graduates. This will go a long way to improve the performance of the educational system in general and the payoff from higher education investment in particular. C. Lamagna et al. (2016). The questionnaire items of QAM for General Survey Questionnaire sources, derived from the above literature and literature review (chapter 2) are included in the following table (e.g. Table 4.17).

Table 4.17: Sources of the Questionnaire items for General Survey Questionnaire (QAM)

	Quality Assurance Mechanism	Source/s	Adopted/ Adapted /Developed	∞
1.	Helpful in enhancement of KSA of students	Developed	Adapted	.984
2.	Helpful in enhancement of the KSA through Teaching-Learning	SA Manual	Adapted	.984
3.	Helpful in enhancement of the KSA through Curriculum Content Development and Modification	SA Manual	Adapted	.984
4.	Helpful in enhancement of the KSA through Student Performance Assessment	SA Manual	Adapted	.984
5.	Helpful in enhancement of the KSA by involving Stakeholders in the process	SA Manual	Adapted	.984
6.	Lack of Institutional commitment	Clamagna et.al., 2016	Adapted	.984
7.	Financial Issues	MeeraAlagaraja, (2015)	Adopted	.984
8.	Competence of Teachers	Meera Alagaraja, (2015)	Adopted	.984
9.	Institutional and additional student enrolment policy	Manzoor Ahmed and James H. Williams (2008)	Adopted	.984

	Quality Assurance Mechanism	Source/s	Adopted/ Adapted /Developed	∞
10.	Commitment and support of academic community	Manzoor Ahmed and James H. Williams (2008)	Adopted	.984
11.	Lack of expertise	IIEP		.984
12.	Lack of support from the Government	Meera Alagaraja, (2015)	Adopted	.984
13.	Lack of support from the stakeholders (Employer, Parents, Academic, Non-academic staff, students)	Feiye Zhang and ShenghaoGuo (2014)	Adopted	.984
14.	Lack of Documentation	Developed		.984
15.	Lack of overall synchronized implementation	Developed		.984
16.	Academic preparedness	Adedeji and Campbell	Adopted	.984
17.	Motivation to learn	Adedeji and Campbell	Adopted	.984
18.	Attitude towards field of study	Adedeji and Campbell	Adopted	.984
19.	Engagement and commitment towards studies	Adedeji and Campbell	Adopted	.984
20.	Academic competence	Adedeji and Campbell	Adopted	.984
21.	Co-curricular activities	Adedeji and Campbell	Adopted	.984
22.	Extracurricular Activities	Adedeji and Campbell	Adopted	.984
23.	Curriculum Content Development	Adedeji and Campbell	Adopted	.984

	Quality Assurance Mechanism	Source/s	Adopted/ Adapted /Developed	∞
24.	Regular Update and Modification of Curriculum	Adedeji and Campbell	Adopted	.984
25.	Students' Performance Assessment	Adedeji and Campbell	Adopted	.983
26.	Teaching –Learning Method	Adedeji and Campbell	Adopted	.983
27.	Student support services, progress and achievement	Adedeji and Campbell	Adopted	.984
28.	Co-Curricular and Extra-curricular activities	Karim (2010)	Adopted	.984
29.	Involvement of Stakeholders in the Curriculum Process	Adedeji and Campbell	Adopted	.984

KSA

▪ **Knowledge**

HRD: Bangladesh perspective by Mohiuddin (2012) mentioned in this paper that there is an acute scarcity of technically skill. There is an acute scarcity of technically skilled manpower, specially of key personnel. Morley (2001) outlined that human competence and intellectual capital rely on tacit knowledge. This paper recognized that sizable emphasis on developing a culture where learning and experimentation will flourish. Studies expose that HRD interventions, which focal point on growing worker tacit knowledge, are probable to decorate the association in particular of human capital.

Paul R. Pintrich stated that there are unique sorts of metacognitive knowledge, three common sorts are of precise importance. Strategic information refers to information of techniques for learning and thinking. Knowledge of tasks and their contexts represents information about exclusive cognitive knowledge. Moreover, self-knowledge is a significantly essential factor of metacognitive knowledge. Because metacognitive information is positively linked to students'

learning and the process of explicitly educating metacognitive knowledge to students requires improvement.

- **Skill**

Human Capital Formation and Policy Modeling: A Strategic Study for Bangladesh Economy by Shahidul, M, stated that the main focus of teaching is to develop reading, writing and analytical skills. Samson Packianathan, Rajagopal Narayanan mentioned in the paper titled “Employability skills: a conceptual framework” that emotional intelligence (EI) is gaining ground in academic settings. Internship programs improves the employability of new graduates. Employability skills as perceived by employers and university faculty in the fields of HRD for Entry Level Graduate Jobs by Deanin (2016) mentioned that HE does not yet count communication skills and the use of technology as necessary employability skills, these skills are not perceived to be important at the moment due to limited usage of technology in the training and development of human resources.

Employability skills indicator as perceived through manufacturing employers by Mohamad Sattar Rasul, Rose Amnah Abd. Rauf and Azlin Norhaini Mansor (n.d.) mentioned establishments need to place outstanding emphasis on these in the curricula. Relating to resource skills, employers indicated that the monetary administration is important. Technical students are influenced to get concerned in in monetary administration and these skills ought to be covered in application in order to expose students to the enterprise and industrial world. Employers indicated that all factors of device and technology are important. The utility of technology to operate duties amongst personnel who serve in the manufacturing discipline is very important as industries use a number of modern technologies to simplify work. It is essential to boost these capabilities in technical students. As for the adaptability and flexibility is important to employers, however, it is a benefit for students to have skills. Equipped with these skills, students are capable to face any mission in the place of work , becomes confident to face hese challenges and working with a variety of races, cultures and languages. Employers’ perceptions of the employability skills of new graduates by means of Kevin Lowden, Stuart Hall, Dr. Dely Elliot and Jon Lewin (n.d.) stated that while there are editions in the classification of employability, there is a wide appreciation of what qualities, characteristics, skills and information represent employability in common and for graduates in

particular. Employers count on graduates to have the technical and self-discipline competences from their degrees however require graduates to exhibit a range of broader skills and attributes that consist of team-working, communication, leadership, essential thinking, problem fixing and frequently managerial capabilities or potential.

▪ **Ability**

Employability skills: a conceptual framework by Samson Packianathan et. el., (2014) mentioned that there is a need for personal development, employability skills and attributes of an entrepreneurial mind-set among graduates for the post 2011 workplace. There is a need to introduce a new experiential learning in pedagogy. Deteriorating ethical and moral values is being experienced in higher education due to which the main objective of higher education, HRD is diluted. HRD and HE by Gonda, (2014). HRD in Asia – Thriving on dynamism and change: Reflections from 2006 Asian HRD conference by Ismail e.t el. (2007) outlined that education must include not only technical aspects of the work, but soft skills as well, including corporate values, ethics, health and safety, communication and others. The continuous initiatives carried out through the universities and the government to make sure that the essential skills are included in the curricular have to be met through the students' own efforts to accumulate and hone these skills, failing which the efforts expended will be futile. One possibility is for students to interact in experiential mastering through getting concerned in work (either paid or voluntary) for the duration of their semester breaks so that they can meet older humans with different administration patterns and personalities. Such exposure to actual working surroundings will be instrumental for effective mindset improvement and better adaptability and/or problem fixing capabilities amongst student. Magdalene C. H. Ang in graduate employability awareness: a gendered perspective mentioned HE is considered as a measure of intellectual competence and job potential, and instead, it should approach focusing more on open-mindedness.

The questionnaire items of Knowledge Skill and Ability (KSA) for derived from the above literature General Survey Questionnaire sources are included in the following table (e.g. Table 4.18).

Table 4.18: Sources of the Questionnaire items for General Survey Questionnaire (KSA)

	Knowledge Skill and Ability (KSA)	Source/s	Adopted/ Adapted /Develped	∞
1.	IT Knowledge is improved by QA process in the university	Mohiuddin (2012)	Adopted	.983
2.	Knowledge for understanding the facts is improved by QA process in the university	Develped		.984
3.	Knowledge in designing a system component is improved by QA process in the university	Mohiuddin (2012)	Adopted	.984
4.	Knowledge of how to do a work is improved by QA process in the university	Thomas N. Garavan	Adopted	.984
5.	Knowledge for plan, monitor and regulate a work is improved by QA process in the university	Thomas N. Garavan	Adopted	.983
6.	Presentation skills is improved by QA process in the university	Mansour, Dean (2016)	Adopted	.983
7.	Report writing skills is improved by QA process in the university	Mansour, Dean (2016)	Adopted	.983
8.	Non-verbal (facial expressions, hand gestures, posture etc.) is improved by QA process in the university	Mansour, Dean (2016)	Adopted	.984
9.	Appropriate Data collection and analyzation is improved by QA process in university	Mansour, Dean, (2016)	Adopted	.984
10.	Office communication is improved by QA process in the university	Mansour Dean (2016)	Adopted	.984

	Knowledge Skill and Ability (KSA)	Source/s	Adopted/ Adapted /Developed	∞
11.	Leadership skill is improved by QA process in the university	Developed		.983
12.	Teamwork skill is improved by QA process in the university	Developed		.984
13.	Emotional Intelligence skill is improved by QA process in the university	Packianathan (2014)	Adopted	.984
14.	Spiritual Intelligence skill is improved by QA process in the university	Developed		.984
15.	Negotiation skill is improved by QA process in the university	Developed		.984
16.	Time management ability is improved by QA process in the university		Adopted	.983
17.	Decision making ability is improved by QA process in the university	Ismail (2006)	Adopted	.983
18.	Discipline is improved by QA process in the university	Ismail (2006)	Adopted	.984
19.	Sense of Responsibility is improved by QA process in the university	Ismail (2006)	Adopted	.983
20.	Critical Thinking ability is improved by QA process in the university	Ismail (2006)	Adopted	.984
21.	Creativity is improved by QA process in the university	Ismail (2006)	Adopted	.983
22.	Reliability and dependability are improved by QA process in the university	Ismail (2006)	Adopted	.984
23.	Self-Motivation ability is improved by QA process in the university	Ismail (2006)	Adopted	.983

	Knowledge Skill and Ability (KSA)	Source/s	Adopted/ Adapted /Developed	∞
24.	Appreciation of ethical values ability is improved by QA process in the university	Gonda (2014)	Adopted	.984
25.	Adaptability is improved by QA process in the university	Ismail (2006)	Adopted	.984

Human Resource Development

Human Capital Formation and Policy Modeling: A Strategic Study for Bangladesh Economy by Shahidul, M mentioned that the educational process is not competent to meet the current market demand. In the general Colleges and Universities human resources are produced to fit them into the job markets at aiming to service industries. This paper Surveyed data of research variables was analyzed by using standard statistical tools. Qualitative data was analyzed by adequate software for obtaining the results related to objectives of this research. In this paper independent variable is Education and dependent variable is HRD.

Olugbeng and Omolara A. (n.d.) mentioned that HE can tackle the multifaceted crisis created by the mismatch between graduate output and labor market demand. However, for this role to be effectively played there is need to increase and widen access HE, proffer solutions to the problem of under-funding within the system and manage this issue. Alagaraja (2015) provided a framework for identifying a systematic and integrated strategy for addressing unique NHRD and educational challenges.

Karim (2010) outlined that Key Result Areas (KRAs) need to be recognized after exhaustive brainstorming with all the stakeholders. These are actually accomplished in Bangladesh, in one structure or other, however implementation continues to be problematic, halfhearted. To ensure development, transformational leaders are needed, most importantly at the political/strategic route level. Bangladesh has massive potentials, particularly at the non-public level. Everything else will fall into vicinity. Looking into the future alongside with making oneself capable with knowledge, skill, and expertise possibly what one need to continuously pursue. Goals ought to

be without a doubt spelt out in a realistic, achievable, and time-bound format. It needs to additionally be culture-bound. Both uncertain and positive futures should be explored to the extent possible. The vision should be foreseen alongside with the contingencies. For every contingency, specific strategies ought to be strategized. Human resources must be skilled and prompted to apprehend such complexities. Without a clear huge picture, one is likely to stumble on the way, and probably to convey catastrophe to the organization.

The questionnaire items of Human Resource Development for General Survey Questionnaire sources are included from the above and literature from chapter 2 in the following table (e.g. Table 4.19).

Table 4.19: Sources of the Questionnaire items for General Survey Questionnaire (HRD)

	HRD	
1.	Improvement of IT Knowledge of graduates influence overall Human Resource Development of Bangladesh	Developed
2.	Improvement of strategic Knowledge related to job of graduates influence overall Human Resource Development of Bangladesh	Developed
3.	Improvement of Communication skills of graduates influence overall Human Resource Development of Bangladesh	Developed
4.	Improvement of Leadership skill of graduates influence overall Human Resource Development of Bangladesh	Developed
5.	Improvement of Responsibility of graduates influence overall Human Resource Development of Bangladesh	Developed
6.	Improvement of Discipline of graduates influence overall Human Resource Development of Bangladesh	Developed
7.	Improvement of Negotiation skill of graduates influence overall Human Resource Development of Bangladesh	Developed
8.	Improvement of Reliability of graduates influence overall Human Resource Development of Bangladesh	Developed
9.	Improvement of Emotional and Intelligence of graduates influence overall Human Resource Development of Bangladesh	Developed

	HRD	
10.	Improvement of critical thinking and Creativity of graduates influence overall Human Resource Development of Bangladesh	Developed
11.	Improvement of Team management skill of graduates influence overall Human Resource Development of Bangladesh	Developed
12.	Improvement of Problem solving, Decision making ability of graduates influence overall Human Resource Development of Bangladesh	Developed
13.	Improvement of dependability of graduates influence overall Human Resource Development of Bangladesh	Developed
14.	Improvement of Appreciation of ethical values ability of graduates influence overall Human Resource Development of Bangladesh	Developed

Scale Development for General Survey questionnaire

This section of the chapter explains the selection of scale items that are used to measure the constructs in this thesis. These are: three components CCDR, TLP, SPA and SI in the educational process. To choose the correct items that measure these constructs, the following considerations have been made. First, it was important to include items that represent HRD, those are improvement in KSA. For this reason, the items chosen for this thesis have been selected from the literature to be the most representative of the HRD. Second, the motive of this thesis is consist of objects that measure the content material of this research, and decide the extent to which they symbolize definitions and dimensions. This is consistent with Churchill's (1979) mentioned that "the researcher likely would prefer to encompass objects with barely exceptional colorings of that means due to the fact the unique listing will be sophisticated to produce the ultimate measure". Third, all scales used have been adopted from research with legitimate and dependable measures of corresponding constructs. In this thesis, as new scales have been developed the use of objects from quite a number scales in these preceding studies, validity and reliability have been examined to ensure that the new scale is acceptable. The scales used in this thesis have been developed from an overview of the applicable literature.

The odd number Likert (1-5) from with interval and in sum, a total of 118 scale items were used to measure the constructs in the model. Table 4.20 shows a summary of the number and

source of the items used to test each construct. Close ended Likert scale of odd number 5 were designed for the parametric analysis. These items are further discussed later in this section.

Table 4.20: Total of Scale Items Used in the thesis Constructs Number of Items’ Sources

Constructs	Number of Items	Scale
Curriculum Content, Design and Review, Teaching-Learning Methods, Student Performance Assessment, Stakeholders Involvement	Part B (50 Items)	Likert Scale from 1-5; 1 for Strongly Disagree to 5- being Strongly Agree
Quality Assurance Mechanism	Part C (29 Items)	Likert Scale from 1-5; 1 for Strongly Disagree to 5- being Strongly Agree
Knowledge, Skill and Ability	Part D (25 Items)	Likert Scale from 1-5; 1 for Strongly Disagree to 5- being Strongly Agree
Human Resource Development	Part E (14 Items)	Likert Scale from 1-5; 1 for Strongly Disagree to 5- being Strongly Agree

Constructs have been operationalized the usage of 5-point Likert scales, ranging from (1=strongly disagree) to (5= strongly agree). The Likert-scales have been chosen due to the fact they take less time, and are convenient to reply Mc Celland (1994); Churchill (1995); Frazer and Lawley (2000). While the most serious downside of the Likert scale is its lack of reproducibility. Oppenheim (1992). it is highly proper in numerically ordering respondents, especially in defining attitudes Davis and Cosenza (1993). In accordance with Nunnally (1978), Churchill (1979), Peter (1979), and Han (1991), multi-items for each assemble have been chosen to grant a complete assessment and assist the researcher to overcome the shortcoming of a single object measure. Multi scales are viewed vital to gain legitimate dimension of

factorial complicated constructs (Peter, 1979), whilst single-item scales have been criticized through Churchill (1979) as:

- lacking adequate correlation with the attribute being measured,
- closely related to different attributes
- restricted variance of scale, and
- unreliable responses.

Tables 4.18-4.22 listing the authentic and modified questionnaire objects that make up each construct. Scale objects have been modified for this thesis to higher replicate stakeholders' opinion in HEIs and HRD context. These modified objects have then been validated through conducting pre-test strategies mentioned in part 4.9. In this section, all the underlying constructs in the proposed conceptual model are presented, and objects used to measure them are discussed.

Quantitative Questionnaire: (I-C) Additional Questionnaire Development for Academic and Administrative Staff

There were two sets of Extra questionnaires attached to the general questionnaire for all. The questionnaires were developed for two sets of Stakeholders. One set is for Academic and Non-Academic staff, who are well aware about the IQA process of the universities. The other set is developed for the two sets of stakeholders, they are Employer and Alumni because they are part of the job market and has experience about the recent trend/development about the market. The first extra set questionnaire is for the Academic staff and Non-Academic staff. It included questions related to Internal Quality Assurance process and Tools, how much importance these universities focus on T-L, Curriculum and assessment and involvement of stakeholders. This set of extra questions also include the challenges these universities are facing in implementing the IQA. There are total 40 questions in four different parts A, B, C and D (e.g. table 4.23). Part A consists of 2 questions on the presence and use of Quality Policy and quality Manual. Part B consists of 12 questions on 12 fields of activities of QA. The questions are on how significantly quality assurance mechanism of the university has an impact for the following fields of activity, Curriculum Content Development, Curriculum Update and Modification, Teaching -Learning Methods, Student Performance Assessment, Co-Curricular and Extra Curricular Activities, Improvement of KSA of Students, Student Support Services, Progress

and Achievement, Involvement of Stakeholders in Academic process, Feedback of the Stakeholders in the QA process, Internal QA Process, System and Activities, Internal QA Tools; Meeting the requirement of UGC; The scales are (0=not at all to 10 =very intensely): 0-10 and I do not know; in total 12 scale;

Part C includes 7 questions on the how the Academic and administrative staff are judging the overall effect of QAM the TLP, SPA and CCDD in the university. The questions are on the following: Improvement of the overall coherence of a study programme; Improvement of the content coverage of courses; Improvement of the content coverage of study programmes, Improvement of teaching performance, Improvement of teaching performance, Improvement of the student assessment system, Enhancement of KSA of graduates, Improvement of learning conditions. There are 7 scales, the scales are High; Moderate; Low; No affect at all; Not intended with this instruction; I do not know;

Part D has 20 questions two sections. Section A and B. In Section A, 10 on the presence/existence of tools for T-L, Assessment and Content. Section B has 10 questions on the tools of stakeholders' involvement. The questions are on the QA Tools and Process for QA, exist at the university as far as they know. Part A questions are on the following areas of T-L, Assessment and Content: Course evaluation (by student surveys); Program evaluation (by student surveys); Teacher's supervision and monitoring; Program self-assessment (department self-study); Programme monitoring(by students' survey panel, analyses of university statistics); Assessment of student's workload (by survey); Exit survey by students, Teacher's Performance Evaluation by student; Training and development of Teachers; Teachers' involvement in Research work; Standard Teacher-student Ratio; Section B has 10 questions on Stakeholders involvement; The questions are on following areas: Graduate Tracer Studies; Employer Satisfaction Surveys; Involvement of Employers in Study Program Revisions; Involvement of Alumni in Study Program Revisions; Involvement of Guardians in Study Program Revisions; Job Market Analyses; Graduate Profile; Industry-University Linkage programs; University-Community Linkage Programs; Practical and Hands on Experience included in programs; This set of questionnaires was developed to gather data on the IQAC practices and QA mechanism within the universities. Since Academic staff and non-Academic staff are involved in Initiating and implementing the QA mechanism in the universities, their responses were required to have

a reflection on the overall QA practices, challenges and tools used in the process. (e.g., Table 4.21)

Table 4.21: Overview of the (1-C) Additional Question for Employer and Alumni

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Scale
Part A: (1-10)	Based on requirement of Knowledge	To identify the gap in Knowledge between HEIs and Job market	H2, H3	Descriptive Analysis	One Likert scale from 1-5 for the Job Requirement and Another Scale for Graduate performance Liker scale 1-5
Part B: (11-20)	Based on requirement of Communication Skill	To identify the gap in skill between HEIs and Job market	H2, H3	Descriptive Analysis	One Likert scale from 1-5 for the Job Requirement and Another Scale for Graduate performance Liker scale 1-5
Part C: (21-25)	Based on requirement of Interpersonal Skill	To identify the gap in skill between	H2, H3	Descriptive Analysis	One Likert scale from 1-5 for the Job Requirement and Another

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Scale
		HEIs and Job market			Scale for Graduate performance Liker scale 1-5
Part D: (16-40)	Based on requirement of Ability	To identify the gap in ability between HEIs and Job market	H2, H3	Descriptive Analysis	One Likert scale from 1-5 for the Job Requirement and Another Scale for Graduate performance Liker scale 1-5

Quantitative Questionnaire Development: (I-D) Additional Questionnaire development for Employer and Alumni

Employability capacity the improvement of capabilities and adaptable workforces in which all these successful of work are inspired to improve the skills, knowledge, technology and adaptability to allow them to enter and stay in employment through-out their working lives Treasury (1997).

This set of questionnaires was developed to gather data on the recent trend/development/requirement of Knowledge, Skill and abilities in the job market. Since these stakeholders are actually part of the job market, working in the industries, they are able to put up the right data for on these variables. The questionnaire had two parts. One part included that what knowledge, Skill and Abilities are required for the present job market/ industry; the second part included that how much of these KSA s Graduates are demonstrating in the job.

There were total 35 questions in two parts based on Knowledge Skill and Abilities (KSA) and focusing on two dimensions. The dimensions are the requirement of the Knowledge, Skill and Abilities the job of the organization and presence of these KSA in the Graduates form HEI. There were in total 35 similar questions for two dimension and in total 70. There were 10 questions on Knowledge, 15 on Skill (10 on Communication, 5 on interpersonal) and 15 on Abilities (e.g., table 4.22).

Table 4.22: Overview of the (1-D) Additional Question for Academic and Administrative Staff

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Scale
Part A (1-2)	To know about existence/use Quality Policy and Manual in the HEIs and IQAC policy, procedures and instruments	To identify the QAM	H1A, H1B, H1C, H1D	Descriptive Analysis	Exist or do not exist
Part B (3-12)	how significantly quality assurance mechanism of the university has an impact for the following fields of activity	To identify the Impact of QAM in different fields	H1A, H1B, H1C, H1D	Descriptive Analysis	(0=not at all to 10 =very intensely).
Part C (13-42)	How respondents judge overall the effect of QA mechanism on the different aspects?	To identify the Opinion on Overall QAM	H1A, H1B, H1C, H1D	Descriptive Analysis	7 scale form Very high to Do not Know

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Scale
Part D (13-20)	QA Tools and Process for IQAC, exist at your university as far as you know? (tick)	Existence and use of QA tool	H1A, H1B, H1C, H1D	Descriptive Analysis	Exist or do not exist or Does not know
Part D (20-32)	QA Tools for improvement of Curriculum Content, T-L and Assessment and Stakeholders 'Involvement	To identify the Existence and use of QA tool related to Curriculum Content, T-L and Assessment and Stakeholders 'Involvement	H1A, H1B, H1C, H1D	Descriptive Analysis	Exist or do not exist or Does not know
Part D (33-42)	Tools related to Improving Student's KSA	To identify the Existence and use of QA tool related to improvement of KSA	H1A, H1B, H1C, H1D	Descriptive Analysis	Exist or do not exist or Does not know

Qualitative Instrument Development: (I-B) Open Ended and (II-A) Interview Questionnaire

Particular focus has been paid to QA mechanism that deal innovatively with the existing challenges. Preferences are given to universities that have a QA system existing from 2015 and almost finishing the QA activities under the project with processes geared to human resource

development. Furthermore, the 6 universities chosen have comprehensive academic programs, and have undertaken QA activities since 2015 under the direction and guidelines of QAU-UGC, Ministry of Education, Bangladesh (MoE) and with the fund provided by HEQEP, World Bank project.

Torre and Zapata presented in their research that the rate of progress of the QA function in higher education institutions were dissimilar between the various countries. For many countries from these seven countries had institutionalized the QA process as part of their higher education institutions. However, it was also found that some countries were lacking behind in fully institutionalizing the QA process. It was found that these countries were only in the design phase of the project, and were still experimenting, trying to gain organizational consensus, and attempting to reach the environmental conditions necessary to fully implement and institutionalize QA within their institutions of higher education.

Table 4.23: Source of Interview Questionnaire

(II-A) The Interview Questions		Source
1.	In your opinion how Human Resource can be Development in a country?	Problem Statement, Research question, Hypothesis and Objective of the thesis
2.	What is your opinion regarding the Human Resource of Bangladesh?	Problem Statement, Research question, Hypothesis and Objective of the thesis
3.	What are the Challenges in developing Human Resource of Bangladesh?	Problem Statement, Research question, Hypothesis and Objective of the thesis
4.	In your suggestion How these challenges can be mitigated/ addressed?	Problem Statement, Research question, Hypothesis and Objective of the thesis
5.	In your opinion What Knowledge, Skill and ability are required for the graduates to be employable in 21st century?	Problem Statement, Research question, Hypothesis and Objective of the thesis
6.	Do you consider that there is a gap between the demand of Job Market and supply of	Problem Statement, Research question, Hypothesis and Objective of the thesis

	(II-A) The Interview Questions	Source
	human resource from the HEIs? (Skill gap/mismatch)	
7.	How the universities/HE can play role/contribute to develop students as human resource?	Problem Statement, Research question, Hypothesis and Objective of the thesis
8.	Do you think addressing Knowledge, Skill and Ability through QA mechanism at the university level can contribute in improved overall development of the graduates?	Problem Statement, Research question, Hypothesis and Objective of the thesis
9.	Do you think stakeholders of HE plays an important role in improvement of KSA of the graduates of the universities?	Problem Statement, Research question, Hypothesis and Objective of the thesis
10.	Further comments on the role of the universities for developing students' knowledge, skills and abilities and on minimizing the skill gap?	Problem Statement, Research question, Hypothesis and Objective of the thesis

As a result of their comprehensive programs, a large spectrum of academic programs has been studied as mentioned above, and the variable of different academic cultures explored. These 6 universities have completed the QA activities through IQAC office, which will also mark the completion year of IQAC project. The questions of the Interview and open ended is created from the research questions and objective of the thesis (e.g., table 4.23). All the questions are related to the RQ and objective of the study. In-depth Interview were conducted for the qualitative data (e.g. table 4.24).

Table 4.24: Overview of Interview Questionnaire (II-A) for Experts

Part of Questions	Question	Objective	Hypothesis	Expected Analysis	Scale
10 questions	On HE, QAM, KSA, HRD; and T-L. CCDM, SPA and SI	To collect opinion of experts in the respective fields of HE, QA and HRD	H1, H2, H3	Summary and Interpretation	Hand Written or Computer typed answer

Open ended questionnaire is included to have gather more data that are not included in the survey questionnaire's quantitative part. (e.g., table 4.25). The respondents could add their own knowledge and experience other than the data provided in the main general survey (e.g., table 4.25).

Table 4.25: Sources of Open-Ended Questions

(I-B) Open Ended Questions		Source
1.	What do you think how the Human Resource Development can be assured in a country? Do you think Higher education plays a role in Human Resource Development of a country?	Problem Statement, Research question, Hypothesis and Objective of the thesis
2.	Do you think the existing QA mechanism in the HEIs are positively contributing in developing the Human Resources of Bangladesh?	Problem Statement, Research question, Hypothesis and Objective of the thesis
3.	What are the Knowledge, skill and abilities requirement in 21st century for the graduates to be employable? Do you think addressing Knowledge, Skill and Ability through?	Problem Statement, Research question, Hypothesis and Objective of the thesis

	(I-B) Open Ended Questions	Source
	Curriculum at the university level can contribute in improved overall development of the graduates?	
4.	Do you think stakeholders of HE plays an important role in improvement of Curriculum of universities?	Problem Statement, Research question, Hypothesis and Objective of the thesis
5.	What are the Challenges QA mechanism is facing to develop the Students' KSA? How the challenges can be met and improved further?	Problem Statement, Research question, Hypothesis and Objective of the thesis

Table 4.26: Overview of Open-ended Questions (I-B) for all 864 Respondents					
(1-B) Open Ended Questions (1-5)	To collect opinion regarding HE, QAM, KSA and HRD	Overall, all the objectives	H1, H2, H3	Qualitative Analysis	Written descriptive

4.7 Methods of Data Collection

Data can be gathered in a number of ways and from a range of sources such as personal interviews, telephone interview, focused group discussion and self-administered questionnaires. Self-administered questionnaires and Interview are used in this thesis. Self-administered questionnaire, one of the methodologies used in this thesis, is described as “a data collection technique in which the respondent reads the survey questions and records his or her own responses without the presence of a trained interviewer” Hair et al., (2003). Self-administered questionnaires present a challenge in which these rely on the clarity of the written word more than on the skill of interviewers Zikmund (2003). However, this method also has a number of advantages as follows:

- The population in this thesis includes a large number of respondents from different HEIs and different stakeholders, and thus a self-administered questionnaire were used to survey in lesser time and economically compared with other methods such as personal interview or telephone interview;
- The questionnaire can be completed whenever respondents have time. Time from the respondents are a crucial issue, since there are six different respondents' type.
- It reaches a geographically widespread sample with lower cost because the researcher is not required to travel or be present, Zikmund (2003).

The questionnaire was sent to six different locations in Bangladesh where the six different HEIs are located. Furthermore, studies relevant to Quality Assurance and Higher Education have utilized self-administered questionnaires from Self-Assessment Manual of IQAC (SA manual, 2015). The self-administered questionnaire form used within this thesis is called a drop-off survey. This method involves the researcher traveling to the respondents' location and a representative of the researcher (i.e., IQAC office of the universities) hand delivering survey questionnaires to respondents. Following this, the completed surveys are picked up by the representative after the respondents have finished. Hair et al.,(2003); Zikmund (2003). The two advantages of using this method are outlined by Hair et al. (2003). They include: the availability of a person to answer questions .and the ability to generate interest in completion of questionnaires (i.e., IQAC can encourage stakeholders to complete questionnaires through interaction with them). Few surveys were conducted through Google form but with the help of IQAC the forms reached to the respondents. Furthermore, other means of survey data collection such as mail and telephone were not possible.

Although the survey method has advantages, criticisms are also there in regards to its reliance on self-report data Spector (1992). It becomes an issue when both the independent and dependent variables are assessed within same instrument Campbell (1982), having questions about the conclusions arising from systematic response distortion, and the reliability and validity of the measures used in the instrument. Further, a lack of control that the researcher has over tardiness, difficulty in determining the truthfulness of respondents, and lack of in-depth information, are considered as other problems associated with survey methods. Hair et al., (2003). For these reasons, the guidelines recommended by Hair et al. (2003) were taken into account to ensure precision, and to avoid those issues associated with the survey methods

and in order to address these issues, the following steps were taken. First, when feasible formerly examined dependable and legitimate scales to measure the underlying constructs have been used. Systematic response distortion used to be addressed through making sure that the questionnaire used to be designed in a way that used to be handy for the respondents to apprehend and used to be free of response bias. As for the problem of research control, any research approach has its very own limitations. However, the above noted 5 motives for selecting the survey technique are robust elements for use in this thesis.

There will be also involvement of Data collector for gathering a large number of data. Few questionnaires are sent to Employers, Alumni and Guardians in Google form online as well as in email based on the availability. The qualitative questions (Interview) data is gathered by Interview and few through email. The questionnaire Manual and Data collector's instruction (e.g. appendix 7 is attached in the appendix for better understanding of the terms and process included in the questionnaire for both the data collector and respondents.

4.7.1 Data Collection Process

I. PhaseOne

The first phase of the data collection procedure was involved with administering the structured survey questionnaire. The questionnaire was administered via both Google Forms and also via printed hardcopy. The questionnaire was designated the first phase due to the time needed to complete the procedure, which is longer than the other data collection methods, namely Interview. The Director and Additional Directors of IQAC of Six universities were communicated. The authorization letter along with the consent letter was presented to them. The survey questionnaire for the Quantitative survey was distributed to the Six respondents through Google form and also hardcopy. As the guardians were not acquainted with survey through Google form and required to explain the process of Quality assurance mechanisms in the HEIs, they were surveyed face to face. IQAC and the students of the respective universities were also working as enumerators for the data collection.(e.g. figure 4.2 and Table4.29)

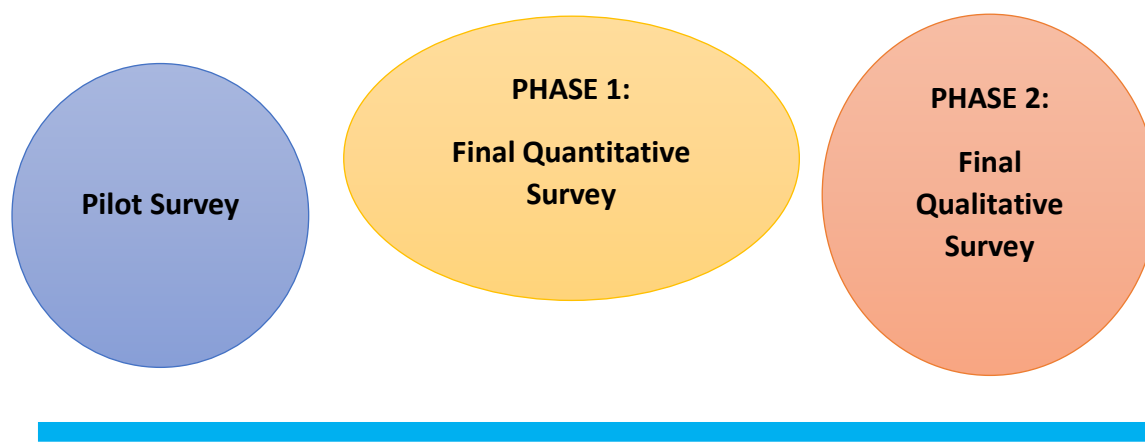


Figure 4.2: Phases of Data Collection

II. Phase Two

The second phase of the data collection procedure was started immediately after distribution of the questionnaires. The second phase consisted of interviews of Key personnel who are related with Quality Assurance Mechanism and Human Resource Development of Bangladesh. The Vice Chancellors of the HEIs and IQAC directors of HEIs were interviewed based on ten open ended interview questions. One Chairman and Member of UGC were also interviewed. Two officials from National Skill Development Authority were also part of the respondents for the qualitative data collection process through Interview (e.g. Table 4.27). An external pilot study has been carried out at American International University-Bangladesh. The main purpose of the study was to assess the effectiveness of the structured questionnaire, and response rate, as well as investigate the effectiveness of anti-bias measures. The pilot survey was an undeclared pilot survey.

Table 4.27: Data Collection Tools and Process

Data Collection Tools and Process					
Tools	Respondents	Data Collection	Type of data	Fields/ working area of the respondents	Analysis
Questionnaire survey (Academic staff)	Academic staff of the HEIs	General Survey Questionnaire	Quantitative	Academic staffs	Quantitative Analysis
Questionnaire survey (Non-Academic staff)	Administrative Staff of the Universities	General Survey Questionnaire	Quantitative s	Administrative fields	Quantitative Analysis
Questionnaire survey (Students)	Students	General Survey Questionnaire	Quantitative		Quantitative Analysis
Questionnaire survey (Alumni)	Alumni/ Graduates	General Survey Questionnaire	Quantitative		Quantitative Analysis
Questionnaire survey (Employers)	Employers, Industry and Industry advisory body	General Survey Questionnaire	Quantitative	Based on availability	Quantitative Analysis
Open ended questionnaire	All 6 stakeholders	General Open-ended questionnaire	Qualitative		Qualitative and Descriptive analysis

Tools	Respondents	Data Collection	Type of data	Fields/ working area of the respondents	Analysis
Interview	Experts in the field of HR, QA and HEIs	In depth Interview Questionnaire	Qualitative		Qualitative and Descriptive analysis

The overall collection of Data took place following the phase i and ii which has been depicted in figure 4.3 below

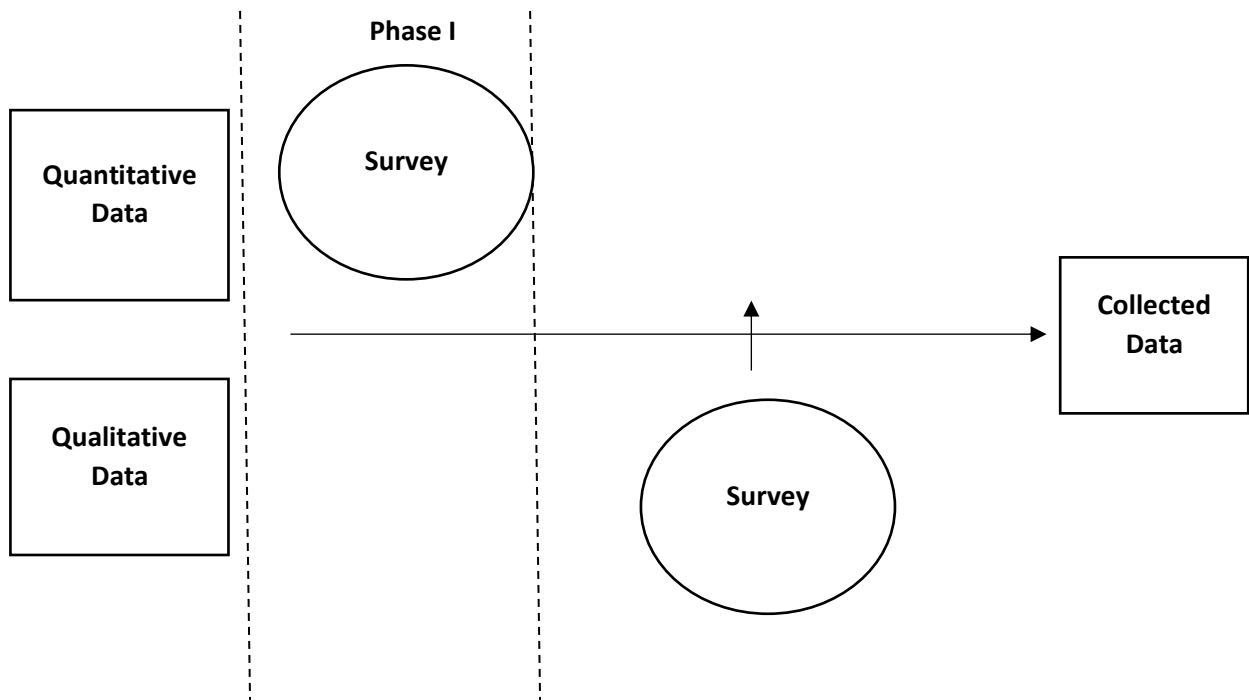


Figure 4.3: Data Collection Procedure of the study

Quantitative Data Collection process: Questionnaire Survey

Data is collected for the survey using standard questionnaire through initial pilot study in personal level. The questionnaire was then revised and finalized after the development of full methodology and carried out personally in the 4 universities through IQACs. The use of

primary information has allowed for a triangulation of information sources and has thus expectedly increased the overall consistency of the analysis.

A quantitative survey(questionnaire) has been administered to students across the six universities. From each university, 40 students, 30 Academic staff, 10 Alumni, 10 non-academic staff, 5 Employers and 5 Guardians/Parents from all programs have been selected. Hence, 100 respondents from each university were surveyed. In total 864 students from the 6 universities were targeted. This survey was designed to provide informed perception of the respondents, thus enabling quantification and hypothesis testing. To collect Primary Quantitative data, a structured questionnaire has been used to carry out a close ended experience survey of students, Academic Staff, Non-academic staff, Employers, Alumni and Parents/guardians from each of the university.

Questionnaire Translation and Re-Translation

The sample of the thesis consists of Bangla speaking (non-English speakers,) translation and Re-translation of the instrument was undertaken. All the three questionnaires were in English language and few technical terms were included which is not easily understandable for Guardians and other stakeholders. Maintaining this procedure is important because cultural and language differences, diversity could result in non-equivalence, which may affect results, methodological authors such as, Rybowiak *et al.* (1999); Malhotra *et al.*, (1996); Temple, (1997), Frazer and Lawley (2000), Mallinckrodt and Wang (2004), and Salciuviene *et al.* (2005) have mentioned in the researches. Two steps were conducted in translating the current instrument. First, after the original questionnaire (English version) was developed, it was translated and discussed into Bangla during survey particularly for the Guardians/parents as participants in the survey. (e.g. appendix 3)

According to Malhotra *et al.* (1996), “if the translator is no longer fluent in both languages and acquainted with two cultures, direct translation of positive phrases and phrases may additionally be erroneous”. Translation equivalence of the instrument was once evaluated thru pre-testing prior to conducting the ultimate survey. Sin *et al.*, (1999) Mallinckrodt and Wang, (2004); Salciuviene *et al.*, (2005).

Qualitative Data Collection Process: Open Ended Question and Interview

Qualitative data has been generated from open ended questions for the stakeholders and interview from the experts. The qualitative data is collected through Open ended questionnaire after the general questionnaire survey. There are Five (5) questions after the quantitative Likert scale-based questionnaires. Data was collected from all the stakeholders of the six universities, to whom the general survey questionnaire was distributed.

The next phase of Qualitative data is collected through the interview with the experts from the different fields as mentioned in the Data source section. There is ten (10) questions related to QA mechanism, KSA, HRD and Higher Education. This interview is conducted face to face for ten (10) of the respondents within the limited/ structured question. The remaining five (5) respondents due to reachability and availability, preferred to be communicated through email. After completing the interview answers, they return the question through email in PDF format. The Interview questions are attached in the appendix.

4.8 Data Analysis

It is indeed, as Basit (2003) claims, “raw data can be very interesting to look at, yet they do not help the reader to understand the social world under scrutiny, and the way the participants view it, unless such data have been systematically analyzed to illuminate an existent situation”. Since it is a mixed method research, data is collected to explore QAM in HEIs from both qualitative and quantitative view points. Such method provided opportunities to generate more meaning and as such, enhanced the quality of data interpretation; Onwuegbuzie and Teddlie (2003). However, this section is intended to describe the qualitative and quantitative data analysis procedure of this study (e.g. figure 4.4). Collection and analysis of quantitative data at first followed by the collection and analysis of qualitative data. Priority is given on quantitative data while qualitative data is supporting the findings.

The data is analyzed using statistically significant methods, using SPSS and it will focus on the Information and Communication Technology i.e. ICT tools for gathering and analysis. Statistical measures have been carried out to determine the effect of QA mechanism to develop human resource. (e.g. Table 4.28).

Table 4.28: Overview of Data Analysis

Overall Data Analysis	
Quantitative	Qualitative
(I) : Phase 1-SEM	(I-B): Open Ended Questionnaire
(I-C; I-D): Phase 2- Descriptive Statistics	(II) : Interview with Experts

The overall methodology of Data collection and analysis technique in mentioned the following figure (e.g., Figure 4.4)

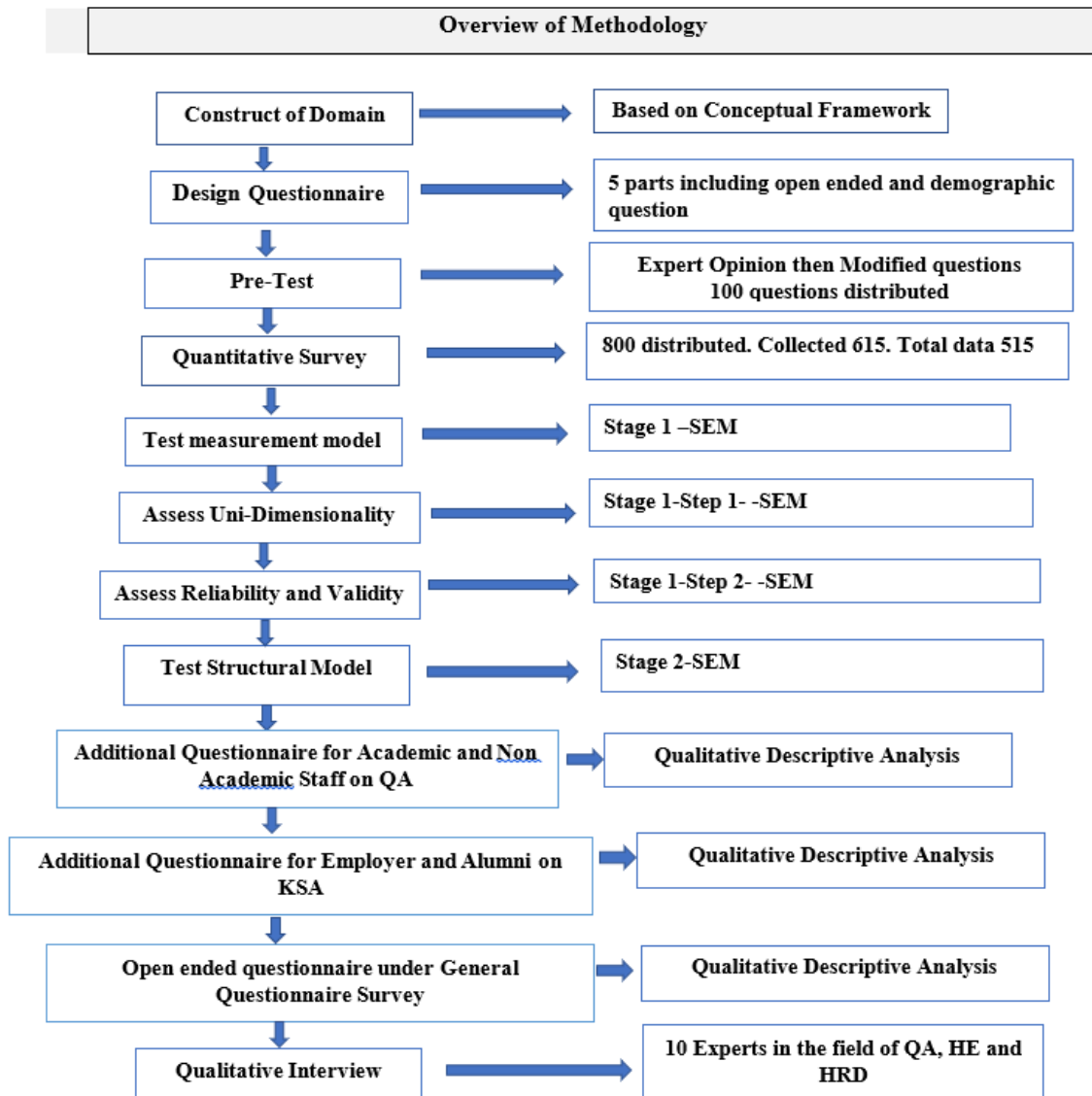


Figure 4.4: Overview of Methodology

4.8.1 Quantitative Data Analysis

Quantitative data will be analyzed in two phases. The 145 questions in the General Survey questionnaire is analyzed following statistical toll SEM. The second phase of analysis is based on the additional two set of questions. Additional question for the QA process in the HEIs and for the Employer and Alumni is analyzed based on Descriptive statistics. (e.g. Table 4.29)

Table 4.29: Phases of Quantitative Data Analysis

Quantitative Data Analysis	
Phase-1	Phase-2
Data gathered through General Survey Questionnaire (I)	Data gathered through Two sets of additional Questionnaire (I-C; I-D)
SEM (EFA and CFA)	Descriptive Statistics

First Phase of Quantitative Data Analysis- SEM

The primary accumulated data from Students, Alumni, Employers and AC Staff have been derived from structured survey questionnaires with multipoint Likert Scale. The statistics is at an ordinal level. Hence this fact displays respondent understanding and in the absence of preceding research data the distribution of the data can't be anticipated to in shape to any distribution, and can solely be assumed to observe a non-parametric distribution, and no longer ordinary distribution.

Approach is on-parametric SEM and PLS based totally simulation (SMART PLS 2.0) invented by using author Henseler (2009) and Version 2.0; the use of Structural Equation Modeling simulation. At the preliminary level, all scales to be used in the learn about will be validated the use of the indicators: AVE, Composite reliability, Cronbach's Alpha, etc.; Correlations will be checked, and Hypotheses will be examined the usage of the indicators, i.e., Beta coefficient, T-statistics, P-value.

Structural Equation Modeling (SEM) is termed as “a series of statistical techniques that allow a set of relationships between one or greater independent variables, both non-stop or discrete, and one or more dependent variables, both non-stop or discrete, to be examined” Tabachnick and Fidell (2001). SEM lately has been considered as a substantial statistical device for evaluation that is extensively used in tutorial lookup Heise, (1975); Bentler,(1980); Anderson and Gerbing, (1982); Anderson and Gerbing, (1988); Bollen,(1989); Breckler, (1990) Byrne, (2001); Hair et al., (1995); Jöreskog and Sörbom, (1996);Schumacker and Lomax, (1996); Kline, (2005); Homles-Smith et al., (2006). The most important objective of SEM is to provide an explanation for the pattern of a sequence of inter-related dependence relationships concurrently between a set of latent or unobserved constructs, every measured via one or extra found variables Hair et al., (1995); Schumacker and Lomax, (1996). SEM works based on the assumption of causal relationships where a change in one variable (x_1) is supposed to end result in a change in other variable (y_1), in which y_1 affects x_1 . Not solely does SEM aims to analyze latent constructs, in specifically the evaluation of causal links between latent constructs, but additionally it is environment friendly for different kinds of analyses including estimating variance and covariance, take a look at hypotheses, conventional linear regression, and confirmatory aspect analysis. Jöreskog and Sörbom (1996). According to Anderson and Gerbing (1988), SEM is confirmatory approach presenting “a complete skill for assessing and editing theoretical models”. Hence, researchers discovered SEM to be a suitable approach to look at the hypothesized models. SEM can additionally check the uni-dimensionality, and reliability and validity of each person assemble; Anderson and Gerbing, (1988); Bollen, (1989); Hair et al., (1995); Kline, (1998), Kline (2005). Further, it encompasses ordinary check of mannequin match and man or woman parameter estimate checks simultaneously, thus, presenting the best mannequin matches to the data. In this thesis, SEM the use of confirmatory factor analysis, therefore, has been conducted. SEM was once accompanied to discover statistical relationships among the objects of every factor and between the elements of unbiased (i.e. T-L, Assessment, Content and Modification and stakeholders’ involvement) and structured variables (i.e., Knowledge, Skill and Ability). Further, the specification of estimate, assesses, and presents the model to exhibit hypothesized relationships amongst variables. The empirical model can be tested towards the hypothesized model for fit.

As outlined with the aid of Coorley (1978), “the reason of the statistical approaches is to help in establishing the plausibility of the conceptual model and to estimate the degree to which the more than a few explanatory variables appear to be influencing the established variable”. The study employed two statistical packages, i.e., IBM SPSS (version 20) and SMART PLS 2.0 for analyzing preliminary survey data. At the initial level, the raw data were encoded into SPSS, eyeballed and then cleaned in hopes of eliminate unengaged responses and inaccurate records. In the second phase, EFA was applied to the remaining variables to evaluate the underlying dimensional structure aiming to whittle down to a small number of components (Singh, Chaudhuri, and Verma, 2019). In academic research, the application of EFA is widespread as it is employed to validate new scales, which allow researcher to determine constructs which are consistent and underlie preconceived theoretical considerations. During the process of EFA, the exploratory (orthogonal matrix) factor analysis model with the most popular ‘varimax rotation’ along with the principal component analysis (PCA) was opted for to produce more interpretable, organized model (Joseph F Hair Jr, LDS Gabriel, Silva, and Braga Junior, 2019). In the study, researcher opted for items which yielded above the cutoff point of 0.50 for communalities, 0.50 for anti-image correlations, 0.50 for factor loading, 0.40 for cross loading (Joseph F Hair Jr et al., 2019). At the final settlement, which is known as purification stage, CFA was performed using SMART PLS 2.0 on the items retained in the EFA stage in high hopes of improving psychometric properties of the scales.

The SMART PLS, which is claimed to robust and parsimonious in estimating structural model, employs analysis (e.g. multivariate regression) by combining principal components analysis (PCA) with ordinary least squares regressions (OLS) (Joseph F Hair Jr et al., 2019). The application of PLS can be found in multidisciplinary studies (Joseph F Hair, Risher, Sarstedt, and Ringle (2019). The application of PLS-SEM has several benefits over CB-SEM. It has been well documented that the PLS-SEM is more substantial in extracting variance in the endogenous variable. Furthermore, it produces higher composite reliability (CR) and convergent validity compare to CB-SEM, but the other indicators discriminant validity and beta coefficient found to be comparable with the CB-SEM Joe F Hair, Ringle, and Sarstedt, (2011); Joe F Hair Jr, Matthews, Matthews, and Sarstedt, (2017). The constructs used in the study are reflective as items (observed variables) of the construct are reflected by the respective construct with strong correlations among the items. Freeze and Raschke (2007). The study

followed the two-stage analytical procedure by which we first tested the measurement model using the suggested measures: validity and reliability, and then we examined the structural model considering the accepted indicators. Anderson and Gerbing (1988). The final confirmatory model yielded 40 items with substantial empirical evidences.

A whole of 500 respondents' data have been accrued from six universities, together with non-public and public universities, were analyzed using a structural equation modeling simulation, namely, SMART PLS 2.0, which is an entire PLS based totally SEM simulation invented by using the author. Henseler et al., (2009). At the preliminary level, all scales used in the learn about have been validated the use of the indicators: AVE, Composite reliability, Cronbach's Alpha, etc.; likewise, correlations had been checked, and hypotheses had been tested the use of the indicators, i.e., Beta coefficient, T-statistic, P-value. Throughout the study, necessary materials have been amassed from institutions such as the University Grant Commission (UGC), Bangladesh Research and Education Network (BdREN), etc. as nicely as on-line directory such as Google Scholar, Jstore, Emerald. (e.g. Figure 4.5)

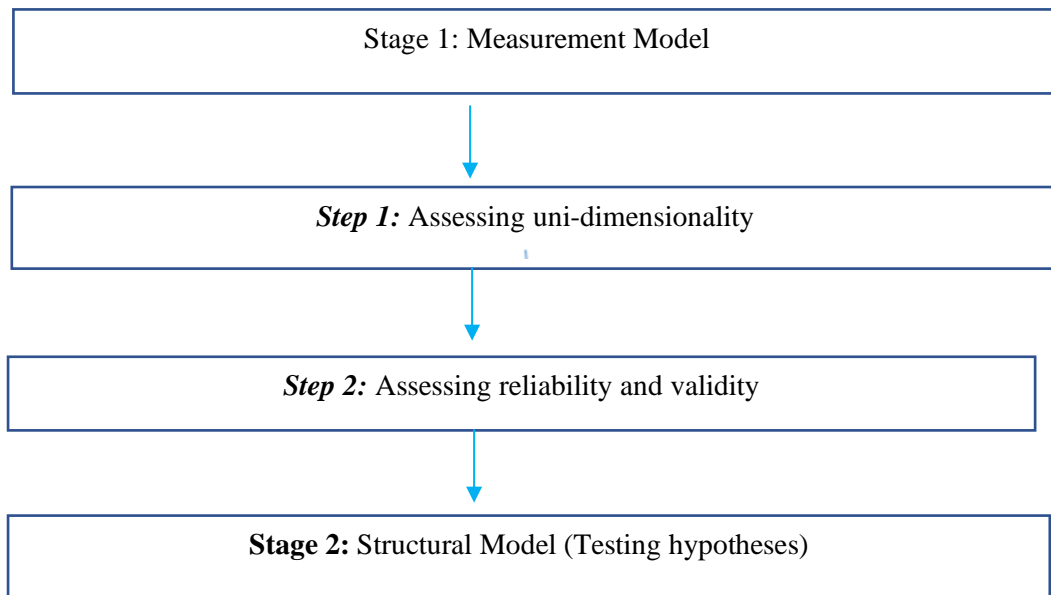


Figure 4.5: Different Phases of Pilot Data

The participants of the study were mainly academic staff, administrative staff, alumni, who were chosen randomly from several institutions within the country. All data were initially coded into IBM® SPSS® Statistics version 26, cleaned using Microsoft Excel, and then grouped into several meaningful factors following the Exploratory Factor Analysis (EFA)

techniques. Furthermore, to conduct Confirmatory Factor Analysis (CFA), collected data were analyzed through employing a Partial Least Squares (PLS) based Structural Equation Modeling (SEM) simulation, namely, SMART PLS 2.0. At the initial level, all scales used in the study were validated using the standard indicators: Average Variance Extracted (AVE), Composite reliability (CR), Cronbach's Alpha, etc.; (e.g. Table 4.30). Likewise, correlations were checked, and stated hypotheses were tested using the standard indicators, i.e., Beta coefficient (Standardized), T-statistic, P-value.

Table 4.30: The constructs and Initial Pool of Measurement Construct

SL	Constructs	Initial Pool of Measurement Construct
1	Human Resource Development	14
2	Quality Assurance in higher Education	29
3	Curriculum Content and Modification; Teaching –Learning; Student Performance Assessment; Stakeholders' Involvement in the process	50
4	Knowledge, Skill and Ability	25

Throughout the study, necessary secondary materials were collected from the institutions such as the University Grant Commission (UGC), Bangladesh Research and Education Network (BdREN), etc. as well as online directory, such as Google Scholar, JSTOR, Emerald.

The study employed a PLS (Partial Least Square) based simulation named SMART PLS (version 2.0). According to Hair et al (2017), PLS-SEM can be applied for exploratory research when theory is less developed, and the primary focus of the study is to predict and explain the key target constructs and/or to identify the key driver constructs. According to Richter et al., (2016), PLS-SEM can handle complex cause-effect structural models. When multivariate normality assumption is the prime concern, PLS-SEM would be a better option for drawing analysis compare to CB-SEM (e.g. AMOS). The main aim of CB-SEM is to assess the fit between the theoretical covariance matrix and the observed covariance matrix- how well a proposed theoretical represents the reality of the context under study. CB-SEM is a preferred method when the goal is to test, confirm, and compare theories. CB-SEM also can handle non-

recursive models (models with circular relationships or loops or relationships between latent constructs). Basically, EFA is a theory generation method. On the other hand, CFA is the Theory testing method. Henson and Robert (2006). EFA can be employed when little is known about the factor structure and the number of factors (green et al, 2016). EFA is mainly adopted during the scales development process and used to specify the construct's dimensions Pallant, (2007). During the process of EFA, the exploratory (orthogonal matrix) factor analysis model with the most popular 'varimax rotation' along with the principal component analysis (PCA) was opted for to produce more interpretable, organized model. Joseph F Hair Jr, LDS Gabriel, Silva, and Braga Junior (2019). In the study, the researcher opted for items that yielded above the cutoff point of 0.50 for communalities, 0.50 for anti-image correlations, 0.50 for factor loading, 0.40 for cross-loading. Joseph F Hair Jr et al., (2019).

The dataset was divided into two parts. EFA was conducted with the first part and CFA was conducted with the whole dataset. According to Henson and Robert (2006), using both EFA and CFA on the same data set is not informative, and can be potentially misleading, to follow an EFA with CFA, the dataset was divided into two parts. EFA was conducted with the first part and CFA was conducted with the whole dataset. According to Henson and Robert (2006), using both EFA and CFA on the same data set is not informative, and can be potentially misleading, to follow an EFA with CFA. As factor structure from an EFA should be confirmed with CFA on a different dataset. Green et al, (2016). The Bootstrap procedure was employed, which is available in SMART PLS 2.0, with 5000 samples as suggested by Hair et al (2017). CFA is employed to test a hypothesized structure underlying a set of specified constructs and their association with the variables, which is nailed under some previous measurements or theoretical considerations. Mooi, Sarstedt, and Mooi-Reci, (2018).

The research model of the study comprises two models: the outer model (measurement model) and the inner model (structural model). The inner models consist of seven latent constructs: TLP, CCDMP, SPA, SIQAM, KSA, QAM, HRD, four of which are exogenous constructs, and the remaining three are endogenous constructs. All the arrows of the inner model linking latent constructs and forming causal relationships. The study followed the two-stage analytical procedure by which we first tested the measurement model using the suggested measures:

validity and reliability, and then we examined the structural model considering the accepted indicators. Anderson and Gerbing, (1988).

Phase 2- Quantitative Data Analysis (I-C; I-D) - Descriptive Statistics

Quantitative Analysis (2nd Phase) is based on descriptive statistics. The additional data from additional two questionnaires is the source of data from Academic and Administrative staff on QA process; and Additional questionnaire for Employer and Alumni on KSA. The data is analyzed after clean and code dataset and conduct descriptive statistics (i.e., mean, standard deviation, frequency and percent, as appropriate) to examine each of research questions (e.g. table 4.31). The following descriptive statistics is considered for the analysis and interpretation:

Table 4.31: Quantitative Data Analysis- (Second Phase) for Two Additional Sets of Question

Quantitative Data Analysis- (Second Phase) for Two Additional Sets of Question
(I-C) Additional of Questionnaire for Employer and Alumni on KSA (I-D) Additional of Questionnaire for Academic and Administrative staff on QA process
Descriptive Statistics Contingency Table. Bar Chart. Pie Chart, Median, Standard deviation, Anova, Co-relation, Regression

Hence, for the purposes of comparison of responses between groups, the Kruskal Wallis Test has been used, as it is a non-parametric test ideal for testing statistical differences between respondent groups using median ranks, instead of the mean, which is not appropriate for ordinal non-parametric data. Hence, Kruskal Wallis test is being used as an alternative to the One-Way ANOVA. The data has met the following assumptions for the Kruskal Wallis Test:

- **Assumption 1:** Ordinal level data present
- **Assumption 2:** Two or more categorical, independent groups present
- **Assumption 3:** Independence of observations present

4.8.2 Qualitative Data Analysis

Qualitative Data analysis will be based on the data collected through Open ended questions after the general survey questionnaire and Interview questionnaire for the experts (e.g. table 4.32). Combination of both open-ended responses with the expert interviews is summarized and thematic analysis will be conducted.

Table 4.32: Overview of Qualitative Data Analysis

Qualitative Data Analysis	
(I-B) Open Ended Questions (5 items) For all six stakeholders of HEIs	(II-A) Interview (10 Items) For Experts in HE, QA and HRD
Data gathered through General Survey Questionnaire	Data gathered through Interview
Expected response is 864	15 experts' Interview
(I-B) Open Ended Questions (5 items) For all six stakeholders of HEIs	(II-A) Interview (10 Items) For Experts in HE, QA and HRD
<u>Following process will be conducted:</u> a. Summarize → iv. Summary → v. Thematic analysis	<u>Following process is conducted:</u> i. Recording → ii. Transcription → iii. Summarize → iv. Summary v. Thematic analysis
Combination of both the Analysis	

The ultimate aim of qualitative data analysis is to construct an authentic narration of what surface the study. Creswell (2007) describes it is a 'challenging task' because determining the suitable approach of representing data in tables, matrices and narrative for misrather a complicated process (p.147). Janesick (2003) argues, "there is no one best system for analysis"(p.63), therefore, it was suggested to follow the conventional strategy describe the literature. Creswell (2007) describes the general process for qualitative data analysis, which includes the following:

- I. firstly; preparing and organizing the data,

- II. secondly; reducing the data into through a process of coding and condensing the codes and
- III. finally; representing the data in figures, tables, or discussion.
Particularly in This study, generally the steps were followed to analyze qualitative data.

Preparing and Organizing Data

Qualitative data analysis for this finds out about used to be start don getting ready and organizing the data. In this stage, facts from distinctive sources have been examined and reexamined for in addition processing. For example, qualitative survey records scripts had been scrutinized with the aid of calculating participants' involvement and the quantity of questions they answered. Participants' e-portfolios have been also checked whether or not it was entire or not and how many postings have been made inside facts series period. To get an influence on the extent of qualitative data, the quantity of WJs, DJ sand the feedback of CI was also calculated. Afterward, the on-line data (WJ, DJ and feedback of CI) and the audio taped interviews have been converted into phrase format busing the software program Microsoft Word (version2007). Scattered qualitative information from different sources used to be categorized in to meaningful section in next stage. The goal of such categorization was to correlate exclusive sources of information for triangulation. Denzin (1978) and obtain an outline of inspecting records in line with research questions. Such categorization triggers a conceptual schema that helps the researcher to ask questions, compare data, change or drop categories and make a hierarchical order of them. Basit (2003). However, the method counseled by Agar (1980); citesin Creswell (2007) "read transcripts in their absolutely a number of times. Immerse ours find the detail, attempting to get a sense...a saw gap breaking it in to points" (p.103), was followed in categorization process. Moreover, one coding system, a frequent technique in dissecting texts shape earning, used to be employed in such manner by using the use of short acronym or phrases. For example, participants' responses in survey that industry should take part in Curriculum development, Alumni's feedback should be gathered regularly put under one coding as "stakeholders Involvement". Similarly, development of the perception on "or 'UGC and BAC should be more active in involving education for HRD of BD was labeled as the 'Govt. Role in HRD of BD'. Data storage was the remaining step of getting ready and Organizing data. Although it is much less emphasized in literature, on the other hand in deed it requires essential importance Creswell (2007). Therefore, interpretable statistics was

saved in separate folders and archives in pc and developed lower back up copies, as suggested by way of Davidson (1996), cited in Creswell (2007).

Data Reduction

Since qualitative information collection results massive quantities of information, therefore, records reduction will become imperative. However, such analysis method is necessary as its publications to determine how the records will be mediated. Miles and Huberman (1994) explain “Data reduction is now not something separate from analysis. It is phase of analysis. There searcher’s decisions—which facts chunks to code and which to pull out, which evolving story to tell—are all analytic choices. Data reduction is a form of evaluation that sharpens, sorts, focuses, discards and organizes facts in such a way that final conclusions can be drawn and verified” (p.11). Accordingly, few steps had been observed in this learn about to reduce data. For example, studying and analyzing of prepared statistics revealed that few classes are greater large to answer the research questions. Therefore, as the first step, the irrelevant facts have been discarded. In the 2nd step, repetitive views of the same participant in different data sources was once synthesized or discarded. In such case, statistics that was pleasant articulated used to be regarded for interpretation in the subsequent step. Likewise, different contributors often expressed analogous observation in equal or different facts source. In this case, the same approach used to be used to synthesizer disbar repetitive data.

Data Interpretation and Display

Data interpretation is the most crucial facts of analysis process. In this stage, the reduced data is:

- Re-examined to get a whole perception on participants’ HRD of BD
- Extraordinary records sources are synthesized
- Developed a pattern focusing on the views in line with there each question
- Reorganized the emerged themes/sub-themes to make participants’ view more complete and systematically presentable and, sooner or later
- Reach researcher’s elementary conclusion from qualitative data.

For a better understanding of the emerged subject matters and sub themes, data was presented in to more simplified format, which include different heads and Tables. Indeed, data is reduced

to attain and fulfill the objective of gathering qualitative data.

4.9 Questionnaire Pre-Testing

This section starts with a discussion of pre-test methods and justifying the ones employed in this thesis. This is then followed by a discussion of the pre-test sampling frame and procedures. The General Survey Questionnaire and interview question is pre-tested for the following reasons:

- test how long it takes to complete;
- check that the questions are not ambiguous;
- check that the instructions are clear,
- to eliminate questions that do not yield usable data,
- check sequence logic,
- check sensitivity and level of willingness to answer and to check if answer is obvious.

Reynolds and Diamantopoulos (1998) outlined that there is extensive settlement amongst pupils that pre-testing is a vital phase of the questionnaire improvement process. As Hunt et al. (1982) pointed out, the researcher desires to ask: “Will the instrument furnish information of ample exceptional and extent to fulfill the targets of the research?” (p.270). The advantages of a pre-test prior to conducting the survey is supported through many researchers (Hunt et al., 1982); Blair and Presser, (1992); Churchill, (1995); Reynolds and Diamantopoulos, (1998); Zikmund, (2003). Pre-test is described as “a trial run with a team of respondents used to display out problems in the guidelines or plan of a questionnaire” Zikmund, (2003). Blair and Presser (1992) determined actual variations between pre-test methods. This used to be established by means of Reynolds and Diamantopoulos (1998), who cited various disagreements amongst pupils about the satisfactory approach for pre-test administration. Overall, the methodological literature has been observed to distinguish between three sorts of pre-test strategies. Hunt et al., (1982); Blair and Presser (1992); Churchill (1995); Reynolds and Diamantopoulos (1998); Zikmund, (2003), which include deliberate area survey, personal interviews (face-to-face), and specialist panel.

- The first is a planned field survey, which employs a small sample referred to as ‘pre-testing’ Zikmund, (2003).

- The second, is personal interview in which 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 fourth is the interview with the key personnel of the HEIs for the Interview (qualitative questionnaire) to identify the accuracy of the interview questions.

The above three strategies are significantly analyzed by using Reynolds and Diamantopoulos (1998), and they cited that a deliberate survey is beneficial due to the fact it includes all factors of the area survey, and is much less probable to be affected through interplay between the respondents and interviewer. However, a disadvantage with this approach is that respondents who are no longer the focused pattern would possibly entire the questionnaire. Therefore, the recommendation is that that private interview is the most fantastic capability of conducting a pre-test, due to the accuracy and no fragmentation of the data generated. Although this technique is difficulty to mistakes ensuing from interplay between the interviewer and members (i.e., bias brought by way of interviewers), specialist panels (the ultimate method) may want to be used to decide if there are difficult questionnaire items. In order to decrease any error or bias, all of these strategies have been used in conducting the pre-test for this thesis.

4.9.1 Pre-Test Sampling Frame

Hunt et al. (1982) mentioned two concerns in discussing the sampling frame for a pre-test. These concerns were “who should be the subjects in the pre-test?” and “how large a sample is needed for the pre-test?” For the first concern, it was necessary to include universities which was similar to the sample frame but not part of the sample for the main survey; Churchill, (1995); Tull and Hawkins, (1990). Hence, a good number of respondents with certain similar characteristics included to be more efficient in eliminating errors in the survey instrument than respondents selected randomly from the population of interest; Reynolds and Diamantopoulos, (1998).

A pre-test is necessary to discover any problems in the instrument, and to determine the face validity of the measures. Following pre-testing and pilot survey procedures, the final survey

was conducted. Piloting on one (1) university (AIUB) with 100 respondents was conducted. The respondents, the stakeholders (Academic and Non-academic staff, Parents/Guardians, Alumni, students, employers) of HEIs of 6 universities, Shahjalal University of Science and Technology (SUST, University of Rajshahi, Islamic University of Kushtia, Bangladesh Agricultural University (BAU), University of Dhaka and Stamford University were surveyed between December 2019-January 2020. Two questionnaires developed for Quantitative and qualitative data gathering.

The sampling frame for a pre-test consists of six stakeholders Employers, alumni, Academic and Non-Academic staff, students and parents/guardians, that correspond with the population to be studied. These subjects have formed the population of interest in the purposive sample generated from one selected university, American International University-Bangladesh (AIUB).

In the case of pre-test sampling size (the second concern), there is less understanding in the literature. Hunt et al., (1982). For example, Zatalman and Burger (1975) did not specify size, simply recommended a ‘small’ sample. Others such as Boyed et al., (1977) indicated that a sample of 20 is adequate. Luckas et al. (2004) point out a size of 50 respondents allows the running of proper statistical testing procedures. Four key personnel of the university including Vice chancellor, Director IQAC, Director of Office of Placement and Alumni along with Director of Office of Student affairs were interviewed based on qualitative interview questions. Accordingly, 150 questionnaires were distributed to AIUB aiming for a completion of at least 100 respondents

4.9.2 Pre-Test Procedures

As there are limitations subjected to all these the pre-test methods, many researchers have recommended using different combinations of methods. Blair and Presser, (1992); Malhotra, (1993); Churchill (1995). As a result, expert panel and planned field survey methods, these all have been included to pre-test the questionnaire of this thesis in order to overcome the shortcoming of using one method. The first procedure involved distributing the draft to a panel of seven experts. Two of them were professors in the area of Human resource management at American International Universities, two were professors in Quality Assurance setting from

University of Dhaka. Three were Research Expert from American International University-Bangladesh. These seven experts were asked to evaluate the questionnaire (both qualitative and quantitative) to:

- assess the relevance of its conceptualization of the thesis;
- appraise the suitability of the terminology to the QA and HRD; and
- make further suggestions, criticism and comments on the questionnaire and its facets.

The second procedure was to ensure that this instrument could be used within Bangladesh's context. The expert panel identified five issues, which were as follow:

- Due to the length of the Questionnaire. That respondent will be reluctant to fill in the survey due to the length of the questionnaire.
- The survey will be time consuming due to the length.
- To use less technical terms of QA and HRD rather to use the full statement of the technical terms for better understanding the questionnaire. But to use the terms rather in the interview (qualitative) questionnaire.
- The questions, which are including challenges and negative answers, the scale for those questionnaires should be carefully reorganized for the quantitative survey.
- Further modification took place based on the expert panels' opinion, that for several demographic questions relating to the age of the respondents.

The necessary revisions were made to the instrument to ensure its relevance to the domain of this thesis and to achieve face validity as well as for the qualitative questionnaire (Interview). The third procedure followed by Bowen and Shoemakers' (1998) suggestion in which five personal interviews were conducted. Two teachers, two non-academic staff, two students and one Alumni, One Guardian and one Employer were interviewed at AIUB. The purpose of these interviews was to ask the respondents to identify any problems in regard to the questionnaire format, edit, layout understanding, logical sequencing wording or design, and to address any comments or suggestions they could give. The suggestion after this process was to provide more space between each group of questions within the same part would make the questionnaire easier to read. It was also identified that two out of five respondents did not understand the question related to their opinion on how they felt about the connection with QA and HRD. The questionnaire was modified and refined before conducting the pre-test survey.

(e.g., table 4.33). For Internal reliability of the pre-test of the questionnaire and piloting of the study, the questionnaire for the students were randomly conducted twice within seven (10) days for the same students and administrative staff only and not for the other stakeholders.

Table 4.33: Overview of the respondents for Interview and Open-Ended questionnaires

Procedures followed in Pre-test	Target respondents	Reasons for following the Procedure
Expert Panel	<p>Two professors in the area of QA</p> <p>Two Professors in the area of HRD</p> <p>Three professors in the area of Research</p>	<p>Assess the relevance of its conceptualization of QA and HRD</p> <p>Check the proper research operation;</p> <p>Appraise the suitability of the terminology to the QA and HRD concept.</p> <p>Make further suggestions, criticism and comments on the questionnaire and its facets; and</p> <p>Validate the questionnaire</p>
Personal interviews	Two students, one Alumni and Two Academic staff and non-academic staff, one employer and one guardian.	1. Ask respondents/stakeholders to give their comments and identify any problems in regard to the questionnaire; and Interviews' results used in pre-testing
Procedures followed in Pre-test	Target respondents	Reasons for following the Procedure

Procedures followed in Pre-test	Target respondents	Reasons for following the Procedure
Planned survey (data collection) through Quantitative questionnaire survey	40 students 30 academic staff 10 alumni 10 Non-academic staff 5 Employers 5 guardians and parents	Modify and refine the questionnaire prior to the final survey; and Perform proper analysis
Planned survey (data collection) through Open ended questionnaire survey at the end of quantitative survey	40 students 30 academic staff 10 alumni 10 Non-academic staff 5 Employers guardians and parents	Modify and refine the questionnaire prior to the final survey; and Perform proper analysis
Planned survey (data collection) through interview questionnaire	Vice Chancellor Director, IQAC Director, Office of Placement and Alumni	Modify and refine the questionnaire prior to the final survey; and Perform proper analysis

In the fourth and final procedure, letters of formal invitation was handed over in hand to the Director and Additional Directors Institutional Quality Assurance Cell of the university in order to invite them to distribute the amended questionnaires to their stakeholders (e.g. Appendix 9). Two sets of discussions were undertaken to determine the most suitable way to approach the stakeholders/respondents to fill in the questionnaires. Discussion with both academics (procedure one) and IQAC-AIUB Director and Additional Directors (procedure two) identified that the most appropriate way was to distribute the questionnaires through IQAC, this IQAC-AIUB has completed the Self-Assessment survey in 2015 as a requirement of the World bank HEQEP, UGC and MoE QA project. The data, information, address (both email and physical) documentation were available with IQAC and to collect the questionnaire back through IQAC. This would give the stakeholders opportunity to participate in the survey

physically and also through Google form and fill it in. In total, 150 questionnaires were distributed to the stakeholders. This procedure was conducted during November 2019. One Hundred three (103) properly filled in questionnaires were received (13 % response rate). To verify the reliability of the measures, Cronbach's coefficient alpha used to be examined, displaying that all scale objects had excessive alpha ratings exceeding .70. Following the reliability assessment, the reason was to determine convergent and discriminant validity of objects through the use of confirmatory element analysis. However, it used to be feasible to conduct this due to the sample size (N=100). Still, validity evaluation used to be carried out after the ultimate data collection, and mentioned as section of SEM in the subsequent chapter.

Further to the above empirical results, respondents' answers recognized that there was a need for extra modifications. For instance, a query associated to the age was deleted as most respondents did not reply it. In addition, the pre-test confirmed that reaching stakeholders for the survey through IQAC staff at targeted universities is the most appropriate way to approach potential respondents.

In the fifth stage of pre-testing, the qualitative questionnaire was modified based on the feedback from the 4 respondents after interview. The questionnaire was shortened based on their opinion and made more specific using the key terms other than using the technical terms. Because all the respondents were well aware of the key terms of QA and HRD. The suggestion was to integrate more technical terms for the interview questionnaire, since respondents are well aware of the issue.

In whole of all above 5 pre-test procedures, minor modifications to declaration wording and design have been made to the instrument to make certain that the questions have been conveniently understood through all respondents Zikmund (2003). As no principal modifications or addition had been made to the instrument, a in addition pre-test used to be regarded unnecessary.

4.10 Pilot Survey

An external pilot study has been carried out at American International University-Bangladesh. The main purpose of the study was to

- Assess the effectiveness of the structured questionnaire,
- Response rate, as well as investigate the effectiveness of anti-bias measures.
- To check the reliability, Validity
- Sample size of final survey
- To identify the appropriate data analysis technique
- To check the construct is proper

The pilot survey is an undeclared survey. Both qualitative and quantitative survey took place. The survey was conducted in American International University-Bangladesh (e.g. table 4.34). The detail of AIUB is given below:

Table 4.34: Overview of the University (AIUB) for Pilot Study

American International University-Bangladesh	
Establishment Date	November 8, 1994
Government Approval Date	November 6, 1995
Number of Students	10,432 (January 2019)
Full time Faculty Member	384 (January 2019)
Total number of graduates	24,809 (Till 18th Convocation)
Number of Faculties; 04; Faculty of Arts and Social Sciences (FASS); Faculty of Business Administration (FBA); Faculty of Engineering (FE); Faculty of Science and Technology (FST).	4
Establishment of IQAC in 2008. Carried out the self-assessment process of UGC	2014. Completed the QA process in 2017.

4.10.1 Sample Size and Technique in Pilot Survey

In total 100 respondents were surveyed. The respondents number according to the category is given below (e.g., Table 4.35):

Table 4.35: Sample Size and Technique in Pilot Survey

Respondents	Source	Sampling technique
40 students from all the faculty	From all 4 faculties, 10 from each.	Convenience Purposive sampling
30 academic staff.	From all the 4 faculties	Convenience Purposive sampling
5 Guardians	From all 4 faculties through Admission office and IQAC	Convenience Purposive sampling
5 Employers	Through office of Placement and Alumni and IQAC	Convenience Purposive sampling
Respondents	Source	Sampling technique
10 Non-Academic staff	Different offices	Convenience Purposive sampling
10 Alumni	Through office of Placement and Alumni and IQAC	Purposive sampling

4.10.2 Data Collection Process in Pilot Survey

- **Phase One**

The first phase of the data collection procedure was involved with administering the structured survey questionnaire. The questionnaire was administered via both Google Forms and also via printed hardcopy with the assistance of different offices and IQAC-AIUB.

- **Phase Two**

- In-depth Interview with the Vice Chancellor of AIUB;
- In-depth Interview with Director, Institutional Quality Assurance Cell (IQAC) AIUB;
- In-depth Interview with Director, Office of Placement and Alumni (OPA)-AIUB;

- In-depth Interview with Director, Office of Student Affairs (OSA)-AIUB

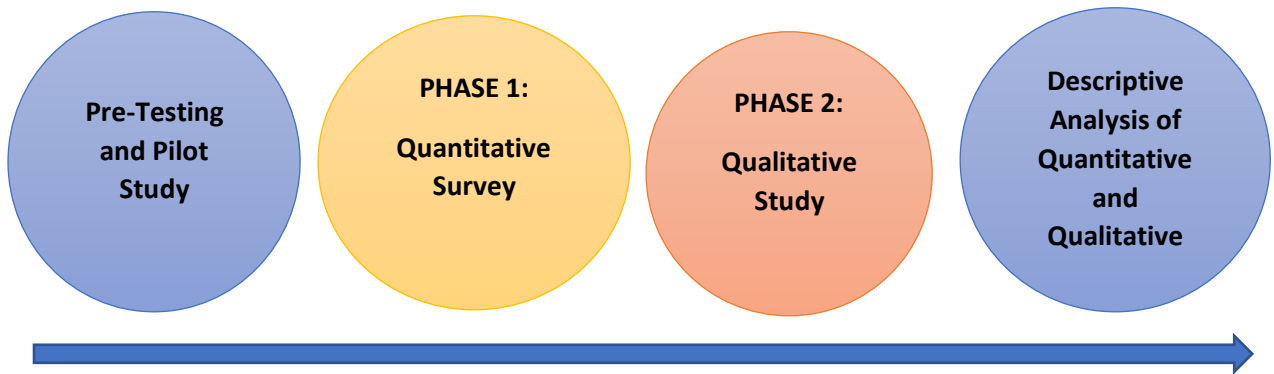


Figure 4.6: Data Collection Process in Pilot Survey in different phases

- **Phase Three**

Analysis of Pilot Data: Descriptive Statistics is conducted for the analysis of pilot data. Mean, Median, Standard Deviation and Co-relation is derived for the consistency, validity and reliability of data. Interview and open-ended questions are analyzed by preparing transcription and summary.

4.10.3 Responses form Pilot Survey

This Study conducted a pilot study using the convenience sample of 100 responses to assess the reliability of the selected measuring instruments prior to the selection of the key empirical study. Researcher obtained data from Academic and Administrative Employers and Guardians Staffs, Students, Alumni, to identify ease of completion, any wording problems and questionnaire spelling errors Table:4.40 provides a comprehensive list of results of reliability derived from the pilot study. The calculated reliability ranges from.936-.940 over 0.7 for any empirical research considered acceptable (Nunally and Bernstein, 1994). Reliability of the selected measuring instrument is checked to determine how closely the set of measurement items are related as a factor or group. Table no4.39 and 4.40 shows the reliability value from 0.9 and above which means a high internal consistency or high reliability within the collected data.

Demography of Pilot survey

As we observed in the following table 4.38, the pilot survey sample respondents' type of the entity/org/university was private which is 100% of the total respondents. The Sample showing that out of 100 respondents, 60 respondents were Department of Business which is the 60% of total respondents, 4 respondents were Department of Social Science which is the 4% of total respondents, 7 respondents were Department of Law which is the 7% of total respondents, 12 respondents were Department of Engineering which is the 12% of total respondents, 15 respondents were Department of Science which is the 15% of total respondents, and rest 2 respondents were in others departments which is the 2% of total respondents. If we see respondent's affiliation with the organization our pilot data sample showing that out of 100 respondents 40 respondents were student which is 40% of total respondents, 30 respondents were faculty member which is 30% of total respondents, 10 respondents were Administrative Officer which is 10% of total respondents, 10 respondents were Alumni which is 10% of total respondents, 5 respondents were Employer which is 5% of total respondents, 5 respondents were Parents or Guardians of Students which is 5% of total respondents. In our findings in respondent's educational qualification, around 16 respondents completed their Bachelor's degree which is 16% of total respondents, 38 respondents completed their Master's degree which is 38% of total respondents, 6 respondents completed their Ph.D. which is 6% of total respondents, and the rest 40 respondents Enrolled in Bachelor's Degree, not completed yet which is 40% of total respondents. If we see our sample respondents age 65 respondents age 20 to 30 which is 65% of Total respondent's, 23 respondents age 31 to 40 which is 23% of Total respondent's, 11 respondents age 41 to 50 which is 11% of Total respondent's and the rest 1 respondent age 61 to 70 which is 1% of total respondents. The sample respondents were comprised of 71% male and 29% female respondents. The summary of demographic analysis described the following Table (e.g., Table 4.36) which are given below:

Table 4.36: Summary of Demographic Analysis

Demographic Analysis Table Summary					
Demographic Characteristics		Frequency	Percent	Valid Percent	Cumulative Percent
Type of the entity/org/university	Private	100	100.0	100.0	100.0
Department	Business	60	60.0	60.0	60.0
	Social Science	4	4.0	4.0	64.0
	Law	7	7.0	7.0	71.0
	Engineering	12	12.0	12.0	83.0
	Science	15	14.0	14.0	98.0
	Others	2	2.0	2.0	100.0
Personal Affiliation with organization	Student	40	40.0	40.0	40.0
	Faculty Member	30	30.0	30.0	70.0
	Administrative Officer	10	10.0	10.0	80.0
	Alumni	10	10.0	10.0	90.0
	Employer	5	4.0	4.0	94.0
	Guardians of Students	5	4.0	4.0	100.0
Educational Qualification	Bachelor	16	16.0	16.0	16.0
	Master	38	38.0	38.0	54.0
	PhD	6	6.0	6.0	60.0
	Enrolled in Bachelor's Degree, not completed yet	40	40.0	40.0	100.0
Age	20-30	65	64.0	64.0	64.0
	31-40	23	23.0	23.0	88.0
	41-50	11	11.0	11.0	99.0
	61-70	1	1.0	1.0	100.0
Gender	Male	71	71.0	71.0	71.0
	Female	29	29.0	29.0	100.0
	Total	100	100.0	100.0	

Descriptive Analysis of Pilot Survey

In reliability analysis (e.g., Table 4.37) the standard Cronbach's Alpha should be more than 0.7. In our findings we observed that our Cronbach's Alpha value is .938 which is more than 0.7 it's proved that this value is acceptable. So, we can say our study variance is reliable.

Table 4.37: Pilot Data Reliability Analysis

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.938	.954	134

In descriptive statistic table we used 5-point Likert scale. If mean value is higher than 3.5 and standard deviation is less than 1 than the variable has a positive impact, on the other hand if mean value is less than 3.5 and again standard deviation is less than 1 than it has low impact in the variable. So, from this table those variables have mean value higher than 3.5 and have standard deviation less than 1 we will take in our consideration.

4.11 Ethical Issues

The major ethical issues revolve around the method and techniques adopted for data collection. The interview and questionnaire survey has been carried out with outmost regard for bias elimination. Survey questionnaire has been put thru piloting to get rid of bias in the questions and answer options. As stated through Polonsky and Waller (2005), the researcher needs to recognize the fundamentals of ethical research and how this would possibly have an effect on the thesis. In response to this, a number of issues had been adopted to make sure that there was once no negative affect on absolutely everyone by means of conducting this research. The aims, techniques concerned and the nature of the research ensured that there had been no achievable risks related with this thesis. The issues around bias such as leaning in the direction of a specific kind of answer, suggestive query pattern, assumption in questions, etc. have been eliminated as an awful lot as viable thru trial and error. Additionally, the confidentiality of the contributors have not been revealed or stored.

In conformity with the ethics standard, formal concurs thru a form for conducting this research have been obtained. Those who desired more information earlier than collaborating in the

research have been given the choice to contact the researcher. To make sure the confidentiality of the data, the researcher undertook a number of tactics including:

- Individuals' personal data have no longer been recognized in any finding.
- Raw data accumulated has no longer been used for any motive other than the research as specified.
- Raw data accumulated has been privy to a number of users; particularly the researcher, main investigator and associate investigator.
- Data is to be saved with the researcher in a locked cabinet for 5 years.
- Questionnaire Manual, Data Collector's guidance is prepared.
- Invitation letter to assist in the data collection method is dispatched to the IQACs of the six universities.
- Consent letter from the participants is additionally accumulated prior to the survey.

Finally, letters of formal invitation is enclosed with the instrument had been mailed to all collaborating universities in order to get permission to conduct the pre-test and ultimate survey. Information given to the HEIs covered the objectives of the study, and its significance. It additionally covered the time frame of data collection, the intention on the use of data, and issues related to the voluntary participation, making sure confidentiality.

4.12 Final Data Response Rate

Table 4.38: Final Data Response Rate

Tools	Respondents	From Each University	Total number Expected Data collection	Data Received after Survey	Response Rate	Final Data taken for Analysis after appropriation
General Questionnaire survey	Academic Staff	40	240	200	83%	140
General Questionnaire survey	Non-Academic/ Administrative staff	12	72	65	90%	40

Tools	Respondents	From Each University	Total number Expected Data collection	Data Received after Survey	Response Rate	Final Data taken for Analysis after appropriation
General Questionnaire survey	Alumni	12	72	60	83%	40
General Questionnaire survey	Students	60	360	296	82%	200
General Questionnaire survey	Employer	10	60	42	70%	40
General Questionnaire survey	Parents/Guardians	10	60	45	75%	40
Total General Survey Questionnaire	All six (6) Stakeholders	144	864	708	81%	500
Total General Survey questionnaire for final Data Analysis and Data Analyzed						500/864 57%
Open Ended Questions	All six (6) Stakeholders	144	864	432	50%	380
Total Open-Ended questionnaire for Final Data Analysis and Data Analyzed						380/864 4.3%

Tools	Respondents	From Each University	Total number Expected Data collection	Data Received after Survey	Response Rate	Final Data taken for Analysis after appropriation
Additional questionnaire for final Data Analysis (Academic and Administrative staff)	Academic Staff	40	240	200	83%	150
	Administrative staff	12	72	65	90%	40
Total Additional questionnaire for final Data Analysis (Academic and Administrative staff) and Data Analyzed						190/312 60%
Additional questionnaire for final Data Analysis (Employer and Alumni)	Employer	10	60	42	70%	35
	Alumni	12	72	54	75%	35
Total Additional questionnaire for final Data Analysis (Academic and Administrative staff) and Data Analyzed						70/132 53%
Interview Questions	For Experts in different field		10	10	10	10
Total Interview questionnaire for final Data Analysis, Response Rate and Data Analyzed						10/10
						100%

The below table (e.g., Table 4.39) described how many data is selected for the final analysis and how many data is selected from different type of stakeholders and each university. e.g., Appendix for serials of filled n questions.

Table 4.39: Number of Total Data for Final Analysis

University	Student	Alumni	Employer	Guardian	Ac Staff	Non-Ac Staff	Total Each University	Serial
Stamford	34	7	7	7	24	7	86	1-86
Du	34	7	7	6	24	7	85	87-171
BAU	33	7	6	6	23	6	81	172-252
IU	33	6	7	7	23	6	82	253-334
SUST	33	7	6	7	23	7	83	335-417
RU	33	6	7	7	23	7	83	418-500
Total	200	40	40	40	140	40	500	

CHAPTER FIVE: FINDINGS AND ANALYSIS

The analysis of this research is composed of two phases. In the first phase, it describes the empirical results by means of a statistical examination extracted for the report. Firstly, this chapter emphasizes on the process of data screening, handling the missing data. Then, it addresses the respondents' characteristics of the study. Use SPSS (Version 20.0) to illustrate the descriptive statistics of the dimensions of the variables used in the analysis. Two statistical techniques have been applied to analyze the results. The data entry and analysis has been performed using the software SPSS version 20.0. The Exploratory Factor Analysis (EFA) was conducted also using SPSS version 20.0. The Smart PLS 3.2.7 Software package employed the data analysis to see the relationships between all the different constructs. Review of open-ended questions and feedback from interviews related to QAM, KSA and HRD of Bangladesh are discussed. In the second phase a qualitative data analysis was approached. There were open ended questions after the quantitative data questionnaire which provided the basis for qualitative data, followed by in-depth interview of related stakeholders. Then the qualitative data triangulation was combined and analyzed. Eventually, a summary of the chapter was given at the end.

5.1 Data Screening

Screening data is a primary and necessary first step before the final analysis is carried out. In fact, the aim of data screening is to focus on missing data issues as well as to identify irrelevant, inconsistent and/or incompatible data. Broeck et.al.,(2005). Moreover, if all these issues were not addressed effectively and efficiently, then estimation accuracy may be disrupted, notably in multivariate analyzes such as Smart PLS.

5.1.1 Missing Data

The missing data occurs when certain items are unanswered in the collected questionnaires, or seem to have no corresponding meaning in the data sheet. In addition, a variety of factors are responsible for this happening during the questionnaire filling out the respondents. Some of the key factors may be the difficulty in interpretation those being surveyed; maybe the participants cannot fully understand the questions. In fact, responders face difficulties when addressing the basic questions, or even often they are not at all able to answer those questions Sekaran and

Bougie (2010). It can also appear during the process of data entry when the person responsible (generally the researcher) is making the same mistake. Gray (2004). If a large number of questions are unanswered in a questionnaire (above 25%), the normal practice is to take out all of that particular respondent's answers. Sekaran and Bougie (2010). This study adopts the procedure mentioned above to handle the missing data. This reported a total of 14 cases as having excessive missing data, warranting the exclusion of unanswered responses for data analysis during data screening.

5.2 Characteristics of Demographic Description of Respondents

This section reflects the frequency distribution of the study sample's demographic features and information from institutions (n=500). The respondents who participated in this study were students, corporate professionals, guardians, alumni, academic and administrative staff. Moreover, vice chancellors, IQAC directors of the HEIs, former Chairman of UGC, as well as a member of the UGC was interviewed. There was also interview conduction of officials from National Skill Development Authority (NSDA). The questionnaire also covered two major parts, namely: demographic and experiential detail.

As we observe in the following table 5.1, the survey sample respondents' type of the entity/organization/university 414 respondents was public which is 82.8% of the total respondents and rest 86 respondents was private which is 17.2% of the total respondents. The Sample showing that out of 500 respondents, 212 respondents were department of business which is the 42.4% of total respondents, 39 respondents were department of social science which is the 7.8% of total respondents, 29 respondents were department of law which is the 5.8% of total respondents, 17 respondents were department of engineering which is the 3.4% of total respondents, 203 respondents were department of Science which is the 40.6% of total respondents. If we see respondent's affiliation with the organization our sample showing that out of 500 respondents 200 respondents were student which is 40% of total respondents, 142 respondents were faculty member which is 28.4% of total respondents, 38 respondents were Administrative Officer which is 7.6% of total respondents, 40 respondents were Alumni which is 8% of total respondents, 40 respondents were employer which is 8.0% of total respondents, 40 respondents were parents or guardians of Students which is 8.0% of total respondents. In our findings in respondents' educational qualification, around 105 respondents completed their

Bachelor's degree which is 21% of total respondents, 130 respondents completed their Master's degree which is 25% of total respondents, 14 respondents completed their MPhil which is 2.8% of total respondents, 66 respondents completed their Ph.D. which is 13.2% of total respondents, and the rest 185 respondents enrolled in Bachelor's Degree, not completed yet which is 37% of total respondents. If we see our sample respondents age 307 respondents age 20 to 30 which is 61.4% of Total respondent's, 122 respondents age 31 to 40 which is 24.4% of Total respondent's, 71 respondents age 41 to 50 which is 14.2% of Total respondent's. The sample respondents were comprised of 71.4% male and 28.6% female respondents. The summary of demographic analysis described the following Table (e.g. Table 5.1) which are given below:

Table 5.1: Demographic Analysis

Demographic Characteristics		Frequency	Percent	Valid Percent	Cumulative Percent
Type of the entity/ org/university	Public	414	82.8	82.8	82.8
	Private	86	17.2	17.2	100.0
Department	Business	212	42.4	42.4	42.4
	Social Science	39	7.8	7.8	50.2
	Law	29	5.8	5.8	55.0
	Engineering	17	3.4	3.4	59.4
	Science	203	40.6	40.6	100.0
Personal Affiliation with organization	Student	200	40.0	40.0	40.0
	Faculty Member	142	28.4	28.4	68.4
	Administrative Officer	38	7.6	7.6	75.0
	Alumni	40	8.0	8.0	84.0
	Employer	40	8.0	8.0	92.0
	Guardians of Students	40	8.0	8.0	100.0
Educational Qualification	Bachelor	105	21.0	21.0	21.0
	Master	130	25.0	25.0	47.0
	MPhil	14	2.8	2.8	49.8

Demographic Characteristics		Frequency	Percent	Valid Percent	Cumulative Percent
	PhD	66	13.2	13.2	63.0
	Enrolled in Bachelor's Degree, not completed yet	185	37.0	37.0	100.0
Age	20-30	307	61.4	61.4	61.4
	31-40	122	24.4	24.4	85.8
	41-50	71	14.2	14.2	100.0
Gender	Male	357	71.4	71.4	71.4
	Female	143	28.6	28.6	100.0
	Total	500	100.0	100.0	

5.3 Descriptive Statistics

The descriptive statistics present the mean and standard deviation of all the items collected for the study in order to provide a clear data analysis as well as a clearer understanding of the prevalent situation obtaining from this research. In the table below, however, Reliability Analysis of General Survey Questionnaire (see table 5.2)

Table 5.2: Reliability Analysis of General Survey Questionnaire

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.959	.967	118

In reliability analysis (e.g. Appendix) the standard Cronbach's Alpha should be more than 0.7. In our findings we observed that our Cronbach's Alpha value is .959 which is more than 0.7 it's proved that this value is acceptable. So, we can say our study variance is reliable. In descriptive statistic table we used 5-point Likert scale. If mean value is higher than 3.5 and standard deviation is less than 1 than the variable has a positive impact, on the other hand if mean value is less than 3.5 and again standard deviation is less than 1 than it has low impact in the variable. So, from this table those variables have mean value higher than 3.5 and have standard deviation less than 1 we will take in our consideration.

5.4 Analysis and Findings on the relationship and effect of TLP, CCDR, SPA and SIQAM of QAM in HE on improvement of KSA and HRD of BD

The data entry and analysis were performed using the software SPSS version 20.0. The Exploratory Factor Analysis (EFA) was conducted using the Maximum Likelihood with Varimax rotation to determine whether the observable variables loaded together remained appropriately correlated, and whether they met the reliability requirements for this research. Following guidelines by Richter et al., (2016), the relationships between all the different constructs and their indices were examined using a composite method. In this context, the endogenous variable is interpreted as a combination of the variables and therefore PLS-SEM is a highly appropriate instrument for these measures. Hair et al., (2017); Henseler (2017). Nonetheless, the arguments used in previous PLS-SEM studies have been wrong, as Rigdon (2016) says, and recent simulation studies show that PLS-SEM is an ideal tool for estimating composites. Sarstedt et al., (2014). The Smart PLS 3.2.7 Software package. Ringle et al., (2015) employed the data analysis to conduct an explanatory as well as further predictive analysis.

5.4.1 Exploratory Factor Analysis (EFA) for the conceptual model on the relationship of TLP, CCDR, SPA and SIQAM of QAM in HE on improvement of KSA and HRD of BD

Factor analysis within multivariate statistics has become a substantial method of analysis, and it plays the dominant function of deciding all of the factors clump together to create superordinate variables. Each group or clump of relevant variables has always been a factor and the relative relationship of each of the original variables to a factor is known as the factor loading. EFA scrutinizes the underlying dimensions of Curriculum content, development and review (CC), Students ' Performance Assessment (SPA), Teaching-Learning process (TLP), Stakeholders Involvement (SI), Quality Assurance Mechanism (QAM), Knowledge Skills and Ability (KSA) and Human Resource Development (HRD) prior to implementing PLS-SEM. It is achieved to extract the advantages of data reduction from a wide collection of items that result in the ones that represent a particular variable. According to Hair et al. (2010), such an approach helps to maintain the ' nature and character' of the preliminary items, while simultaneously reduce their numbers to simplify the subsequent multivariate examination. The analyzes are carried out for this research after testing the appropriateness of the data for this purpose; for this reason, two measurements are examined: the Bartlett Sphericity test (to be significant at $p < 0.05$) and the Kaiser-Meyer-Olkin test (KMO) with a value of 0.7 or higher.

Factor extraction is conducted with a varimax rotation via Principal Component Analysis (PCA). According to hair et al. (1992), variables with loads greater than 0.30 are considered important, loads greater than 0.40 are considered greater, and loads of 0.50 or greater are considered very significant. In this research, the factor loading cut-off point of 0.50 was used to keep the items during factor analysis.

In each variable the communities show how much variation the derived variables account for. In the PCA, the communality value is 1. The values derived show the portion of the variance of each variable which can be described by the analysis. Variables with higher values (> 0.5) are considered to be well-represented while variables with lower values (< 0.5) are considered not to be well-represented. Both latent roots (eigenvalues greater than 1) are employed in determining the number of variables to maintain. as a result, at least 50 percent of the overall variance was considered satisfactory. variables are filtered to each factor by their loadings (0.50). at last, the rationale used in naming a particular factor will depend on the variables exerting greater influence as demonstrated by their loadings. Hair et al., (2010).

EFA for the dimensions of CCDR, TLP, SPA, SIOAM and its relation to OAM

The first factor analysis was carried out to identify the dimensions of Curriculum Content (CC), which have 50 items used in the questionnaire, where four factors were extracted. The data seem to be appropriate for factor analysis identified from KMO and Bartlett's Sphericity test. The Bartlett test showed a significant p value of.000, which was lower than.05 and the KMO result which was higher than.50 and therefore it is deemed to be satisfactory.

The first iteration consists of 50 items. The Bartlett test showed a significant p value of.000 (approx. Chi= 19182.428) which is lower than.05 and the KMO result was 0.849, which is higher than 0.50 and is therefore considered to be satisfactory (e.g. appendix-5). Furthermore, CC_Q5(Curriculum content addresses the program Objectives (PO) and program learning outcomes)=.382, CC_Q17(There is an arrangement in the entity to provide an academic guidance and counseling)=.356, CC_Q27(Assessment systems, includes Curricular and Extra-curricular activities)=.393, CC_Q45(Programme monitoring(by students' survey panel, analyses of university statistics)=.398, CC_Q47 (Teacher's Performance Evaluation by student) =.383, and CC_Q49 (Teachers' involvement in Research work) =.322 were removed.

All of these items are deleted since the community value was less than 0.4. Hence, the second iteration had to execute.

The second iteration consisted mainly of 44 items after deletion of 6 items from Curriculum Content (CC). The Kaiser-Meyer-Olkin (KMO) sampling adequacy measure (MSA) is 0.867 which is higher than 0.50 and is therefore considered to be satisfactory and the Bartlett Sphericity test revealed a significant value of .000 (approx. Chi-Square= 15989.707) which is lower than .05 (e.g. Appendix-5). Conversely, CC_Q7(The entity collects alumni feedback to update the learning outcomes of the program)=0.378 , CC_Q11(Teaching-learning is interactive)=.482, CC_Q12 (Teaching-learning is supportive)=.416, CC_Q13 (Class size is optimum for interactive teaching learning)=.430, CC_Q15 (Teaching-Learning methods are focused to achievement of PLO)=.369, CC_Q22 (Teachers provide regular feedback to the students about their progress)=.451, CC_Q25(The students are provided feedback immediately after assessment)=.350, CC_Q33 (Involvement of employers in study program revisions)=.475, CC_Q35 (Involvement of Guardians in study program revisions)=.394, CC_Q37(Graduate Profile)=.370, CC_Q39(University-community linkage programs)=.467, CC_Q40(Practical and hands on experience is included in programs)=.397, CC_Q41(Course evaluation (by student surveys)=.494, CC_Q42 (Program evaluation/ Exit survey (by student surveys)=.413 , CC_Q43(Teacher's supervision and monitoring)=.456, and CC_Q50(Teacher-student Ratio)=.419 items were removed. All of these items are deleted since the community value was less than 0.5. Hence, the third iteration had to execute.

The third iteration consists of a bunch of 28 items. The Kaiser-Meyer-Olkin (KMO) sampling adequacy measure (MSA) decreased slightly to 0.866, which is higher than 0.50 and therefore it considered to be perfectly satisfactory, and the Bartlett Sphericity test showed a significant value of .000 (approx. Chi-Square= 9293.631), which is lower than 0.05 (e.g. Appendix-5). Yet, CC_Q2(Opinions from the relevant stakeholders are duly considered during review of the curriculum) =0.494, CC_Q16(Diverse methods are practiced to achieve Intended Program Learning Outcomes (PLO)) =0.499, and CC_Q32 (Employer satisfaction surveys) =.451 items were deleted. Since the communalities value of all these 3 items were less than 0.5 all such items are removed. Hence, there had to be the fourth iteration.

Apart from 3 problem items of CC_Q2, CC_Q16 and CC_Q32, this fourth iteration is calculated. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) is 0.863 higher than .50 and thus deemed acceptable, and the Bartlett Sphericity analysis reported a significant value of .000 (Approx. Chi-Square = 8069.613), that was less than .05. Table 5.1 altogether indicates the measure sampling adequacy (MSA) calculation for Kaiser-Meyer-Olkin (KMO), Bartlett's Sphericity test, Approx. Chi-Square, Degree of Freedom (df) and Significance (Sig.).

Table 5.3: KMO and Bartlett's Test for CC

Kaiser-Meyer-Olkin (KMO) Measure of the Sampling Adequacy		.863
	Approx. Chi-Square	8069.613
Bartlett's Test of Sphericity	Df	300
	Sig.	.000

As stated earlier, on the data collected, PCA was performed with the Varimax rotation. Four exogenous variables with their own values greater than one were extracted; 61.25% of the overall variance was explained (e.g. Appendix 5). The findings thus indicate that four exogenous factors on 25 items were successfully extracted from Curriculum Content (CC). In accordance with the scholars' recommendations. Nunnally and Bernstein (1994); Byrne (2010); Hair et al., (2010), Kline (2011), all four independent variables have been renamed Students' Performance Assessment (SPA), Teaching-Learning Process (TLP), Stakeholders' Involvement in the Quality Assurance Mechanism (SIQAM) and Curriculum Content Development and Modification Process (CCDMP) as shown in Table 5.4.

Table 5.4: Rename the Dimension of CCDR, TLP, SPA, SIQAM and its relation to QAM of HE of Bangladesh

ITEMS	ITEMS DESCRIPTION	FACTORS
CC_Q24	Assessment systems are duly communicated to students at the outset of the term/semester	FACTOR 1: Students' Performance
CC_Q23	The entity maintains individual student's records properly	
CC_Q21	Students' progress is regularly recorded and monitored	
CC_Q3	Assessment of students' competencies are regular	

ITEMS	ITEMS DESCRIPTION	Assessment (SPA)
CC_Q26	Fairness and transparency are maintained in assessment system	
CC_Q6	PLO achievement of students are regularly monitored	
CC_Q4	Assessment strategies are explicitly mentioned in the curriculum	
CC_Q14	Assessment systems, includes skills and abilities assessment	
ITEMS	ITEMS DESCRIPTION	
CC_Q29	Teaching strategies are clearly stated in the curriculum	
CC_Q18	T-L and PLO includes Knowledge Skills and Abilities development	
CC_Q8	Lesson plan is prepared by teachers	
CC_Q19	The learning environment is conducive for the students	
CC_Q28	Modern systems are used to improve teaching-learning process	
CC_Q9	Teaching-learning is affecting the improvement of KSA of students	
CC_Q48	Training and development of Teachers	
CC_Q38	Program self-assessment (department self-study)	
CC_Q34	Involvement of Alumni in study program revisions	
CC_Q36	Job Market analyses	
CC_Q44	Industry-University linkage programs	
CC_Q46	Assessment of student's workload (by survey)	
CC_Q31	Tracing the graduates through survey regarding employment and career is important	
CC_Q10	Information from job market analysis is linked during curriculum modification	
CC_Q20	The entity provides co-curricular and extra-curricular exposures to the students	
CC_Q30	Program objectives and program learning outcomes focuses on the improvement of KSA	
CC_Q1	Curriculum is reviewed and updated at regular intervals in compliance with the rules	

Additionally, the EFA description of Bangladesh's HEI independent variables is described in Table 5.6. It has been observed from the EFA that the factor loading, the communalities and the reliability of each item were acceptable range. The factor loading of each item, TLP, SPA AND SIQAM varies from 0.540 to 0.805, the communalities value was between 0.548 and 0.767, which is more than 0.5. The Cronbach's Alpha Value of four factors derived that were more than 0.8.

Table 5.5: Factor Analysis output of Predictor Variables (CCDR, TLP, SPA and SIQAM) of QAM in HEI of Bangladesh

Factors (Eigenvalues)	Variables	Loadings	Variances % (Cumulative)	Communalities	Reliability
Factor 1 (9.679)	CC_Q24	.749	38.716	.684	.896
	CC_Q23	.730		.632	
	CC_Q21			.603	
	CC_Q3	.728		.638	
	CC_Q26	.719		.613	
	CC_Q6	.701		.581	
	CC_Q4			.581	
	CC_Q14	.666		.572	
Factor 2 (8.523)	CC_Q29	.730	8.523	.653	.874
	CC_Q18	.696		.570	
	CC_Q8	.693		.581	
	CC_Q19	.671		.564	
	CC_Q28	.652		.547	
	CC_Q9	.646		.548	
	CC_Q48	.593		.590	
	CC_Q38	.557		.550	
Factor 3 (7.508)	CC_Q34	.743	7.508	.640	.823
	CC_Q36	.716		.648	

Factors (Eigenvalues)	Variables	Loadings	Variances % (Cumulative)	Communalities	Reliability
	CC_Q44	.692		.615	
	CC_Q46	.632		.602	
	CC_Q31	.547		.548	
Factor 4 (5.503)	CC_Q10	.805	5.503	.714	.836
	CC_Q20	.805		.767	
	CC_Q30	.753		.705	
	CC_Q1	.576		.568	
			61.249		

The first factor rename "Students ' Performance Assessment (SPA)" refers to eight items; CC_Q24:(Assessment systems are duly communicated to students at the outset of the term/semester),CC_Q23:(The entity maintains individual student's records properly),CC_Q21:(Students' progress is regularly recorded and monitored),CC_Q3:(Assessment of students' competencies are regular),CC_Q26:(Fairness and transparency are maintained in assessment system), CC_Q6: (PLO achievement of students are regularly monitored), CC_Q4: (Assessment strategies are explicitly mentioned in the curriculum), CC_Q14: (Assessment systems, includes skills and abilities assessment).

The second factor constitutes of eight items termed "Teaching-Learning Process (TLP)"; CC_Q 29: (Teaching strategies are clearly stated in the curriculum),CC_Q18: (T-L and PLO includes Knowledge Skills and Abilities development), CC_Q8: (Lesson plan is prepared by teachers), CC_Q19: (The learning environment is conducive for the students), CC_Q28: (Modern systems are used to improve teaching-learning process), CC_Q9: (Teaching-learning is affecting the improvement of KSA of students), CC_Q48: (Training and development of Teachers) and CC_Q38: (Program self-assessment (department self-study)).

After that the third factor is made up of five items: CC_Q34: (Involvement of Alumni in study program revisions), CC_Q36: (Job Market analyses), CC_Q44: (Industry-University linkage programs), CC_Q46: (Assessment of student's workload (by survey)) and CC_Q31: (Tracing

the graduates through survey regarding employment and career is important). The above factor was labeled "Stakeholders Involvement in Quality Assurance Mechanism (SIQAM)".

Consequently, the fourth factor constitutes of four items: CC_Q10: (Information from job market analysis is linked during curriculum modification), CC_Q20: (The entity provides co-curricular and extra-curricular exposures to the students), CC_Q30: (Program objectives and program learning outcomes focus on the improvement of KSA) and CC_Q1: (Curriculum is reviewed and updated at regular intervals in compliance with the rules). This factor is termed "Curriculum Content Development and Modification Process (CCDMP)" Table 5.5 displays the loading factor, and Table 5.6 lists item wise factors obtained from EFA.

EFA for the dimension of role and challenges of QAM in HE

Upon analysis of the data using the Principal Component Analysis (PCA) with a Varimax rotation, 15 Quality Assurance Mechanism (QAM) items were reduced to four factors and 63.075% of the total variance was explained. The communality of each factors was relatively high. The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) was 0.765 which is higher than .50 and is thus considered acceptable, and the Bartlett Sphericity analysis showed a significant value of .000 (Approx. Chi-Square= 2.404E3) which is lower than .05. (e.g. Appendix 5).

The first iteration consists of 15 items. The communalities' values of each items under Quality Assurance Mechanism (QAM) were also within the acceptable ranges, except for QA_1: 0.443 (Helpful in enhancement of KSA of students) and QA_8: 0.468 (Competence of Teachers). These two items have been omitted since the values of communalities were less than .5. The second iteration had come into effect.

This second iteration is computed to delete Two problem items of QA_1 and QA_8. The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) is 0.771 which is higher than .50 and as such is considered adequate, and the Bartlett's Sphericity test showed a significant value of .000 (Approx. Chi-Square= 1.994E3) which is less than .05. Table 5.4 altogether indicates the measure sampling adequacy (MSA) calculation for Kaiser-Meyer-

Olkin (KMO), Bartlett's Sphericity test, Approx. Chi-Square, Degree of Freedom (df) and Significance (Sig.).

Table 5.6: KMO and Bartlett's Test for QAM

Kaiser-Meyer-Olkin (KMO) Measure of the Sampling Adequacy .771		
	Approx. Chi-Square	1.994E3
Bartlett's Test of Sphericity	Df	78
	Sig.	.000

As stated earlier, on the data collected, PCA was performed with the Varimax rotation. Four exogenous variables with their own values greater than one were extracted; 63% of the overall variance was explained (e.g. Appendix 5). The findings thus indicate that four factors on 13 items were successfully extracted from Quality Assurance Mechanism (QAM). In accordance with the scholars' recommendations, Nunnally (1994); Byrne, (2010); Hair et al., 2010, Kline, (2011), these four factors have to be renamed. Just one factor has been included in this analysis, and the majority of the three factors have less than or equal to 3 items, which is why they have not been included. The Quality Assurance Mechanism (QAM) shown in Table 5.7 and renamed

Table 5.7: Rename of role and challenges QAM in HEI of Bangladesh

ITEMS	ITEMS DESCRIPTION	FACTORS
QA_14	Lack of Documentation	FACTOR 1: Quality Assurance Mechanism (QAM)
QA_11	Lack of expertise	
QA_15	Lack of overall synchronized implementation	
QA_13	Lack of support from the stakeholders (Employer, Parents, Academic, Non-academic staff, students)	
QA_12	Lack of support from the Government	
QA_7	Financial Issues	
QA_9	Institutional and additional student enrolment policy	FACTOR 2
QA_10	Commitment and support of academic community	
QA_6	Lack of Institutional commitment	

ITEMS	ITEMS DESCRIPTION	
QA_3	Helpful in enhancement of the KSA through Curriculum Content Development and Modification	FACTOR 3
QA_4	Helpful in enhancement of the KSA through Student Performance Assessment	
QA_5	Helpful in enhancement of the KSA by involving Stakeholders in the process	FACTOR 4
QA_2	Helpful in enhancement of the KSA through Teaching-Learning	

Table 5.8 shows a description of the EFA of QAM of HEI of Bangladesh. It has been found from the EFA that the factor loading, communalities and reliability of each item is satisfactory level. The factor loading of each item varies from 0.325 and 0.810, the communalities value was between .548 and .725, which is more than 0.5. The Cronbach's Alpha Value of four factors derived that were more than 0.7. (Detailed EFA is provided in Appendix 5).

Table 5.8: Factor Analysis output of role and challenges of QAM in HEI of Bangladesh

Factors (Eigenvalues)	Variables	Loadings	Variances % (Cumulative)	Communalities	Reliability
Factor 1 (4.018)	QA_Q14	.810	63.075	.725	. 0.795
	QA_Q11	.776		.628	
	QA_Q15	.715		.613	
	QA_Q13	.692		.548	
	QA_Q12	.325		.611	
	QA_Q7	.434		.635	

The first factor renames "Quality Assurance Mechanism (QAM)" consists of 6 items; QA_Q14: (Lack of Documentation), QA_Q11: (Lack of expertise), QA_Q15: (Lack of overall synchronized implementation), QA_Q13: (Lack of support from the stakeholders (Employer, Parents, Academic, Non-academic staff, students), QA_Q12: (Lack of support from the

Government) and QA_Q7: (Financial Issues). Table 5.9 displays the loading factor, and lists item wise factors obtained from EFA.

EFA on the dimension for the relationship of QAM on improvement of KSA

The Principal Component Analysis (PCA) with a Varimax rotation used 25 Knowledge Skill and Ability (KSA) items to analyze, which decreased to one factor and described 53.136 % of the overall variance. The communality of each item was relatively high. The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) was 0.833 which is higher than .50 and is thus considered acceptable, and the Bartlett Sphericity analysis showed a significant value of .000 (Approx. Chi-Square= 8195.241) which is lower than .05. (e.g. Appendix 5).

The first iteration consists of 25 items. The communalities' values of each items under Knowledge Skill and Ability (KSA) were also within the acceptable ranges, except for KSA_Q8: .104 (Non-verbal (facial expressions, hand gestures, posture etc.) is improved by QA process in the university), KSA_Q9: 0.059 (Appropriate Data collection and analyzation is improved by QA process in university), KSA_Q12: 0.29 (Teamwork skill is improved by QA process in the university), KSA_Q13: 0.098 (Emotional Intelligence skill is improved by QA process in the university) and KSA_Q15: (Negotiation skill is improved by QA process in the university). These five items have been omitted since the values of communalities were less than .2. Therefore, the second iteration had come into effect.

Five dubious items have been excluded and thus second iteration computed with 20 items. KSA_Q2=.288 (Knowledge for understanding the facts is improved by QA process in the university), KSA_Q6=.171 (Presentation skills is improved by QA process in the university), KSA_Q7=.217 (Report writing skills is improved by QA process in the university), KSA_Q11=.309 (Leadership skill is improved by QA process in the university), KSA_Q14=.208 (Spiritual Intelligence skill is improved by QA process in the university), KSA_Q16=.302 (Time management ability is improved by QA process in the university), KSA_Q17=.370 (Decision making ability is improved by QA process in the university), KSA_Q20=.096 (Critical Thinking ability is improved by QA process in the university), KSA_Q22=.371 (Reliability and dependability is improved by QA process in the university) and KSA_Q25=.396 (Adaptability is improved by QA process in the university) items were

deleted. These ten items have been omitted since the values of communalities were less than 0.4. Therefore, the third iteration had come into effect.

The third iteration was involved with 10 items. The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) has reduced a little to 0.816 which is higher than 0.50 and thus considered as being satisfactory and the Bartlett's test of Sphericity discovered a significant value of .000 (Approx. Chi-Square = 4588.224), which is lower than .05 (e.g. Appendix-5). Though, KSA_Q1=.445 (IT Knowledge is improved by QA process in the university), KSA_Q5=.461 (Knowledge for plan, monitor and regulate a work is improved by QA process in the university), KSA_Q18=.486 (Discipline is improved by QA process in the university) and KSA_Q21= .429 (Creativity is improved by QA process in the university) items were removed. These four items have been omitted since the values of communalities were less than 0.5. Therefore, the fourth iteration had come into effect.

Apart from 3 problem items of KSA_Q1, KSA_Q5, KSA_Q18 and KSA_Q21, this fourth iteration is calculated. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) is 0.763 higher than 0.50 and thus deemed acceptable, and the Bartlett Sphericity analysis reported a significant value of .000 (Approx. Chi-Square= 3388.758), that was less than .05. Table 5.9 altogether indicates the measure sampling adequacy (MSA) calculation for Kaiser-Meyer-Olkin (KMO), Bartlett's Sphericity test, Approx. Chi-Square, Degree of Freedom (df) and Significance (Sig.).

Table 5.9: KMO and Bartlett's Test for KSA

Kaiser-Meyer-Olkin (KMO) Measure of the Sampling Adequacy		.763
	Approx. Chi-Square	3388.758
Bartlett's Test of Sphericity	Df	15
	Sig.	.000

As stated earlier, on the data collected, PCA was performed with the Varimax rotation. One factor was extracted with eigenvalues greater than one; explaining 63.086% of the total variance (e.g. Appendix 5). The findings thus indicate that one factor was successfully extracted on 6 items. In accordance with the scholars' recommendations Nunnally (1994);

Byrne (2010); Hair et al., (2010), Kline (2011), these four factors have to rename. One factor has been included in this analysis, and the majority of the three factors have less than or equal to Three items, which is why they have not been included. Factor 1 was renamed by Knowledge Skill and Ability (KSA) shown in Table 5.10.

Table 5.10: Rename of relationship of QAM on improvement of KSA

ITEMS	ITEMS DESCRIPTION	FACTORS
KSA_Q4	Knowledge of how to do a work is improved by QA process in the university	FACTOR 1: Knowledge Skill and Ability (KSA)
KSA_Q3	Knowledge in designing a system component is improved by QA process in the university	
KSA_24	Appreciation of ethical values ability is improved by QA process in the university	
KSA_23	Self-Motivation ability is improved by QA process in the university	
KSA_19	Sense of Responsibility is improved by QA process in the university	
KSA_10	Office communication is improved by QA process in the university	

Table 5.11 appearances a description of the EFA of KSA of HEI of Bangladesh. It has been found from the EFA that the factor loading, communalities and reliability of each item is satisfactory level. The factor loading of each item varies from 0.755 and 0.834, the communalities value was between .568 and .693, which is more than 0.5. The Cronbach's Alpha Value of extracted factor was more than 0.8. (Detailed EFA is provided in Appendix 5).

Table 5.11: Factor analysis output of relationship of QAM on improvement of KSA

Factors (Eigenvalues)	Variables	Loadings	Variations % (Cumulative)	Communi- lities	Reliability
Factor 1 (3.785)	KSA_Q4	.834	63.086	.695	. 0.881
	KSA_Q3	.832		.693	
	KSA_Q10	.754		.568	
	KSA_Q19	.754		.569	
	KSA_Q23	.775		.600	
	KSA_Q24	.813		.660	

The factor derived finally for “Knowledge Skill and Ability (KSA)” constitutes of 6 items; KSA_Q4: (Knowledge of how to do a work is improved by QA process in the university), KSA_Q3: (Knowledge in designing a system component is improved by QA process in the university), KSA_Q10: (Office communication is improved by QA process in the university), KSA_Q19: (Sense of Responsibility is improved by QA process in the university), KSA_Q23: (Self-Motivation ability is improved by QA process in the university) and KSA_Q24: (Appreciation of ethical values ability is improved by QA process in the university). This factor is termed " Knowledge Skill and Ability (KSA)". Table 5.11 displays the loading factor, and Table 5.11 lists item wise factors obtained from EFA.

EFA for the dimension of the KSA and its relation with HRD

The Principal Component Analysis (PCA) with a Varimax rotation used 14 Human Resource Development (HRD) items to analyze, which decreased to two factors and described 63.767 % of the overall variance. The communality of each item was relatively high. The Kaiser-Meyer-Olkin (KMO) measure of the sampling adequacy (MSA) was 0.765 which is higher than .50 and is thus considered acceptable, and the Bartlett Sphericity analysis showed a significant value of .000 (Approx. Chi-Square= 2282.072) which is lower than .05. (e.g., Appendix).

The first iteration consists of 14 items. The communalities' values of each item under Human Resource Development (HRD) were also within the acceptable ranges, except for HRD_Q5=.481 (Improvement of Responsibility of graduates influence overall HRD of BD), HRD_Q8= .395 (Improvement of Reliability of graduates influence overall HRD of Bangladesh) and HRD_Q9=.374 (Improvement of Emotional and Intelligence of graduates

influence overall HRD of BD). These three items have been omitted since the values of communalities were less than .5. Therefore, the second iteration had come into effect.

The second iteration is computed with the exception of three questionable elements from HRD_Q5, HRD_Q8 and HRD_Q9. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) is 0.765 higher than 0.50 and thus deemed acceptable, and the Bartlett Sphericity analysis reported a significant value of .000 (Approx. Chi-Square= 2282.072), that was less than .05. Table 5.12 altogether indicates the measure sampling adequacy (MSA) calculation for Kaiser-Meyer-Olkin (KMO), Bartlett's Sphericity test, Approx. Chi-Square, Degree of Freedom (df) and Significance (Sig.).

Table 5.12: KMO and Bartlett's Test

Kaiser-Meyer-Olkin (KMO) Measure of the Sampling Adequacy		.765
	Approx. Chi-Square	2282.072
Bartlett's Test of Sphericity	Df	55
	Sig.	.000

As stated earlier, on the data collected, PCA was performed with the Varimax rotation. One factor was extracted with eigenvalues greater than one; explaining 63.086% of the total variance (e.g., Appendix 5). The findings thus indicate that one factor was successfully extracted on 6 items. In accordance with the scholars' recommendations, Nunnally (1994); Byrne, (2010); Hair et al., 2010, Kline, (2011), these four factors have to rename. One factor has been included in this analysis, and the second factors has less than or equal to three items, which is why it has not been included. Factor 1 was renamed by Human Resource Development (HRD) shown in Table 5.13

Table 5.13: Rename of relation between KSA and HRD

ITEMS	ITEMS DESCRIPTION	FACTORS
HRD_Q1	Improvement of IT Knowledge of graduates influence overall HRD of BD	FACTOR 1: Human Resource Development (HRD)
HRD_Q2	Improvement of strategic Knowledge related to job of graduates influence overall HRD of BD	
HRD_Q4	Improvement of Leadership skill of graduates influence overall HRD of BD	
HRD_Q6	Improvement of Discipline of graduates influence overall HRD of BD	
HRD_Q7	Improvement of Negotiation skill of graduates influence overall HRD of BD	
HRD_Q10	Improvement of critical thinking and Creativity of graduates influence overall HRD of BD	
HRD_Q14	Improvement of Appreciation of ethical values ability of graduates influence overall HRD of BD	
HRD_Q13	Improvement of dependability of graduates influence overall HRD of BD	FACTOR 2
HRD_Q3	Improvement of Communication skills of graduates influence overall HRD of BD	
HRD_Q11	Improvement of Team management skill of graduates influence overall HRD of BD	
HRD_Q12	Improvement of Problem solving, Decision making ability of graduates influence overall HRD of BD	

Table 5.14 appearances a description of the EFA of HRD of HEI of Bangladesh. It has been found from the EFA that the factor loading, communalities and reliability of each item is satisfactory level. The factor loading of each item varies from 0.578 and 0.851, the communalities value was between .534 and .789, which is more than 0.5. The Cronbach's Alpha Value of extracted factor was more than 0.8. (i.g. Appendix 5).

Table 5.14: Factor analysis output of relation between KSA and HRD

Factors (Eigenvalues)	Variables	Loadings	Variances % (Cumulative)	Communa lities	Reliability
Factor 1 (4.741)	HRD_Q1	.585	63.767	.534	.0.827
	HRD_Q2	.801		.739	
	HRD_Q4	.851		.789	
	HRD_Q6	.646		.564	
	HRD_Q7	.578		.586	
	HRD_Q10	.754		.614	
	HRD_Q13	.704		.576	
	HRD_Q14	.683		.618	

The final factor rename "Human Resource Development (HRD)" is eight items to define the factor loading indoctrination; HRD_Q1 (Improvement of IT Knowledge of graduates influence overall HRD of BD), HRD_Q2 (Improvement of strategic Knowledge related to job of graduates influence overall HRD of BD), HRD_Q4 (Improvement of Leadership skill of graduates influence overall HRD of BD), HRD_Q6 (Improvement of Discipline of graduates influence overall HRD of BD), HRD_Q7 (Improvement of Negotiation skill of graduates influence overall HRD of BD), HRD_Q10 (Improvement of critical thinking and Creativity of graduates influence overall HRD of BD), HRD_Q13 (Improvement of dependability of graduates influence overall HRD of BD) and HRD_Q14 (Improvement of Appreciation of ethical values ability of graduates influence overall HRD of BD). Table 5.14 exhibits the factor loading and Table 5.15 states item wise factors extracted from EFA.

Table 5.15: Final items under each variable of the model (CCDR, TLP, SIQAM, SPA, QAM, KSA and HRD)

FACTORS	ITEAMS	RELIABILITY	No of Items
FACTOR 1: Student Performance Assessment (SPA)	CC_Q24, CC_Q 23, CC_Q21, CC_Q3, CC_Q26, CC_Q6, CC_Q4, CC_Q14	0.896	8
FACTOR 2: Teaching-Learning Process (TLP)	CC_Q 29, CC_Q18, CC_Q8, CC_Q19, CC_Q28, CC_Q9, CC_Q48, CC_Q38	0.874	8
FACTOR 3: Stakeholders' Involvement in Quality Assurance Mechanism (SIQAM)	CC_Q34, CC_Q36, CC_Q44, CC_Q46, CC_Q31	0.823	5
FACTOR 4: Curriculum Content Development and Modification Process (CCDMP)	CC_Q10, CC_Q20, CC_Q30, CC_Q1	0.836	4
QAM			
FACTOR 1: QAM	QA_14, QA_11, QA_15, QA_13, QA_12, QA_7	0.795	6

FACTORS	ITEAMS	RELIABILITY	No of Items
KSA			
FACTOR 1: KSA	KSA_Q4, KSA_Q3, KSA_Q10, KSA_Q19, KSA_Q23, KSA_Q24	.881	6
HRD			
FACTOR 1: HRD	HRD_Q1, HRD_Q2, HRD_Q4, HRD_Q6, HRD_Q7, HRD_Q10, HRD_Q13, HRD_Q14	.827	8
Total no of items			45
Student Performance Assessment (SPA)		0.896	8
Teaching-Learning Process (TL)		0.874	8
Stakeholders' Involvement in Quality Assurance Mechanism (SI)		0.823	5
Curriculum Content Development and Review Process (CCDR)		0.836	4
QAM		0.795	6
KSA		.881	6
HRD		.827	8
Total Number of retained items			45

The 118 items consist of 45 items decreased to seven factors. The independent variables are extracted from the dimension of Curriculum Content (CC). Four Independent variables are Student Performance Assessment (SPA), Teaching-Learning Process (TLP), Stakeholders' Involvement in Quality Assurance Mechanism (SIQAM) and Curriculum Content Development and Modification Process (CCDMP). Curriculum content dimensions (CC) affect Human Resource Development (HRD), which for this analysis is a dependent variable. Quality Assurance Mechanism (QAM) and Knowledge Skill and Ability (KSA) serve as a balancing influence between Dimensions of Curriculum Content (CC) and Human Resource Development (HRD). Table 5.16 summarizes the final items under each variable of HEI of Bangladesh along with their reliability value suggesting that the data is now ready for PLS analysis. Appendix-5 sets out the individual reliability of each element under seven variables.

5.4.2 Analysis of Structural Model and Confirmatory Factor Analysis (CFA) on the relationship between CCDR, TLP, SIQAM, SPA; QAM in HE; KSA and HRD

The primordial aim of EFA is to explore data structure without considering any preconceived idea of the number of factors. On the other hand, EFA is employed to test a hypothesized structure underlying a set of specified constructs and their association with the variables, which is nailed under some previous measurements or theoretical considerations. Mooi, Sarstedt, and Mooi-Reci, (2018).

Measurement Model Assessment on the relationship between CCDR, TLP, SIQAM, SPA; QAM in HE; KSA and HRD

The research model of the study is tested deploying Structural Equation Modeling (SEM) based simulation, namely SMART PLS 2.0. Christian Ringle, Da Silva, and Bido, (2015). The SMART PLS, which estimates structure by combining principal components analysis (PCA) with ordinary least squares regressions (OLS), is considered as second-generation multivariate data analysis simulation. The PLS-SEM is quite robust and parsimonious in analyzing complex model. Mateos-Aparicio, (2011); CM Ringle, Wende, Will, and PLS, (2005); Vanalle, Ganga, Godinho Filho, and Lucato, (2017). The application of PLS-SEM can be found in multidisciplinary studies, such as organization management, international management, human resource management, management information system, operations management, marketing managements, management accounting, strategic management and hospitality management.

Hair, Risher, Sarstedt, and Ringle, (2019). Choosing between PLS based SEM and CB based SEM is often challenging for the researchers as both the methods are well accepted and have some advantages and disadvantages. It has been confirmed that PLS-SEM is substantially better than CB-SEM as PLS-SEM calculates higher composite reliability and convergent validity, as oppose to CB-SEM. Furthermore, when comparing variance explain by the independent variables in the dependent variable, PLS-SEM found to be substantially better than CB-SEM as it provides better results compare to CB-SEM (Hair Jr, Matthews, Matthews, and Sarstedt, 2017). Also, the calculated values of composite reliability and convergent validity were found typically to be higher in PLS-SEM, but other indicators such as discriminant validity and beta coefficients were found to be comparable. Finally, PLS-SEM found to be substantially better than CB-SEM when comparing variance explained in the dependent variable. Hair Jr et al., (2017). The above discussion clearly states the usefulness and the appropriateness of the PLS-SEM. Hence, the researcher employed PLS-SEM to calculate results of the analyses. The study followed the two-stage analytical procedure by which we first tested the measurement model using the suggested measures: validity and reliability, and then we examined the structural model considering the accepted indicators. Anderson and Gerbing, (1988).

Reliability Analysis

The Cronbach's Alpha, Cronbach (1951) coefficient is considered as the most popular measure of internal consistency. Mooi et al., (2018). In Social Science study, the Internal Consistency is measured using 'Cronbach's Alpha'. Prior study has also suggested to incorporate the Composite Reliability as a replacement. Hair, Sarstedt, Ringle, and Mena (2012). From the table 1, it can be shown that the Alpha values of all the latent constructs used in the study are well above the standard cutoff point of 0.6. Hair et al., (2012). So, high level of internal consistency has been demonstrated in all the constructs used in the study.

Convergent validity

The convergent validity is calculated using factor loading (the correlation values between the construct and the items in a measurement model), composite reliability and average variance extracted (Wong, 2013) . The construct CCDMP ($\alpha = 0.8418$) is reflected by four indicators: CC_Q1 (0.6998), CC_Q20 (0.8882), CC_Q30 (0.8468) and CC_Q10 (0.8582), which are

above 0.40 and closed to the preferred level of 0.70 (Hulland, 1999) . Of the four indicators of the CCDMP, CC_Q20 loaded the highest followed by the CC-Q30. The construct HRD ($\alpha = 0.694$) is presented by four items: HRD_01(0.7447), HED_Q10 (0.779), HRD_Q6 (0.633) and HRD_Q7 (0.7208), which are all above the threshold of 0.60. The KSA ($\alpha = 0.8825$) is reflected by six manifest variables: KSAQ10 (0.7653), KSAQ19 (0.7316), KSAQ23 (0.7537), KSAQ24 (0.789), KSAQ3 (0.855), KSAQ4 (0.8559), which are all above the standard cutoff point of 0.60. Similarly, the constructs: QAM (reflected by five items: QA_11(0.6591), QA_12 (0.6649), QA_13 (0.6296), QA_14 (0.8685), QA_15 (0.8357) ; SIQM (reflected by five items: CC_Q31(0.6472), CC_Q34 (0.8415), CC_Q36 (0.7997), CC_Q44 (0.8103), CC_Q46 (0.7223) and SPA, which is reflected by eight indicators: CC_Q14 (0.7735), CC_Q21(0.6838), CC_Q23 (0.7211), CC_Q24 (0.8606), CC_Q3(0.7525), CC_Q26 (0.7334), CC_Q4 (0.8021), CC_Q6 (0.7214) are well reflected with the adequate values. The construct TLP ($\alpha = 0.8752$) is reflected by eight items: CC_Q28 (0.7348), CC_Q29 (0.7265), CC_Q18 (0.7395), CC_Q19 (0.6715), CC_Q38 (0.7287), CC_Q48 (0.7685), CC_Q8 (0.7654), CC_Q9 (0.6878). Table 1 also showcases the calculated AVE (Average Variance Extracted) and CR (Convergent validity) values. It can be summarized that the AVE values of the constructs: CCDMP, HRD, KSA, QAM, SIQAM, SPA , TLP are well above the cutoff point of 0.5 (Bagozzi and Yi, 1988). From the Table 1, it can be found that all the AVE values are greater than the acceptable threshold of 0.5 and all the CR values of all the construct are well above the standard cutoff point of 0.70. So, it can be argued that the Convergent Validity is confirmed.

Table 5.16: Measurement Model

Construct	Items	Loadings	AVE	CR
CCDR ($\alpha = 0.8418$)	CC_Q1	0.6998	0.6831	0.8953
	CC_Q20	0.8882		
	CC_Q30	0.8468		
	CC_Q10	0.8582		
HRD ($\alpha = 0.694$)	HRD_Q1	0.7447	0.5204	0.8119
	HRD_Q10	0.779		
	HRD_Q6	0.633		
	HRD_Q7	0.7208		
KSA ($\alpha = 0.8825$)	KSAQ10	0.7653	0.6292	0.9103

Construct	Items	Loadings	AVE	CR
	KSAQ19	0.7316		
	KSAQ23	0.7537		
	KSAQ24	0.789		
	KSAQ3	0.855		
	KSAQ4	0.8559		
QAM ($\alpha = 0.789$)	QA_Q11	0.6591	0.5451	0.8547
	QA_Q12	0.6649		
	QA_Q13	0.6296		
	QA_Q14	0.8685		
	QA_Q15	0.8357		
SIQAM ($\alpha = 0.8265$)	CC_Q31	0.6472	0.589	0.8766
	CC_Q34	0.8415		
	CC_Q36	0.7997		
	CC_Q44	0.8103		
	CC_Q46	0.7223		
SPA ($\alpha = 0.8963$)	CC_Q14	0.7735	0.5743	0.9148
	CC_Q21	0.6838		
	CC_Q23	0.7211		
	CC_Q24	0.8606		
	CC_Q3	0.7525		
	CC_Q26	0.7334		
	CC_Q4	0.8021		
	CC_Q6	0.7214		
TLP ($\alpha = 0.8752$)	CC_Q28	0.7348	0.5307	0.9003
	CC_Q29	0.7265		
	CC_Q18	0.7395		
	CC_Q19	0.6715		
	CC_Q38	0.7287		
	CC_Q48	0.7685		
	CC_Q8	0.7654		
	CC_Q9	0.6878		

Note: AVE = Average Variance Extracted

CR= Composite Reliability

α = Cronbach's Alpha

Discriminant Validity

The model's discriminant validity is assessed using two measures: Farnell and Larcker's (1981) criterion and Cross loading of the indicators. As suggested by Farnell and Larcker (1981), all the square root of AVE values of the constructs have been calculated manually and placed diagonally. All the values are shown in the table 5.16. From the table 5.17, it can be further examined that the square root values are greater than the correlation values of other constructs posted in the same column. So, it can be argued that the Discriminant validity is well established.

Table 5.17: Inter-Correlation Matrix

	CCDMP	HRD	KSA	QAM	SIQAM	SPA	TLP
CCDMP	0.8265						
HRD	0.8395	0.7214					
KSA	0.1836	0.2038	0.7932				
QAM	0.3283	0.2996	0.3802	0.7383			
SIQAM	0.4823	0.5606	0.2081	0.3031	0.7675		
SPA	0.4931	0.6573	0.0554	0.2597	0.572	0.7578	
TLP	0.5147	0.5392	0.1787	0.3675	0.5408	0.5896	0.7285

Cross Loading

In the second assessment, the discriminant validity is further examined following the standard procedure. As shown in Table 5.18, all indicators' loadings are examined with respect to all construct's correlations. The table 5.18 shows the cross-loading values between items and their respective construct. By examining the table 5.18, it can be argued that the second criterion of the discriminant validity is verified as all the measurement items loaded against their respective construct: CCDMP, HRD, QAM, SIQAM, SPA, TLP.

Table 5.18: Cross Loading

	CCDMP	HRD	KSA	QAM	SIQAM	SPA	TLP
CC_Q1	0.6998	0.7447	0.1214	0.2608	0.4268	0.5206	0.3891
CC_Q10	0.8582	0.779	0.1720	0.2479	0.3775	0.3617	0.3622
CC_Q20	0.8882	0.6269	0.166	0.3051	0.4282	0.3451	0.4578

	CCDMP	HRD	KSA	QAM	SIQAM	SPA	TLP
CC_Q30	0.8468	0.6377	0.1456	0.2635	0.3545	0.4091	0.4812
HRD_Q1	0.6998	0.7447	0.1214	0.2608	0.4268	0.5206	0.3891
HRD_Q10	0.8582	0.779	0.172	0.2479	0.3775	0.3617	0.3622
HRD_Q6	0.375	0.633	0.1249	0.1376	0.4751	0.7183	0.467
HRD_Q7	0.45	0.7208	0.1591	0.2124	0.3666	0.3754	0.3619
KSAQ10	0.188	0.1847	0.7653	0.326	0.1538	0.0932	0.1682
KSAQ19	0.0631	0.0635	0.7316	0.2685	0.1307	-0.0072	0.0735
KSAQ23	0.0646	0.0977	0.7537	0.3097	0.1166	-0.0677	0.0849
KSAQ24	0.1026	0.1595	0.789	0.227	0.1379	0.0071	0.0943
KSAQ3	0.2038	0.2132	0.855	0.3281	0.2139	0.0971	0.1943
KSAQ4	0.2038	0.2132	0.8559	0.3281	0.2139	0.0971	0.1943
QA_Q11	0.2566	0.2292	0.1775	0.6591	0.2067	0.1338	0.1903
QA_Q12	0.2074	0.2667	0.2243	0.6649	0.2401	0.2746	0.3256
QA_Q13	0.2292	0.1608	0.1309	0.6296	0.2012	0.1638	0.1884
QA_Q14	0.3153	0.2791	0.3942	0.8685	0.2649	0.2154	0.2926
QA_Q15	0.2129	0.1723	0.3772	0.8357	0.2111	0.1713	0.328
CC_Q31	0.4941	0.4824	0.0143	0.1515	0.6472	0.3741	0.3499
CC_Q34	0.3468	0.4187	0.236	0.2356	0.8415	0.4222	0.4317
CC_Q36	0.3253	0.4392	0.3026	0.2396	0.7997	0.5147	0.4641
CC_Q44	0.3181	0.3678	0.1089	0.2958	0.8103	0.5232	0.457
CC_Q46	0.4571	0.5128	0.0966	0.2051	0.7223	0.3252	0.3534
CC_Q14	0.4514	0.521	-0.0092	0.2778	0.5456	0.7735	0.4364
CC_Q21	0.4149	0.4999	0.048	0.1394	0.315	0.6838	0.4004
CC_Q23	0.3397	0.4515	0.0204	0.129	0.3241	0.7211	0.4676
CC_Q24	0.3606	0.4877	0.0374	0.2308	0.4565	0.8606	0.4737
CC_Q26	0.3238	0.4466	0.065	0.134	0.4631	0.7334	0.4601
CC_Q3	0.392	0.4943	0.0517	0.2102	0.3543	0.7525	0.495
CC_Q4	0.3238	0.4976	0.05	0.2133	0.4726	0.8021	0.4137
CC_Q6	0.3733	0.6308	0.1227	0.1375	0.4769	0.7214	0.4709
CC_Q18	0.37	0.3513	0.0819	0.2346	0.3569	0.4416	0.7395

	CCDMP	HRD	KSA	QAM	SIQAM	SPA	TLP
CC_Q19	0.3303	0.3841	0.0713	0.1459	0.3544	0.4432	0.6715
CC_Q28	0.4317	0.4214	0.175	0.3071	0.3789	0.3655	0.7348
CC_Q29	0.4549	0.4054	0.1567	0.2723	0.3425	0.3689	0.7265
CC_Q38	0.2749	0.3607	0.1389	0.3368	0.4331	0.4921	0.7287
CC_Q48	0.4001	0.4494	0.194	0.2969	0.5122	0.4652	0.7685
CC_Q8	0.3388	0.3689	0.0906	0.2296	0.3836	0.4371	0.7654
CC_Q9	0.4028	0.4012	0.0757	0.2303	0.354	0.4375	0.6878

Latent Variables Correlations (correlation between CCDR, TLP, SIQAM, SPA, QAM, KSA and HRD)

The Table 5.19 shows the correlations of the latent constructs used in this study. As presented in the table 5.19, it can be posited that the latent constructs are positively correlated, but the calculated strength of the relationships are considered as ‘moderate’ (Cohen, 1988).

Table 5.19: Correlations between CCDR, TLP, SIQAM, SPA, QAM, KSA and HRD

	CCDR	HRD	KSA	QAM	SIQAM	SPA	TLP
CCDMP	1.0000						
HRD	0.8395	1.0000					
KSA	0.1836	0.2038	1.0000				
QAM	0.3283	0.2996	0.3802	1.0000			
SIQAM	0.4823	0.5606	0.2081	0.3031	1.0000		
SPA	0.4931	0.6573	0.0554	0.2597	0.572	1.0000	
TLP	0.5147	0.5392	0.1787	0.3675	0.5408	0.5896	1.0000

5.4.3 Findings on the relationship/effect of CCDR, TLP, SPA and SIQAM of QAM in HEI on improvement of KSA for HRD of BD based on conceptual model

The figure 5.1, which is the research model of the study, comprises two models: outer model (measurement model) and inner model (structural model). The inner models consist of seven latent constructs: TLP, CCDMP, SPA, SIQAM, KSA, QAM, HRD, four of which are

exogenous constructs and the remaining are endogenous constructs. All the arrows of the inner model linking the latent constructs and forming causal relationships between and among the constructs. All constructs are reflective as each of the constructs is reflected by some manifest variables. The R^2 represents the amount of variance in endogenous variables is shared by the exogenous variables as indicated in figure 5.1. However, by looking at the figure 5.1, it can be concluded that nearly 16% of the variance of the variable ‘QAM’ is explained by the four constructs: SPA, TLP, CCDMP, and SIQAM. Conversely, around 14% of the variance in KSA is shared by the variable QAM. Finally, KSA shared nearly 4% of the variance in HRD.

In addition, studies suggested that the calculated R^2 values of 0.75, 0.50, or 0.25 can be considered as substantial, moderate and weak, respectively. Henseler, Ringle, and Sinkovics, (2009). The R^2 usually ranges from 0 to 1. Hair Jr, Sarstedt, Hopkins, and Kuppelwieser (2014). It has been stated that the greater explanatory power of the exogenous variables is associated with the higher value of R^2 and the number of predictor constructs. Hair et al., (2019). Also, the R^2 should be interpreted based on the context; therefore, in some disciplines, the calculated R^2 is considered satisfactory when the value is as low as 0.10. Hair et al., (2019).

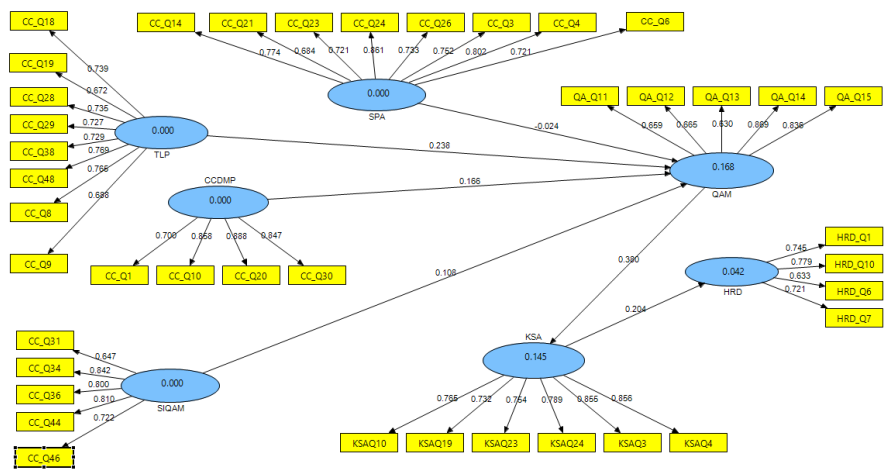


Figure 5.1: Structural Model

However, in social science research, It has been affirmed that the calculated value of R^2 , which lies between 0.04 to 0.16, can be described as moderately weak. Ritchey (2000). Further research also argues that if researcher encounters situation in which retrieving information is less precise, for considering a satisfactory result, a 60% of the total variance (in some cases

even less) should be accounted for. Hair, Ringle, and Sarstedt (2013). The respective beta values are -0.024, 0.238, 0.166, 0.108, 0.380 and 0.204.

The R² usually represents the amount of variance in endogenous variables is shared by the exogenous variables of the study. In addition, studies suggested that the calculated R² values of 0.75, 0.50, or 0.25 can be considered as substantial, moderate, and weak, respectively. Henseler, Ringle, and Sinkovics, (2009). The R² usually ranges from 0 to 1. Hair Jr, Sarstedt, Hopkins, and Kuppelwieser, (2014). It has been stated that the greater explanatory power of the exogenous variables is associated with the higher value of R² and the number of predictor constructs. Hair et al., (2019). Also, the R² should be interpreted based on the context; therefore, in some disciplines, the calculated R² is considered satisfactory when the value is as low as 0.10. Hair et al., (2019).

The study tested six hypothesized paths using the accepted indicators, i.e., T-Statistics and Standardized Beta Coefficients. Considering two-tailed test and keeping the significance level at 5%. Hair Jr et al., (2017), the study accepted all the path coefficients, which are above or larger than 1.96, as significant. Hair et al., (2019); Hair et al., (2012); Wong, (2013). All the t values were generated enabling the 'Bootstrap' option of the simulation, e.g., SMART PLS 2.0 keeping the sample size of 5000. Streukens and Leroi-Werelds (2016).

Hypothesis Testing and relationship between /effect CCDR, TLP, SPA and SIOAM of OAM in HE on improvement of KSA and HRD of BD

Table 5.20: Hypothesis Test Result

Hypotheses	Relationships	Std. Beta	Std. Error	t- value	Decision
H1	CCDMP -> QAM	0.1655	0.0539	3.0704	Supported
H2	KSA -> HRD	0.2038	0.0441	4.6257	Supported
H3	QAM -> KSA	0.3802	0.0474	8.0209	Supported
H4	SIQAM -> QAM	0.1085	0.0534	2.0315	Supported
H5	SPA -> QAM	-0.0242	0.0348	0.6961	Not Supported
H6	TLP -> QAM	0.2379	0.0596	3.9897	Supported

By far, the study tested six hypothesized paths using the accepted indicators, i.e., T-Statistics and Standardized Beta Coefficients, which are presented in the columns 3 and 5 of the Table 5. Using two-tailed test and keeping the significance level at 5%, Hair Jr et al., (2017), the study accepted all the path coefficients, which are above or larger than 1.96, as significant. Hair et al., (2019); Hair et al., (2012); Wong, (2013). To calculate the T-Statistics and Beta Coefficients of the hypothesized paths, researcher enabled the bootstrapping function of the simulation. Hair, Ringle, and Sarstedt, (2011). The minimum number of the bootstrap samples was set to be 5000. Streukens and Leroi-Werelds (2016). As indicated in the Table 5, The hypothesized paths between CCDMP and QAM ($\beta=0.1655$, $t=3.0704$, $p<0.05$); KSA and HRD ($\beta=0.2038$, $t=4.6257$, $p<0.05$); QAM and KSA ($\beta=0.3802$, $t=8.0209$, $p<0.05$); SIQAM and QAM ($\beta=0.1085$, $t=2.0315$, $p<0.05$); TLP \rightarrow QAM ($\beta=0.2379$, $t=3.9897$, $p<0.05$) are statistically significant. In addition, the hypothesized path between SPA and QAM ($\beta=-0.0242$, $t=0.6961$, $p<0.05$) is statistically insignificant.

5.4.4 Analysis and findings of the open-ended questionnaire and interviews on CCDR, TLP, SPA, SI, QAM, KSA and HRD

There were five (5) open ended questions after the general survey. The majority part of the general survey has quantitative analysis but as after the main questionnaire, there were five open ended questions, those are analyzed based on qualitative analysis. There were also 15 interviews for the experts, specialist in the field of QAM, HRD and HEIs with 10 questions in the questionnaire. The questionnaire of the open ended and interview is mentioned in the methodology chapter four. The analysis, interpretation and summary of the responses are as follow:

Findings on HRD in BD based on open ended questionnaire

Bangladesh's Human Resource can become competitive advantage if sufficient attention is paid. Moreover, Bangladesh has the ability to improve human resource skills through compliance with laws and regulations, workplace training and growth, research partnering with developments in corporate and media management. HRD initiative need to take innovative ideas that suit BD. Development in this area is important for the industrial and economy growth of BD. Few respondents mentioned regarding Bangladesh's Human Resource that it is in frustrating level of performance but it is flourishing and prosperous. The respondents also

mentioned that not much governance is present in HRD arena of BD. It is not up the mark to compared to the other developed countries.

- **Findings on present condition and suggestions for HRD in BD**

The different opinion of the respondents regarding the HRD in Bangladesh is summarized below:

- Training: More Skills-based Training, such as vocational training; investment in training by government is required; Increase organizational capacity through Training; Proper training conducting seminars on various developmental issues for HRD to the people; There should be different training programs based on the current market demand for different segments; effective training programs are needed to maintain talented employee; HRD should be prepared through technical training and training centers are required in the technical skills required by higher education through proper HR practices and standardizing the process.
- Development of KSA: Enriching of graduates' KSA and acquiring soft skills; identifying the KSA after assessment of the country's need/demand; and detail developmental plan including requirements and objectives of HR; is mentioned by the respondents. Practical education with a focus on management is expected;
- Developing economy: More infrastructural facilities, Job opportunity and facilities; Assurance of employees ' health and welfare may contribute in HRD as well according to the respondents.
- Elimination of Corruption: Corruption free society and industry; Government and Business arena should be involved in corruption.

- **Findings on challenges in HRD of BD**

The respondents mentioned that the challenges in developing Human Resource of Bangladesh are as follow:

- Lack of Government Initiative for HRD: BD should draw up a comprehensive plan in the national budget with proper implementation and regular monitoring; Quota system for job opportunity should be removed fully. HRD efforts should be clear and transparent in the right direction among people and young generation of Bangladesh.

- Workplace/workforce Diversity: More Female workers are part of the workforce presently, thus diversifying the workforce and ethnic group of people should be considered.
- Recruitment and selection process by the industry: Authentic and proper selection process to avoid nepotism is suggested; Process of selecting talented employees based on KSA should be initiated.
- Lack of Corporate Governance: Implementation of CG for people in the country, organization, professional organizations, education and in HR arena; establishment and proper enforcement corporate governance has been identified by the respondents.
- Lack of HRD plan at the national level: The HRD requires proper planning, consistency, contextual planning, enormous investment and appropriate technology at the national policy level. Lack of coordination, monitoring and implementation of HRD related plan and initiatives is observed.
- KSA mismatch/gap: The respondents mentioned the following: graduates are absorbed in the jobs with which their KSA are not matching. Graduates from Physics, history is working in bank; Most of the time the graduates work in different fields not in area they have studied/graduated.

Findings on existing KSA gap and its effect on HRD based on open ended questionnaire

The respondent noted that, the HEIs are not generally able to improve graduate expertise, skills and knowledge; it depends on how it is addressed. KSA are the specific criteria that the recruiting agency would like to see in the person selected to fill a particular job and those KSA development is needed. But it will take more time for the HEIs to develop those KSAs. The responder also mentioned that some other KSA which are required for the graduates in this globalized world. They are as follow:

- ICT Skill: Learning new approaches, such as virtual/E-learning can be initiated; mastering computer programming.
- The other Skill List: Self-Awareness; Leadership; Communication; Technical and Technological Skills; Adaptation and Critical thinking skills; Software skills; Problemsolving; students and graduates must be able to make more presentations or engage in critical thinking activities; Need to understand how to resolve complex task; Development of both hard and soft skill is suggested by the respondents;

- Language Skill: University can grant free advance spoken English path. some other foreign language other than English, Innovation, Presentation skills, General Knowledge, language abilities are mandatory; Increase spoken English and computer class.
- KSA related to service industry and entrepreneurial skills are required.
- Life skills: Empathic; Patriotic skills; the ability to be open minded; Moral Character; Ethical behavior; Behavior capabilities; ability to judge one's own behavior; Current Affairs and General Knowledge; Updating themselves with contemporary affairs; are identified as KSA required for the graduates in the workplace.
- Knowledge about Job Market: Knowledge about job opportunities in the market; Graduates ought to understand job market.

Vocational Training: as part of university education should be introduced

Findings on role and challenges of OAM in HE based on open ended questionnaire

The respondents identified the following in the field of HEI. The summary of the responses is as follow:

- Curriculum modification: Students are to be uncovered to read life issues by using fixing case studies; Practical hands on real life experience through case studies; more practical and real-world based tasks can be initiated; Need to enforce the principle of KSA among all through academic and co-curricular operation; By developing targets, measurable objectives in curriculum need to be considered; Need to have the students challenged in many co-curricular and extra- curricular activities; Curriculum focusing on KSA required in service sector; are mentioned by the respondents.
- Industry-Academia Linkage: Collaboration with the industry; Initiating research with industries; Support research work with industry and HEIs.
- Assessment process: Real life-oriented assessment should be introduced. Hands on practical exams should be introduced.
- Quality of students/ improvement in KSA: Graduates' overall qualities have to be improved.
- Teaching-learning: more interactive, student oriented, classroom engagement of students teaching style should be adopted; Presentation, case studies, communication skill improvement activities in the class should be conducted.

- Gap in primary, secondary, higher secondary and HE: There is a large gap between other prior educational system. QA in Primary, Secondary, Higher Secondary should also be introduced otherwise quality graduate will not be produced by HEIs.
- Involvement of Stakeholders in HE: HE can be expanded further by using making sure involvement of all stakeholders of a university.
- Career planning: There should be program for individual, group, and community is students in the HEIs level as well as national level for proper career path design development and guidance;
- No national politics in HEIs: National politics should be banned in the HEIs. Only university level politics can be there; End of the politics in the HEIs by influencing the younger generation.

Tools, process and system of QAM in HE

According to the respondents the challenges can be addressed or the gap can be minimized in developing the KSA of graduates via QAM.

Suggestion for QAM in HEIs

- Proper implementation and monitoring of QAM: It can be conducted through impartial choice of responsible units through implementation and close monitoring. As it is a continuous process but still find the subsequent step on the basis of previous structure. Proper monitoring and feedback procedure alongside with exploring new mechanism applied in developed country can improve the QAM in BD presently. Implication on prescribed guidelines can be strongly maintained and should be monitored; By studying from mistakes, the QAM can be revised.
- Awareness Creation on QAM in HE: More workshops and seminar on the QAM is needed for the students, employers, graduates, guardians and other staff. Introducing more periodic workshops on QAM can be arranged; Promoting awareness program can be another way; Detailed explanation of the QA is needed for easy understanding; Lack of experience is another gap. Unawareness about this issue is a fact. More time should be given for QA implementation; Having lack of knowledge and awareness about QA is another issue; Students are not acquainted with this structure.

- More Involvement of Stakeholders in QAM: All stakeholders must come forward; Curriculum modification or close monitoring and integration with QAM with workplace is required.
 - Exit Survey and Tracer Study: Survey of students after graduation and strong bonding of alumni is needed;
- **Challenges of QAM in HEIs**
 - Government Support for QAM in HEIs: coverage from govt. side; Institutional guide and accountability to UGC is required.
 - Time Consuming: QA is time consuming and lengthy process.
 - Documentation: Faculty may not want to get burden with documentation.
 - Acceptance and preparedness for QA in HEIs: Preparedness and acceptance the HEIs management, stakeholders are key factor for successful implementation of QAM.
 - Similar QA approach for all the HEIs: Schools and faculties should undertake the identical mechanism in the same universities; All universities should undertake same QA initiatives; schools and colleges should be also implement QAM;

When asked about the challenges QAM is facing to develop the Students' KSA and How the challenges can be met and improved further, the respondent concluded that the students sometimes have minimum ideas about QA. After adoption of the QAM, due to lack of knowledge it becomes difficult for the students to understand or cope up with the QA processes, how it works or with the new changes. Another thing, if the QA implementation process becomes too lengthy or complex, the people involved with it lose their interest and then instead of developing Students' KSA, it reverses the whole scenario in a negative way. Developing quality in HEIs is a long-term systematic process and there is no alternative to ensure that. In such process, HEIs need to develop curriculum in line with the national needs, enhance facilities to implement the curriculum and follow up if their graduates are falling behind the requirements of the country. Besides, the respondent strongly believes that addressing Knowledge, Skill and Ability through QAM at the university level can contribute in improved overall development of the graduates. Learning from the current QAM would help the HEIs to understand how it would work better. It was recorded that KSA should certainly not be read or taught only. Whatever is imparted, they should be able to show the model practically and that

role model as well. The answer was positive when asked about whether Stakeholders (students, academic and administrative staff, alumni, employers, guardians/parents) of HEIs play an important role in improvement of KSA of the graduates of the universities and that definitely do they play an important role in improvement of KSA of the graduates of the universities. In the context of Bangladesh, the QA mechanism was formally mandated some 5 years ago. The impact may not be that strong or concrete but definitely it has created some degree of awareness which is essential to the improvement of the quality of academic programs in HEIs. This mechanism must be sustained with both internal and external approval.

- Continuous capacity building of these involved in QA. Materials equipment and relevant tools needed for instruction should be adequately processed. State-of-the-Art facilities to match the emerging advancement of technology should be made available to facilitate an effective and conducive learning environment. Support from the nonacademic staff should be made responsive and dedicated to develop harmonious cooperation. Management should be open to suggestions and motivate all teaching and nonteaching staff to do their best with utmost dedication and sincerity. “Carrots and stick” policy should be observed to maximize performance in QA Culture.
- The responded stated that the role of the universities for developing students’ Knowledge, Skill and Abilities and on minimizing the skill Gap that are inspiring and motivating the students to learn and develop themselves apart from academic knowledge and also motivating the students are equally important. He also agreed that stakeholders of HEIs play an important role in improvement of KSA of the graduates of the universities. The expert also believes, Continuous support of the top management is crucial to reap the benefits of QA in HEIs to minimize the Skill Gap
- To overcome these kinds of situations different awareness program about QA must be organized. Also, development of new QA tools, implementing the best feedbacks from the stakeholders, practicing the good policies from different institutions or countries, following the Govt. and International Standards can improve the QA mechanism further.
- The respondent included that a proper HR Ministry needs to be set up who will guide and execute the roadmap based on the country’s HR strategy. HEIs need to re-engineer the education cycle with respect to the stakeholders ' ever-changing and dynamic needs. Competence growth has been discussed globally with great importance in education and

innovative teaching learning. In order to develop a system for the desired competence as output, inputs and process management are also very critical. Ignoring the inputs and proper process control the system does not work to meet the educational purposes. HEIs need to look into the mechanism's capacity and efficacy for generating qualified students, which should be the entire aim of education. The respondent provided some suggestions to HEIs to develop students/graduates as human resource. According to the expert, addressing KSA through QAM at the primary-higher secondary levels will be more effective and easier rather at the university level. From his observation stakeholders of HEIs do not play role in improvement of KSA of graduates in Bangladesh.

5.4.5 Analysis of Interview Questionnaire

Approaches and challenges of HRD in BD

The respondents were asked about the thoughts how the HRD can be assured in a country and what role HE plays in HRD of a country. The respondents replied that the backbone for developing a country's Human Resource is education and its practical implementation in the related fields. As the HEIs prepare people for the job market/work place with the highest set of KSA, they play an important role by educating the country's manpower. It is necessary to make sure that people reach in the stage of highest level of education and receive a chance to perform what they have gained in their graduation stage. Human resources in a country can be developed to following some step like the sponsor/entrepreneur need to be aware by HRD. Human resource can be developed through 'proper education' only. Without education, no nation can prosper and achieve its goal. People become burden of the society due to lack of proper education. Education develops people's far slightness where people become more knowledgeable, active, and skilled and change his/her behavior and gradually country moves forward.

In the first question the respondent stated that developing human resources in a country is a slippery term to explain or cannot be followed a single-shot method to achieve it. That is why it is difficult, if not impossible, to opine on this issue in a single sentence. According to the respondent, developing human resource is a process involving relevant stakeholders, efforts would be collective and should be a combination of theory, practice, and its methodical implementation. Indeed, proper Education should be the fundamental component in such

procedure. Human Resource can be developed in a country by addressing the skill gap and addressing those skills to our people need to at present and in the future. The other expert opinion is Human resources can be developed in a country through outcome-based education and training under a well-designed curriculum.

Context of HRD in Bangladesh according to interview questionnaire analysis

The respondent's opinion regarding the Human Resource of Bangladesh is during the last decades, this country has been trying to convert humans into resources, however, the country is seriously lacking in achieving the target. When a country fails in such process, human often becomes a liability to the society in particular and for the country in general. That actually occurred in many cases to the country in recent years. In the context of Bangladesh currently, one of the main concerns of QAM is to develop different QA tools for improving and standardizing education system and other related services and resources so that students and other stakeholders receive the highest benefit from the university level education. So, with better education and best policies which upgraded notably due to the QAM in the recent years, now the HEIs can serve the Human Resources of Bangladesh more strongly. According to respondent's opinion regarding the Human Resource of Bangladesh is that we have a long way to go but still we see foreign executive in top position of many sectors. HE need to be more careers focused the academic/theoretical focus. There are few challenges in developing Human Resource of Bangladesh is that lack of proper career related education system. Low exposure/attachment to corporate culture in the student life. More update of education to match the latest practices/technology. These challenges can be mitigated/addressed is that more career-oriented education system and also more attachment to corporate culture. When asked for opinions related to the Human Resource of Bangladesh the respondent said that HR is versatile and is capable to develop providing right tools and processes are in place. Investment and having the right people who will be involved to develop our resources. The other opinion is that, other than a few exceptions, the level of competence needed to succeed in real-life situations is not at the desired level. The respondent stated that the challenges in the development of human capital are the lack of a quality culture, a need for a curriculum, outcome-based education and competence development mechanism at the higher education level. Also, teaching learning focuses more on lower-level thinking skills (memory and understanding). Bangladesh has a huge prospect in terms of human resource. Unfortunately,

this country is not at that stage yet. The country needs to educate the people first. Though people are being educated but the existing education policy does not prepare resourceful human being for the nation. The education system is mostly knowledge based rather skill oriented. Therefore, the graduates can little contribute in the national development.

Regarding the third question the challenges in developing Human Resource of Bangladesh are lack of vision and determination. Education policies were inconsistent. Limited education budget and mostly depends on government fund. The quality teaching and learning methods are problematic. In addition, less number of qualified and experienced teachers, their teaching facilities, good intention to bring the change for the benefit of the future etc. are the challenges of developing human resources in Bangladesh. Besides, unexpected political interference sometimes disturbs us to reach the objectives. According to him, to mitigate the challenges, Bangladesh needs to focus on national goal. Moreover, this country needs to work harder and go beyond the personal interest. Besides that, the political commitment is required and in some cases third party interference needs to stop. The challenges in developing Human Resource of Bangladesh, according to other respondent are lack of proper planning, not providing sufficient importance, weak or no implementation, poor monitoring or follow up.

KSA of graduates and its relation to HRD according to interview questionnaire analysis

The experts mentioned that there is a gap in term of skill gap. There is a mismatch between the demand of the job market and supply from the HEIs. When asked whether there is a gap between the demand of Job Market and Supply of Human Resource from the HEIs? Regarding skill gap/mismatch, the respondent considered that there is certainly a difference between the supply and demand. The industries needs people with the right expertise, skills and mindset, but the availability of what the industry needs is unfortunately not adequate. It is either the gap in information, gap in ability or gap in attitude. It is very difficult to find all 3 in one candidate. When asked about whether addressing KSA through Curriculum at the university level can contribute in improved overall development of the graduates, respondent stated that an enriched curriculum which focuses on KSA helps the graduates to enter in the job market or business world by giving them a clear picture about all the aspects of their degree programs, overcoming the fear of becoming accustomed in the corporate environment and through the proper curriculum they receive updated knowledge and skills which make them more confident. Also,

these things give advantages to the graduates of a HEI by keeping them ahead than the old-fashioned institutions. The other respondent's opinion those KSA are required for the graduates are that up-to-date to latest technology/practices. More open to learning new thing and developing soft skills.

About a possible gap in the job market between the supply and demand of Human resource from HEI, the respondent included that the beneficiaries of the development efforts of the HEIs are the stakeholders. They are the producers and users at the same time. As such they should provide feedback or suggest the kind of contents of the courses and at the same time the design of the program based on their needs.

According to the opinion of the respondent regarding KSA the 4Cs (Critical Thinking, Creativity, Collaboration and Communication) should be prioritized for the graduates to be employable in 21st century. The respondent's opinion regarding the KSA which are required for the graduates to be employable in 21st century is the basic technical knowledge, skills and abilities of the different fields in which we currently rely on the expatriates should be addressed first. Also, some knowledge, skills and abilities we would need to sustain and grow in the future.

According to the respondents, KSA which is required for graduates to be employable in the 21st century can be depending on the nature of the industry and discipline. However, graduates must have the following attributes: Contemporary knowledge on the subject or discipline, liberal, progressive and forward-looking thinking; IT and Communication skills, Interpersonal skills, self-management skills and lifelong learning, Analytical and problem-solving skills, Adaptation and ability to handle changes and Ethical standards. The respondent said there is a difference between Job Market demand and Supply of Human Resource from the HEIs. According to the opinion of the respondent regarding KSA graduates must be up to date of the contemporary global issues. They must be skilled in terms of academic, social and personal skills. Ethics and moral education need to incorporate in their subjects and syllabus and practice in day to day life. From the observation of the respondent there is a huge gap between the demand of the job market and supply from the HEIs. Every year thousands of graduates are unemployed due to lack of skills and attitudes whereas employers recruit skilled labor from

oversea, which is unexpected. About KSA the respondent said that these are the three learning domains of the teaching-learning process and the ultimate objectives of Teaching- Learning. If these domains are achieved, then learning is successful and effective. Graduates equipped with these domains can readily respond to the requirements of the industry/employees on job markets.

Role of QAM of HE in HRD of BD according to interview questionnaire analysis

For the universities/higher education institutes role/contribution to develop students/graduates as human resource, the respondent mentioned that HEIs can play role/contribute to develop students/graduates as human resource by focusing more on what market wants in terms of KSA. As for opinions regarding if stakeholders of HE plays an important role in improvement of curriculum of universities, the response was that stakeholders provide feedbacks from their respective fields based on current trends and new practices. The implementation of these feedbacks helps an HEI to improve their courses or curriculum with new ideas, topics or changes. It should be maintained as a continuous process. The HELs can play role/contribute to develop students/graduates as human resources through more affiliation with corporate and also more career related education program/seminars.

The respondent thinks HEIs play a critical role on the HRD of the country for the HEIs are the producers of professionals and high-level professionals in all disciplines. It is necessary that HEIs must have a close tie-up with the Industry on employees to determine the kind of HR professionals to be produced. Their demands and requirements can be responded by HEIs. As concluding comments on the role of the universities for developing students' KSA and on minimizing the skill gap, he stated that the universities are dedicated to the knowledge of culture, to creating new knowledge and to producing good citizens for the nation. The universities are highly expected to work for the production of skilled human capital and a significant contribution to socio-economic development. Nowadays people are more inclined to go for a few specific types of jobs and currently Bangladesh has sufficient human resources to satisfy those posts. Maybe people who get that kind of job is either not lacking or get training to overcome the skill gap. However, it is difficult to comment if the other people who didn't get a job or happy to remain unemployed are lacking skills for the job market. The respondent provided some suggestions to HEIs to develop students/graduates as human resource.

According to him, HEIs need to develop own quality first to play role to develop students/graduates as human resource.

As a further comment on the role of the universities for developing students' KSA and on minimizing the skill gap, it can be quoted "Do universities really develop the skills and abilities of students other than knowledge (other than just memorizing the answers)?" The responder suggested that these challenges can be mitigated / addressed through the well-functioning internal quality assurance system and the quality culture of HEIs, the professional development of academic and non-academic staff, the definition of higher education in view of emerging issues beyond the traditional approach.

The respondent mentioned that HEIs can play a role / contribute to the growth of students / graduates as a human resource through a well-functioning internal quality assurance system and quality culture in place university must be linked to the correct educational cycle, curriculum must be linked to industry, must be focused on established outcomes and must address the educational fields for holistic growth of the graduates, teaching learning and assessment practices by providing practical evidences, promoting critical thinking and encouraging students to apply acquired knowledge in real-life circumstances that rely on higher-order thinking skills (HOTS).

Correspondingly, the HEIs can revise, restructure, redesign the curriculum attuned with stakeholders' demands anticipating the future demands. The respondent also believes that HEIs can contribute to develop graduates as human resources through implementation and monitoring to ensure that imperatives of the QAM are complied with areas identified for improvement need to be acted upon.

5.5 Analysis and Findings on the existing KSA gap (Data collected from Alumni and Employer)

5.5.1 Descriptive Analysis of Additional Questionnaire on existing KSA gap

There were two additional questionnaires as mentioned in chapter 5, methodology. First one to find out the is for the employers and alumni to find out the existing KSA gap between the HEIs and job market/workplace. The second one is to find out the perception of academic and

administrative staff regarding QAM. The QAM, in the HEIs, the system, process and tools implemented. Both the additional questionnaires were developed and surveyed to aid with the main general survey questionnaire.

5.5.2 Analysis of Additional Questionnaire for Employer and Alumni on existing KSA Gap
This analysis was conducted based on the two comparisons. One being the requirement of the KSA in the job and the other one is what the alumni are performing during the job in the workplace, in other words, how much KSA the graduates are showing in the workplace (graduate performance) and how much expected from them (job requirement). Furthermore, this comparison was analyzed based on two different respondents or stakeholders of HEIs. One was to find out what is the alumni's perception on the job requirement of KSA and about their performance on KSA. The other one is for the employer's perception based on job requirement of KSA and what the graduates are performing in the workplace. This analysis is conducted to find out the difference between the perception of the respondents both being the stakeholders of HEIs as well as to determine the difference between demand/requirement of KSA in the job and what the graduates are performing.

Analysis of Gap in “Knowledge Dimension” based on Alumni and Employers’ perception

The following table shows the difference between the job requirement and graduate performance based on KSA from the alumni's perception. The mean, standard deviation and variance is shown in the table for both Job requirement and graduate performance at work.

Table 5.21: Analysis of Gap in “Knowledge Dimension” based on Alumni perception

Job Requirement					Graduate Performance		
Knowledge	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
IT Knowledge	70	4.7571	.43191	.187	3.7143	.68404	.468
Knowledge for understanding the facts	70	4.7714	.48668	.237	4.2000	.77272	.597

Knowledge	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Breakdown objects or ideas into simpler parts and finds evidence to generalization	70	4.7143	.56831	.323	4.1143	.75264	.566
Compile component ideas to a new whole or propose alternate ideas	70	4.7143	.51479	.265	4.2429	.54999	.302
Make and defend judgment based on internal evidence or external criteria	70	4.7429	.47199	.223	4.1429	.76681	.588
Knowledge in designing a system component	70	4.7571	.49448	.245	4.4143	.64814	.420
Knowledge of terminology and specific facts	70	4.8000	.40289	.162	4.3286	.81154	.659
Knowledge of categories, principles, and models	70	4.6000	.64606	.417	4.2571	.71598	.513
Knowledge of how to do a work	70	4.7857	.47831	.229	4.2714	.86680	.751
Knowledge for plan, monitor and regulate a work	70	4.8143	.42709	.182	4.2429	.82419	.679
Valid N (listwise)	70						

Table 5.22: Analysis of Gap in “Knowledge Dimension” based on Employers’ perception

Job Requirements					Graduate Performance		
Knowledge	Employer	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
IT Knowledge	35	4.7429	.50543	.255	3.5714	.73907	.546
Knowledge for understanding the facts	35	4.5714	.65465	.429	4.0000	.64169	.412
Breakdown objects or ideas into simpler parts and finds evidence to generalization	35	4.6286	.54695	.299	3.8571	.73336	.538
Compile component ideas to a new whole or propose alternate ideas	35	4.7429	.50543	.255	4.4857	.61220	.375
Make and defend judgment based on internal evidence or external criteria	35	4.7143	.45835	.210	4.0000	.84017	.706
Knowledge in designing a system component	35	4.8000	.53137	.282	4.2000	.75926	.576
Knowledge of terminology and specific facts	35	4.8286	.45282	.205	4.0857	.70174	.492
Knowledge of categories, principles, and models	35	4.8286	.45282	.205	4.1143	.71831	.516
Knowledge of how to do a work	35	4.7714	.42604	.182	4.2286	.68966	.476
Knowledge for plan, monitor and regulate a work	35	4.7714	.49024	.240	4.3714	.64561	.417

Graph 5.1: Comparative Analysis between Employer and Alumni based on Job Requirement and Graduate Performance based on “Knowledge Dimension”

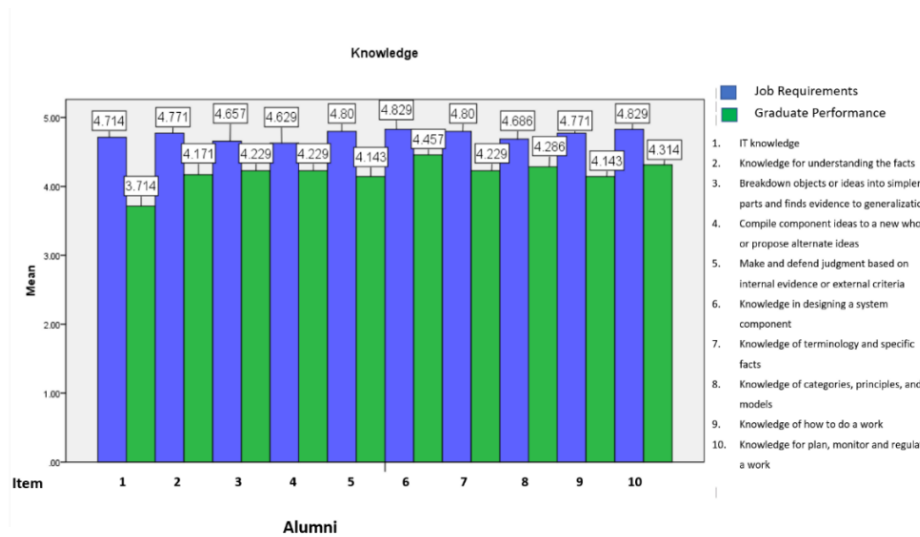


Figure 5.2: Job Requirement and Graduate Performance based on “Knowledge Dimension” of Alumni

Figure 5.2 is about respondents Job requirement and graduate performance based on knowledge dimension of alumni .We observed in this figure, IT knowledge here the mean value was 4.714 of job requirements and 3.714 of graduate performance, knowledge for understanding the facts here the mean value was 4.771 of job requirements and 4.171 of graduate performance, Breakdown object or ideas into simpler parts and finds evidence to generalization here the mean value was 4.657 of job requirements and 4.229 of graduate performance , compile component ideas to a new whole or propose alternate ideas here the mean value was 4.629 of job requirements and 4.229 of graduate performance, make and defined judgement based on internal evidence or external criteria here the mean value was 4.80 of job requirements and 4.143 of graduate performance, knowledge in designing a system component here the mean value was 4.829 of job requirements and 4.457 of graduate performance, knowledge of terminology and specific facts here the mean value was 4.80 of job requirements and 4.229 of graduate performance, knowledge of categories, principles and models here the mean value was 4.686 of job requirements and 4.286 of graduate performance, knowledge of how to do a work here the mean value was 4.771 of job requirements and 4.143 of graduate performance, knowledge for plan , monitor and

regulate a work here the mean value was 4.829 of job requirements and 4.314 of graduate performance.

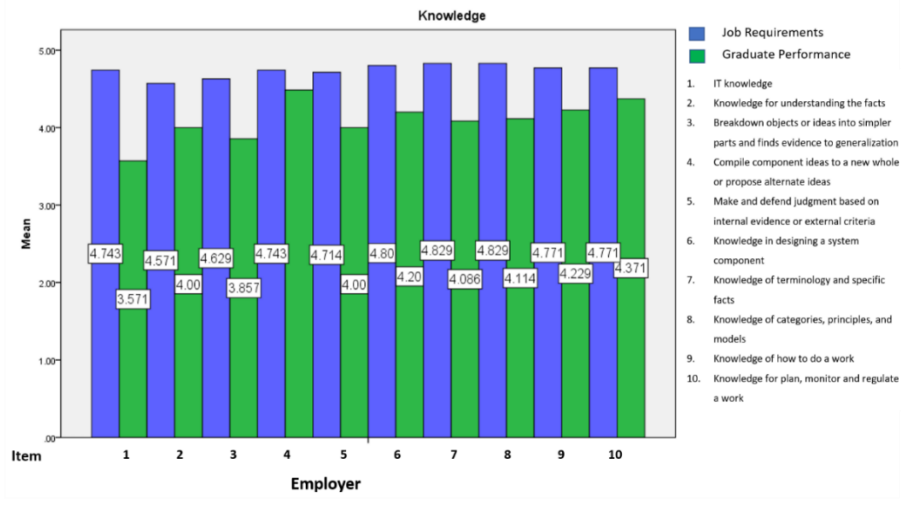


Figure 5.3: Job Requirement and Graduate Performance based on “Knowledge Dimension” of Employer

Figure 5.3 represents respondents Job requirement and graduate performance based on knowledge dimension of employer. We observed that, IT knowledge here the mean value was 4.743 of job requirements and 3.571 of graduate performance, knowledge for understanding the facts here the mean value was 4.77 of job requirements and 4.571 of graduate performance, Breakdown object or ideas into simpler parts and finds evidence to generalization here the mean value was 4.00 of job requirements and 4.629 of graduate performance , compile component ideas to a new whole or propose alternate ideas here the mean value was 3.857 of job requirements and 4.743 of graduate performance, make and defined judgement based on internal evidence or external criteria here the mean value was 4.80 of job requirements and 4.714 of graduate performance, knowledge in designing a system component here the mean value was 4.00 of job requirements and 4.80 of graduate performance, knowledge of terminology and specific facts here the mean value was 4.20 of job requirements and 4.086 of graduate performance, knowledge of categories, principles and models here the mean value was 4.829 of job requirements and 4.114 of graduate performance, knowledge of how to do a work here the mean value was 4.771 of job requirements and 4. 229 of graduate performance, knowledge for plan , monitor and regulate a work here the mean value was 4.771 of job requirements and 4.371 of graduate performance.

*Analysis of Gap in “Skill Dimension” based on Alumni and Employers’ perception**Analysis of Gap in “Skill Dimension-Communication Skill” based on Alumni and Employers’ perception***Table 5.23: Analysis of Gap in “Skill Dimension-Communication Skill” based on Alumni’ perception**

Job Requirement					Graduate Performance		
Communication Skill	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Oral communication skills	70	4.8429	.36656	.134	4.5000	.60792	.370
Report writing skills	70	4.8571	.35245	.124	4.6286	.48668	.237
Presentation skills	70	4.9143	.28196	.080	4.0857	.91276	.833
Reading Skill	70	4.9143	.28196	.080	4.4000	.68947	.475
Writing Skill	70	4.9143	.32938	.108	4.3143	.84344	.711
Listening Skill	70	4.9286	.31028	.096	4.3286	.71670	.514
Office communication/Formal (Online, Email, Memo, meeting etc.)	70	4.9000	.30217	.091	4.3286	.77500	.601
Appropriate Data collection and analyzation	70	4.8714	.37769	.143	4.3857	.68721	.472
Projecting and interpreting Graphs, charts etc.	70	4.8429	.40417	.163	4.4143	.78929	.623
Non-verbal/ Informal Communication (facial expressions, hand gestures, posture and even appearance, Face to face, Body language)	70	4.8857	.32046	.103	4.5429	.58199	.339
Valid N (listwise)	70						

Table 5.24: Analysis of Gap in “Skill Dimension-Communication Skill” based on Employers’ perception

Job Requirement					Graduate Performance		
	Employer	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Communication Skill							
Oral communication skills	35	4.7429	.44344	.197	4.4286	.73907	.546
Report writing skills	35	4.8571	.35504	.126	4.6286	.54695	.299
Presentation skills	35	4.9714	.16903	.029	4.1429	.69209	.479
Reading Skill	35	5.0000	.00000	.000	4.1429	.69209	.479
Writing Skill	35	4.9714	.16903	.029	4.2286	.73106	.534
Listening Skill	35	4.9143	.37349	.139	4.3143	.58266	.339
Office communication/Formal (Online, Email, Memo, meeting etc.)	35	4.9429	.33806	.114	3.9714	.92309	.852
Appropriate Data collection and analyzation	35	4.5429	1.09391	1.197	4.1714	.74698	.558
Projecting and interpreting Graphs, charts etc.	35	4.8286	.38239	.146	4.4000	.65079	.424
Non-verbal/ Informal Communication (facial expressions, hand gestures, posture and even appearance, Face to face, Body language)	35	4.9429	.23550	.055	4.3714	.54695	.299

Graph 5.2: Comparative Analysis between Employer and Alumni based on Job Requirement and Graduate Performance based on “Skill Dimension- Communication Skill”

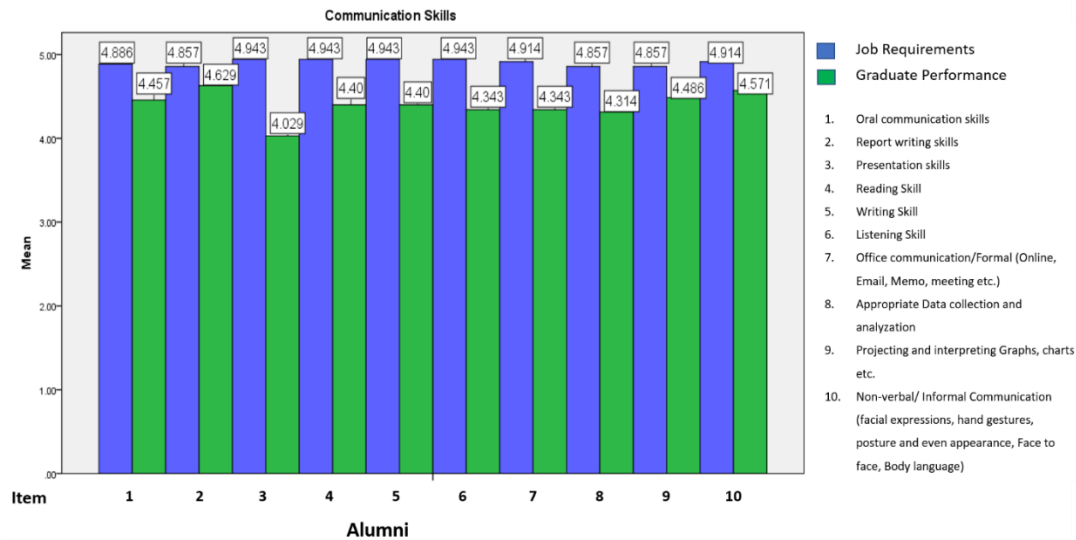


Figure 5.4: Job Requirement and Graduate Performance based on “Skill Dimension- Communication Skill” of Alumni

Figure 5.4 is showing that job requirement and graduate performance based on skill dimension-communication skill of alumni. We observed that oral communication skills here the mean value was 4.886 of job requirements and 4.457 of graduate performance, Report writing skills here the mean value was 4.857 of job requirements and 4.629 of graduate performance, Presentation skills here the mean value was 4.943 of job requirements and 4.029 of graduate performance , Reading skills here the mean value was 4.943 of job requirements and 4.40 of graduate performance, Writing skills here the mean value was 4.943 of job requirements and 4.40 of graduate performance, Listening skills here the mean value was 4.943 of job requirements and 4.343 of graduate performance, Office communication here the mean value was 4.914 of job requirements and 4.343 of graduate performance, Appropriate data collection and analyzation here the mean value was 4.857 of job requirements and 4.314 of graduate performance, Projecting and interpreting graphs , charts here the mean value was 4.857 of job requirements and 4.486 of graduate performance, Non-verbal/ informal communication here the mean value was 4.914 of job requirements and 4.571 of graduate performance.

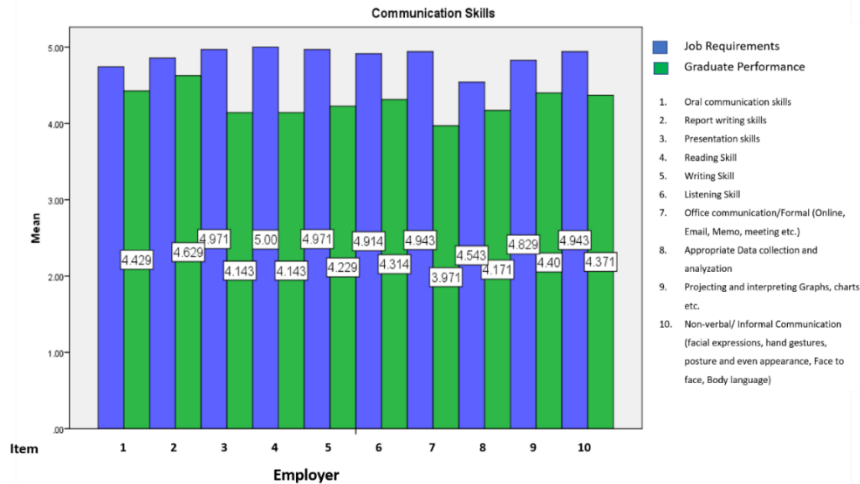


Figure 5.5: Job Requirement and Graduate Performance based on “Skill Dimension- Communication Skill” of Employer

Figure 5.5 is showing that job requirement and graduate performance based on skill dimension- communication skill of employer. We observed that oral communication skills here the mean value was 4.886 of job requirements and 4.429 of graduate performance, Report writing skills here the mean value was 4.857 of job requirements and 4.629 of graduate performance, Presentation skills here the mean value was 4.971 of job requirements and 4.143 of graduate performance, Reading skills here the mean value was 5.00 of job requirements and 4.143 of graduate performance, Writing skills here the mean value was 4.971 of job requirements and 4.229 of graduate performance, Listening skills here the mean value was 4.914 of job requirements and 4.229 of graduate performance, Office communication here the mean value was 4.943 of job requirements and 3.971 of graduate performance, Appropriate data collection and analyzation here the mean value was 4.543 of job requirements and 4.171 of graduate performance, Projecting and interpreting graphs, charts here the mean value was 4.829 of job requirements and 4.40 of graduate performance, Non-verbal/ informal communication here the mean value was 4.943 of job requirements and 4.371 of graduate performance.

Analysis of Gap in “Skill Dimension-Interpersonal Skill” based on Alumni’ perception**Table 5.25: Analysis of Gap in “Skill Dimension-Interpersonal Skill” based on Alumni’ perception**

Job Requirement					Graduate Performance		
Interpersonal Skills	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Leadership	70	4.9143	.28196	.080	4.3143	.71308	.508
Teamwork	70	4.9714	.16780	.028	4.4000	.68947	.475
Emotional Intelligence	70	4.5857	.87630	.768	4.0857	.92850	.862
Spiritual Intelligence	70	4.8286	.41603	.173	4.2571	.73594	.542
Negotiation skill	70	4.9143	.28196	.080	4.3429	.89904	.808
Valid N (listwise)	70						

Table 5.26: Analysis of Gap in “Skill Dimension-Interpersonal Skill” based on Employers’ perception

Job Requirements					Graduate Performance		
Interpersonal Skills	Employer	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Leadership	35	4.9429	.33806	.114	4.2286	.97274	.946
Teamwork	35	4.8857	.52979	.281	4.4857	.65849	.434
Emotional Intelligence	35	4.9429	.23550	.055	4.4857	.65849	.434
Spiritual Intelligence	35	4.9714	.16903	.029	4.3143	.75815	.575
Negotiation skill	35	4.9143	.28403	.081	4.6857	.58266	.339

Graph 5.3: Comparative Analysis between Employer and Alumni based on Job Requirement and Graduate Performance based on “Skill Dimension- Interpersonal Skill”

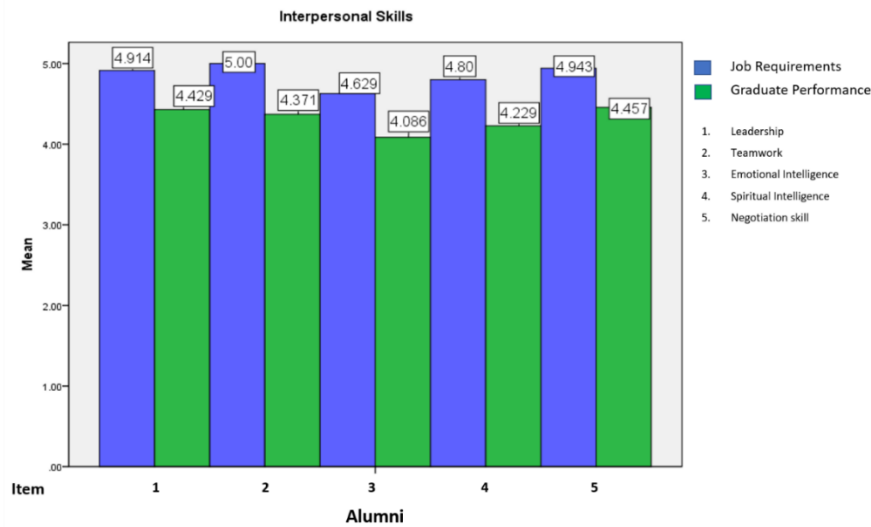


Figure 5.6: Job Requirement and Graduate Performance based on “Skill Dimension- Interpersonal Skill” of Alumni

In the figure 5.6 is showing that job requirement and graduate performance based on skill dimension- interpersonal skill of alumni. We observed that, Leadership here the mean value was 4.914 of job requirements and 4.429 of graduate performance Team work here the mean value was 5.00 of job requirements and 4.371 of graduate performance, Emotional intelligence here the mean value was 4.629 of job requirements and 4.086 of graduate performance, Spiritual intelligence here the mean value was 4.80 of job requirements and 4.229 of graduate performance, Negotiation skills here the mean value was 4.943 of Job requirement and 4.457 of graduate performance.

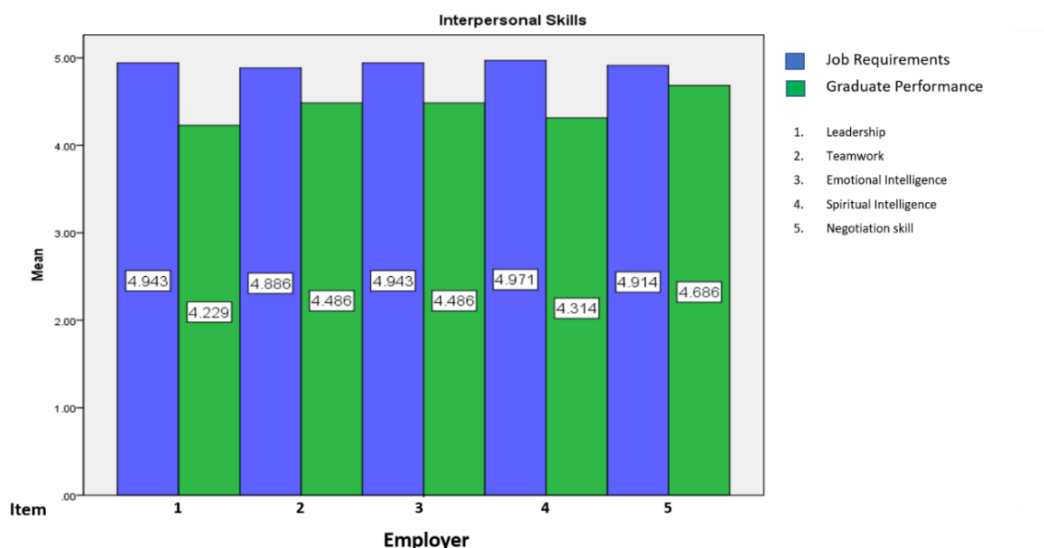


Figure 5.7: Job Requirement and Graduate Performance based on “Skill Dimension- Interpersonal Skill” of Employer

In the figure 5.7 is showing that job requirement and graduate performance based on skill dimension- interpersonal skill of employer. We observed that figures Leadership here the mean value was 4.943 of job requirements and 4.229 of graduate performance, Team work here the mean value was 4.886 of job requirements and 4.886 of graduate performance, Emotional intelligence here the mean value was 4.943 of job requirements and 4.486 of graduate performance, Spiritual intelligence here the mean value was 4.971 of job requirements and 4.314 of graduate performance, Negotiation skills here the mean value was 4.914 of Job requirement and 4.686 of graduate performance.

Analysis of Gap in “Ability Dimension” based on Alumni’ perception

Table 5.27: Analysis of Gap in “Ability Dimension” based on Alumni’ perception

Abilities	Job Requirements				Graduate Performance		
	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Time management	70	4.9429	.23379	.055	4.5143	.73707	.543
Rational Judgment capacity	70	4.7143	.56831	.323	4.3571	.72303	.523

Job Requirements					Graduate Performance		
Abilities	Alumni	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Problem Identification, solving and decision making	70	4.8571	.42684	.182	4.3571	.76207	.581
Ability to relate knowledge to practice	70	4.9143	.28196	.080	4.4429	.71497	.511
Discipline	70	4.9571	.26571	.071	4.5143	.67551	.456
Sense of Responsibility	70	4.9571	.20400	.042	4.4429	.71497	.511
Organizing	70	4.9571	.20400	.042	4.4571	.73594	.542
Critical Thinking	70	4.8857	.36287	.132	4.5286	.71670	.514
Creativity	70	4.8714	.41429	.172	4.4143	.73214	.536
Reliability and dependability	70	4.8286	.48068	.231	4.6286	.51560	.266
Intelligence Quotient (IQ)	70	4.7857	.41329	.171	4.2286	.76464	.585
Self-Motivation/ Commitment	70	4.9143	.37078	.137	4.0857	1.51076	2.282
Appreciation of ethical values	70	4.9571	.20400	.042	3.9143	1.44205	2.080
Adaptability	70	4.9143	.32938	.108	4.1714	1.53199	2.347
Independent thinking/ Self Confidence	70	4.9143	.32938	.108	4.2000	1.49006	2.220
Valid N (listwise)	70						

Table 5.28: Analysis of Gap in “Ability Dimension” based on Employers’ perception

Job Requirements					Graduate Performance		
Abilities	Employer	Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance
Time management	35	4.9429	.23550	.055	4.6857	.58266	.339
Rational Judgment capacity	35	4.8571	.42997	.185	4.3714	.80753	.652
Problem Identification, solving and decision making	35	4.9429	.23550	.055	4.4857	.74247	.551
Ability to relate knowledge to practice	35	4.8286	.38239	.146	4.6000	.65079	.424
Discipline	35	4.9143	.37349	.139	4.6286	.54695	.299
Sense of Responsibility	35	4.8000	.47279	.224	4.4286	.81478	.664
Organizing	35	5.0000	.00000	.000	4.6286	.59832	.358
Critical Thinking	35	4.9143	.28403	.081	4.5429	.74134	.550
Creativity	35	4.9143	.28403	.081	4.3714	.84316	.711
Reliability and dependability	35	4.8857	.40376	.163	4.6571	.72529	.526
Intelligence Quotient (IQ)	35	4.8286	.45282	.205	4.6286	.54695	.299
Self-Motivation/ Commitment	35	4.8857	.40376	.163	4.4000	.88118	.776
Appreciation of ethical values	35	4.9143	.37349	.139	4.4286	.77784	.605
Adaptability	35	4.8286	.56806	.323	4.7143	.45835	.210
Independent thinking/ Self Confidence	35	4.8000	.58410	.341	4.6286	.54695	.299

The above analysis can be interpreted and summarized as follow based on the knowledge, skill and ability dimension of job requirement and graduate performance based on the perception of alumni and employers.

Graph 5.4: Comparative Analysis between Employer and Alumni based on Job Requirement and Graduate Performance based on “Ability Dimension”

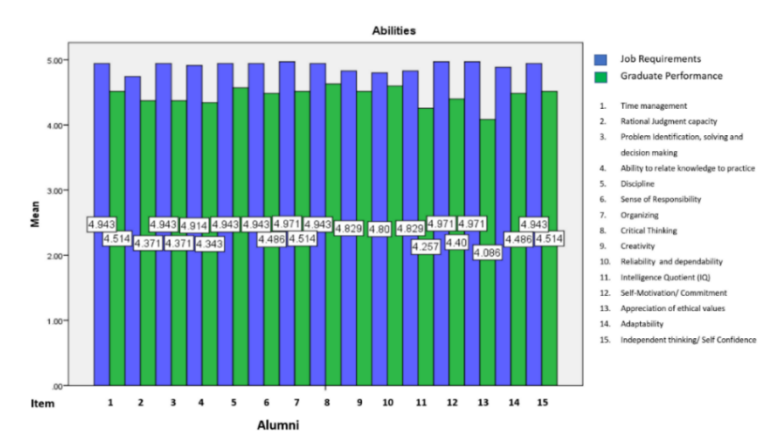


Figure 5.8: Job Requirement and Graduate Performance based on “Ability Dimension” of Alumni

Figure 5.8 represents Job requirements and graduate performance based on Ability dimension of alumni . We observed that, time management here the mean value was 4.943 of job requirements and 4.514 of graduate performance, Rational judgment capacity here the mean value was 4.862 of job requirements and 4.371 of graduate performance , Problem identification, solving and decision making here the mean value was 4.943 of job requirements and 4.371 of graduate performance, Ability to relate knowledge to practice here the mean value was 4.914 of job requirements and 4.343 of graduate performance, Discipline here the mean value was 4.943 of job requirements and 4.686 of graduate performance, sense of responsibility here the mean value was 4.943 of job requirements and 4.486 of graduate performance, Organizing here the mean value was 4.914 of job requirements and 4.514 of graduate performance , critical thinking here the mean value was 4.943 of job requirements and 4.868 of graduate performance, creativity here the mean value was 4.829 of job requirements and 4.678 of graduate performance ,Reliability and dependability here the mean value was 4.80 of job requirements and 4.437 of graduate performance , IntelligenceQuotient here the mean value was 4.829 of job requirements and

4.257 of graduate performance, self- motivation here the mean value was 4.971 of job requirements and 4.40 of graduate performance, Appreciation of ethical Values here the mean value was 4.971 of job requirements and 4.086 of graduate performance , adaptability here the mean value was 4.868 of job requirements and 4.486 graduate performance, independent thinking here the mean value was 4.953 of job requirements and 4.514 of graduate performance.

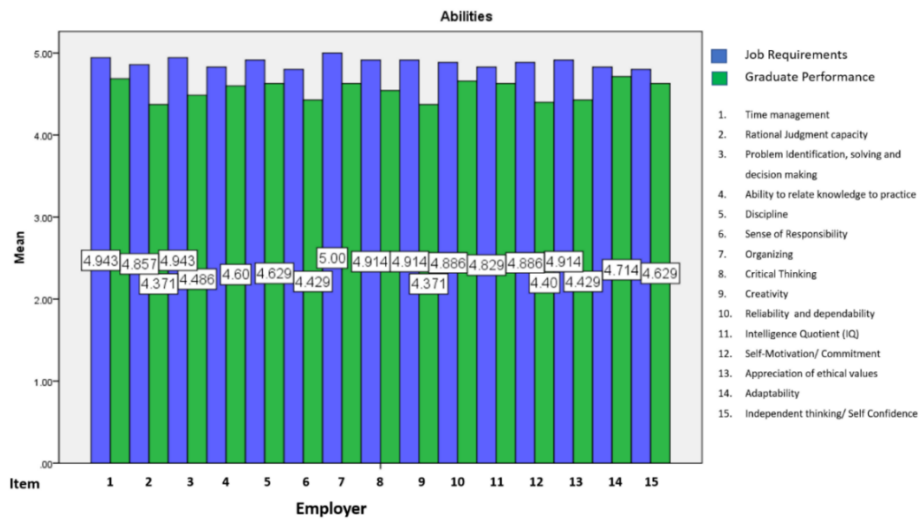


Figure 5.9: Job Requirement and Graduate Performance based on “Ability Dimension” of Employer

Figure 5.9 represents Job requirements and graduate performance based on Ability dimension of a employer . We observed that, time management here the mean value was 4.943 of job requirements and 4.514 of graduate performance, Rational judgment capacity here the mean value was 4.852 of job requirements and 4.371 of graduate performance , Problem identification, solving and decision making here the mean value was 4.943 of job requirements and 4.488 of graduate performance, Ability to relate knowledge here the mean value was 4.914 of job requirements and 4.343 of graduate performance, Discipline here the mean value was 4.943 of job requirements and 4.686 of graduate performance, sense of responsibility here the mean value was 4.943 of job requirements and 4.486 of graduate performance, Organizing here the mean value was 4.914 of job requirements and 4.514 of graduate performance , critical thinking here the mean value was 4.943 of job requirements and 4.868 of graduate performance, creativity here the mean value was 4.829 of job requirements and 4.678 of graduate performance , Reliability and dependability here the mean value was 4.886 of job requirements and 4.486 of graduate performance,

IntelligenceQuotient here the mean value was 4.829 of job requirements and 4.257 of graduate performance, self- motivation here the mean value was 4.971 of job requirements and 4.40 of graduate performance, Appreciation of ethical values here the mean value was4.971 of job requirements and 4.086 of graduate performance , adaptability here the mean value was 4.868 of job requirements and 4.714 graduate performance, independent thinking here the mean value was4.814 of job requirements and 4.629 of graduate performance.

5.5.3 Findings on existing KSA gap

	Knowledge	Employer		Alumni	
		JR	GP	JR	GP
1.	IT Knowledge	4.743	3.571	4.714	3.714
2.	Knowledge for understanding the facts	4.771	4.571	4.771	4.171
3.	Breakdown objects or ideas into simpler parts and finds evidence to generalization	4.00	4.629	4.657	4.229
4.	Compile component ideas to a new whole or propose alternate ideas	3.857	4.743	4.629	4.229
5.	Make and defend judgment based on internal evidence or external criteria (Evaluate)	4.80	4.714	4.80	4.143
6.	Knowledge in designing a system component is there	4.00	4.80	4.829	4.457
7.	Knowledge of terminology and specific facts	4.20	4.086	4.80	4.229
8.	Knowledge of categories, principles, and models	4.829	4.114	4.686	4.286
9.	Knowledge of how to do a work	4.771	4. 229	4.771	4.143
	Knowledge for plan, monitor and regulate a work	4.771	4.371	4.829	4.314

A.	Communication Skills	Employer		Alumni	
		JR	GP	JR	GP
1.	Effective oral communication skills are required	4.886	4.429	4.886	4.457
2.	Report writing skills	4.857	4.629	4.857	4.629
3.	Presentation skills	4.971	4.143	4.943	4.029
4.	Reading Skill	5.00	4.143	4.943	4.40
5.	Writing Skill	4.971	4.229	4.943	4.40
6.	Listening Skill	4.914	4.229	4.943	4.343
7.	Office communication/Formal (Online, Email, Memo, meeting etc.)	4.943	3.971	4.914	4.343
8.	Appropriate Data collection and analyzation	4.543	4.171	4.857	4.314
9.	Projecting and interpreting Graphs, charts etc.	4.829	4.40	4.857	4.486
10.	Non-verbal/ Informal Communication (facial expressions, hand gestures, posture and even appearance, Face to face, Body language)	4.943	4.371	4.914	4.571

A.	Interpersonal Skills	Employer		Alumni	
		JR	GP	JR	GP
1.	Leadership skills	4.943	4.429	4.914	4.429
2.	Teamwork	4.886	4.886	5.00	4.371
3.	Emotional Intelligence	4.943	4.486	4.629	4.086
4.	Spiritual Intelligence	4.971	4.314	4.80	4.229
5.	Negotiation skill	4.914	4.686	4.943	4.457

B.	Abilities	Employer		Alumni	
		JR	GP	JR	GP
1.	Time management	4.943	4.514	4.943	4.514
2.	Rational Judgment capacity	4.852	4.371	4.862	4.371
3.	Problem Identification, solving and decision making	4.943	4.488	4.943	4.371
4.	Ability to relate knowledge to practice	4.914	4.343	4.914	4.343
5.	Discipline	4.943	4.686	4.943	4.686
6.	Sense of Responsibility	4.943	4.486	4.943	4.486
7.	Organizing	4.914	4.514	4.914	4.514
8.	Critical Thinking	4.943	4.868	4.943	4.868
9.	Creativity	4.829	4.678	4.829	4.678
10.	Reliability and dependability	4.886	4.486	4.80	4.437
11	IQ	4.829	4.257	4.829	4.257
12.	Self-Motivation/ Commitment	4.971	4.40	4.971	4.40
13.	Appreciation of ethical values	4.971	4.086	4.971	4.086
14.	Adaptability	4.868	4.714	4.868	4.486
15.	Independent thinking/ Self confidence	4.814	4.629	4.953	4.514

5.6 Analysis and Findings on QAM Tools, process and system

5.6.1 Descriptive Analysis of the data from academic and administrative staff on QAM tools, challenges and roles

This analysis was conducted based on descriptive academic staff and admin staff on their perception of QAM in HEIs. The tools process and system, the challenges they face, their involvement in the fields and other related questions regarding implementation of QAM in HEIs. The following table shows the total number of respondents and response rate for this questionnaire. The second table shows the reliability statistics and then the scale statistics for the academic and administrative staff's perception om QAM in HEIs.

Table 5.29: Descriptive Analysis for Academic and Non-Academic Staff on Quality Assurance Mechanism

Case Processing Summary			
		N	%
Cases	Valid	190	100.0
	Excluded ^a	0	.0
	Total	190	100.0
a. Listwise deletion based on all variables in the procedure.			

Table 5.30: Reliability Statistics for Academic and Non-Academic Staff on Quality Assurance Mechanism

Reliability Statistics	
Cronbach's Alpha	N of Items
.839	42

Table 5.31: Academic and admin response rate of QA Tools for improvement of curriculum content, T-L and Assessment

QA Tools for improvement of Curriculum Content, T-L and Assessment	Academic Staff Response %			Admin staff Response %		
	Exit at my University	Do not Exit at my University	I am unaware of this Issue	Exit at my University	Do not Exit at my University	I am unaware of this issue
Course evaluation (by student surveys) is important	74.64%	0%	.357%	25.0%	0%	0%
Program evaluation (by student surveys) is important	73.57%	0%	1.429%	25.0%	0%	0%
Teacher's supervision and monitoring is important	75.0%	0%	0%	25.0%	0%	0%
Program self-assessment (department self-study) is important	73.93%	0%	1.071%	25.0%	0%	0%
Programme monitoring (by students' survey panel, analyses of university statistics) is important	72.5%	1.071%	1.429%	25.0%	0%	0%

QA Tools for improvement of Curriculum Content, T-L and Assessment	Academic Staff Response %			Admin staff Response %		
	Exit at my University	Do not Exit at my University	I am unaware of this Issue	Exit at my University	Do not Exit at my University	I am unaware of this issue
Assessment of student's workload (by survey) is important	69.64%	1.429%	3.929%	25.0%	0%	0%
Exit survey by students is important	71.43%	0%	3.571%	25.0%	0%	0%
Teacher's Performance Evaluation by student is important	75.0%	0%	0%	25.0%	0%	0%
Training and development of Teachers	75.0%	0%	0%	25.0%	0%	0%
Teachers' involvement in Research work is important	75.0%	0%	0%	25.0%	0%	0%
Teacher-student Ratio should be standard	75.0%	0%	0%	25.0%	0%	0%
Graduate tracer studies	49.64%	22.86%	2.5%	14.64%	10.36%	0%
Employer satisfaction surveys	48.93%	21.43%	4.643%	16.07%	8.929%	0%
Involvement of employers in study program revisions	50.36%	22.14%	2.5%	16.43%	8.571%	0%

QA Tools for improvement of Curriculum Content, T-L and Assessment	Academic Staff Response %			Admin staff Response %		
	Exit at my University	Do not Exit at my University	I am unaware of this Issue	Exit at my University	Do not Exit at my University	I am unaware of this issue
Involvement of Alumni in study program revisions	2.857%	70.0%	2.143%	0%	25.0%	0%
Involvement of Guardians in study program revisions	.714%	71.07%	3.214%	0%	25.0%	0%
Job market analyses	42.5%	31.43%	1.071%	13.21%	11.79%	0%
Graduate Profile	40.36%	32.14%	2.5%	14.64%	10.36%	0%
Industry-University linkage programs	42.5%	32.14%	0.357%	15.0%	10.0%	0%
University-community linkage programs	38.57%	35.0%	1.429%	11.43%	13.57%	0%
Practical and hands on experience in included in programs	35.71%	39.29%	0%	11.43%	13.57%	0%

5.6.2 Findings from academic and administrative staff on QAM tools, challenges and roles

Graph 5.5 Existence of Quality Policy and Manual

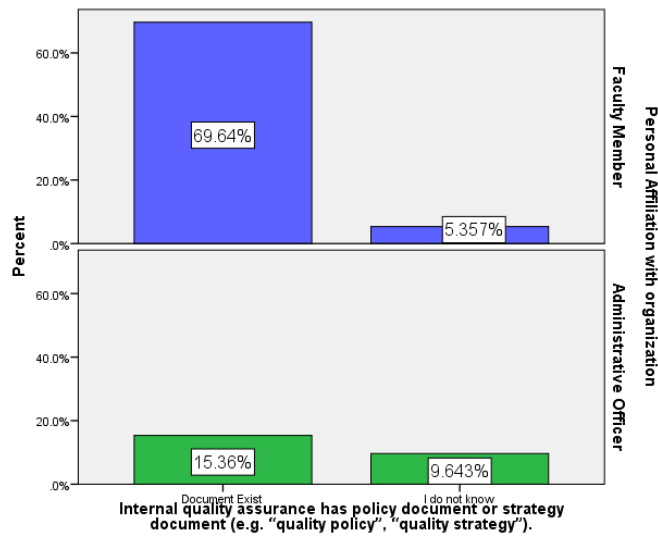


Figure 5.10: Internal quality assurance has policy document or strategy document (e.g. “quality policy”, “quality strategy”).

Figure 5.10 is showing that Internal Quality assurance has policy document or Strategy document. We observed 69.64% faculty member says document exist and 5.357% faculty member says I do not know. Documents exist 15.36% administrative officer says document exist and 9.643% administrative officer says I do not know.

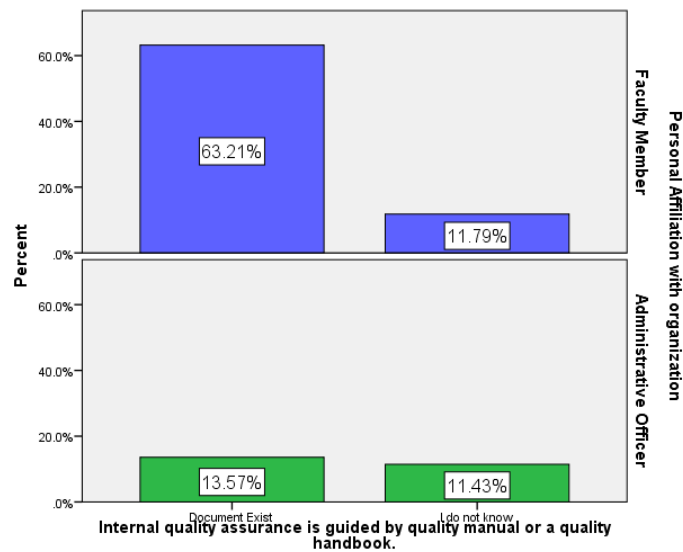


Figure 5.11: Internal quality assurance is guided by quality manual or a quality handbook.

Figure 5.11 is showing that, Internal quality assurance is guided by quality manual or a quality handbook. We observed 63.21% faculty member says document exist and 11.79% faculty member says I do not know. Documents exist 13.57% administrative officer says document exist and 11.43% administrative officer says I do not know.

Graph 5.6: Importance given by QA Process in HEIs on the Field

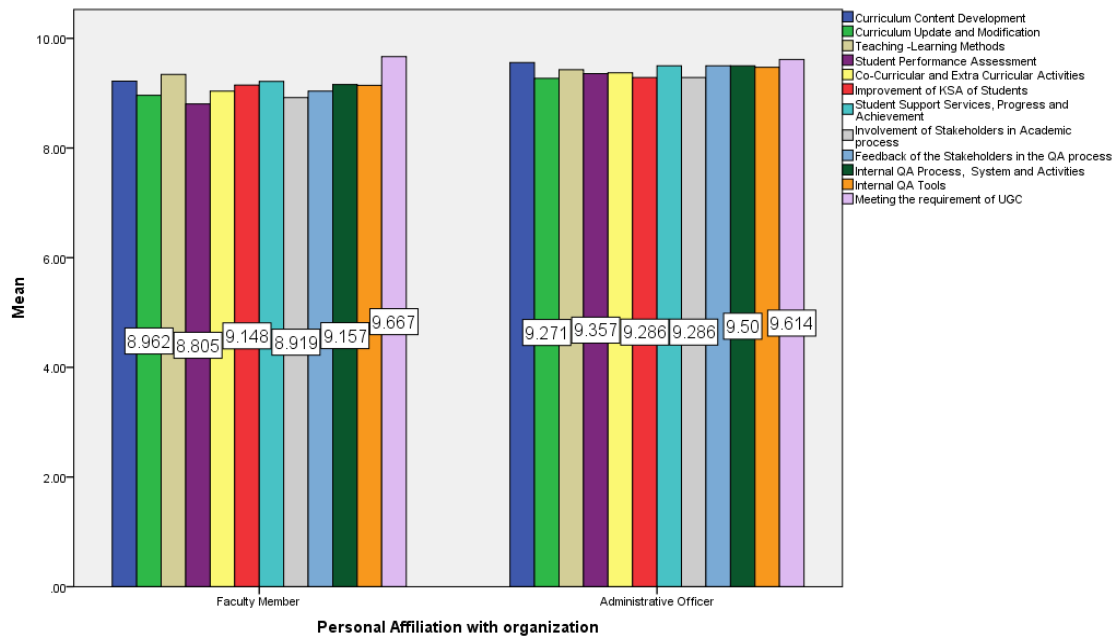


Figure 5.12: QA Process in HEIs on the Field

Figure 5.12 represents the QA process in HEIs on the field. We observed that curriculum content development here the mean value was 9.312 of faculty member and 9.63 of administrative officer , curriculum update and modification here the mean value was 8.962 of faculty member and 9.271 of administrative officer, Teaching- learning methods here the mean value was 9.274 of faculty member and 9.148 of administrative officer , student performance assessment here the mean value was 8.805 of faculty member and 9.357 of administrative officer, Co-curricular and extra-curricular activities here the mean value was 9.141 of faculty member and 9.432 of administrative officer, improvement of KSA of students here the mean value was 9.148 of faculty member and 9.286 of administrative officer, student support services, progress and achievement here the mean value was 9.347 of faculty member and 9.667 of administrative officer, Involvement of stakeholders in academic process here the mean value was 8.919 of faculty member and 9.286 of

administrative officer, feedback of the stakeholders in the QA process here the mean value was 8.71 of faculty member and 9.51 of administrative officer, internal QA process, system and activities here the mean value was 9.157 of faculty member and 9.50 of administrative officer, internal QA tools here the mean value was 9.086 of faculty member and 9.4867 of administrative officer, meeting the requirement of UGC here the mean value was 9.667 of faculty member and 9.614 of administrative officer.

Graph 5.7: How would you judge overall the effect of QA mechanism on the following aspects?

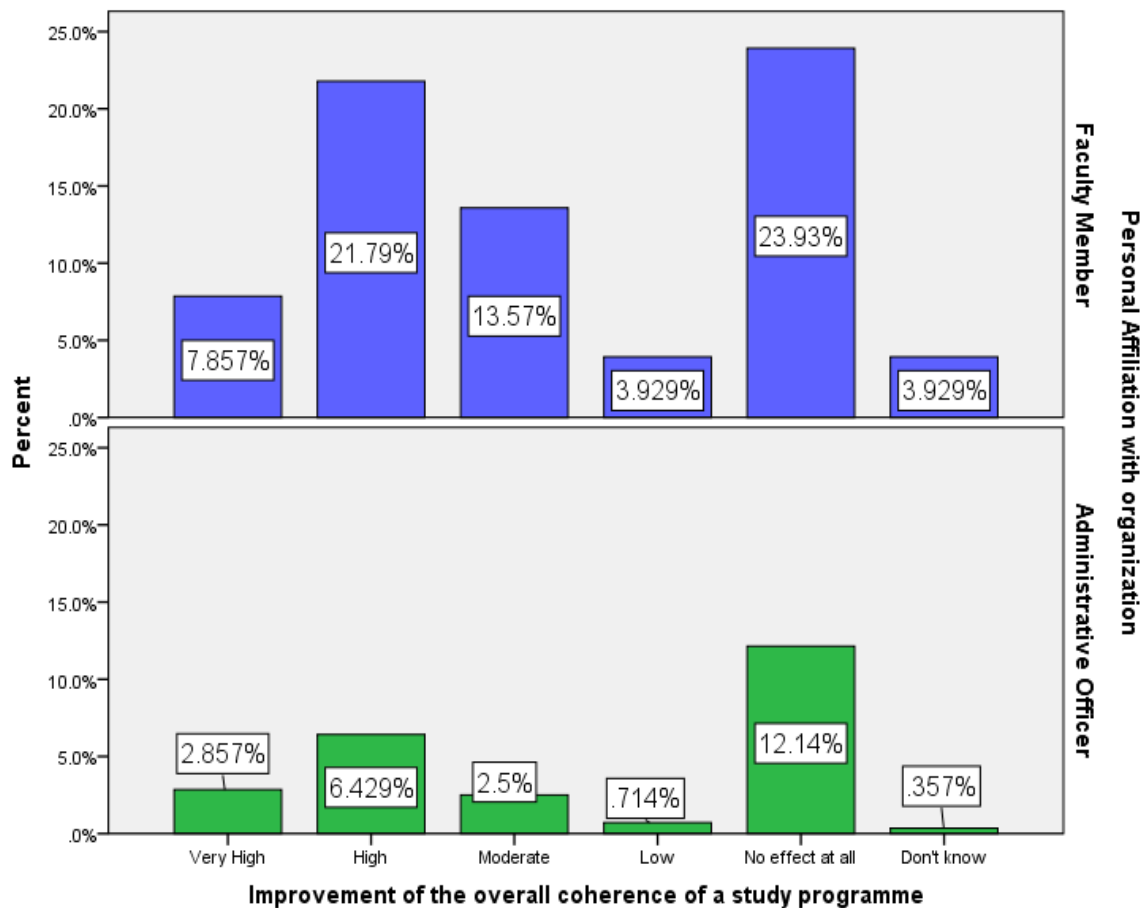


Figure 5.13: Improvement of the overall coherence of a study program

Figure 5.13 is showing that improvement of the overall coherence of a study program. We observed that very high 7.857%, high 21.79%, moderate 13.57%, low 3.929%, No effect at all 23.93%, don't know 3.929% of faculty member. And very high 2.857%, high 6.429%, moderate 2.5%, low .714%, No effect at all 12.14%, don't know .357% of administrative officer.

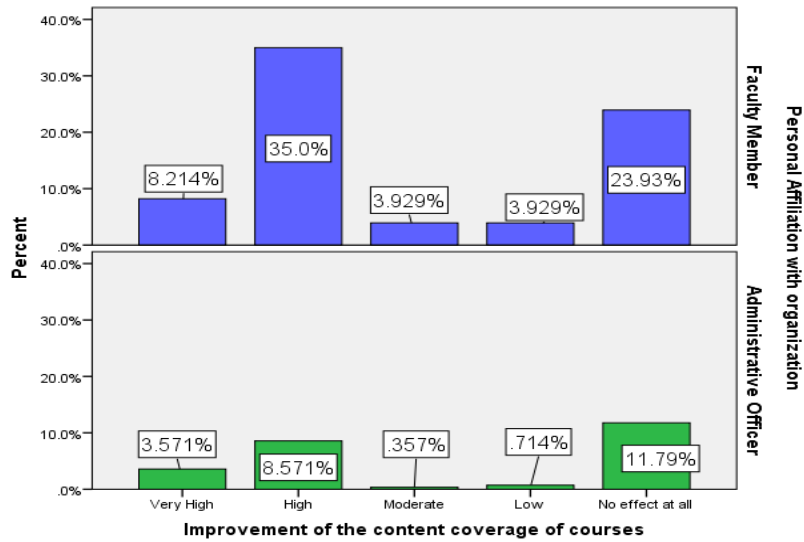


Figure 5.14: Improvement of the content coverage of courses

Figure 5.14 is showing that, improvement of the content coverage of courses. We observed that very high 8.214 % high 35.0%, moderate 3.929%, low 3.929%, No effect at all 23.93% of faculty member. And very high 3.571%, high 8.571%, moderate .357%, low .714%, No effect at all 11.79% of administrative officer.

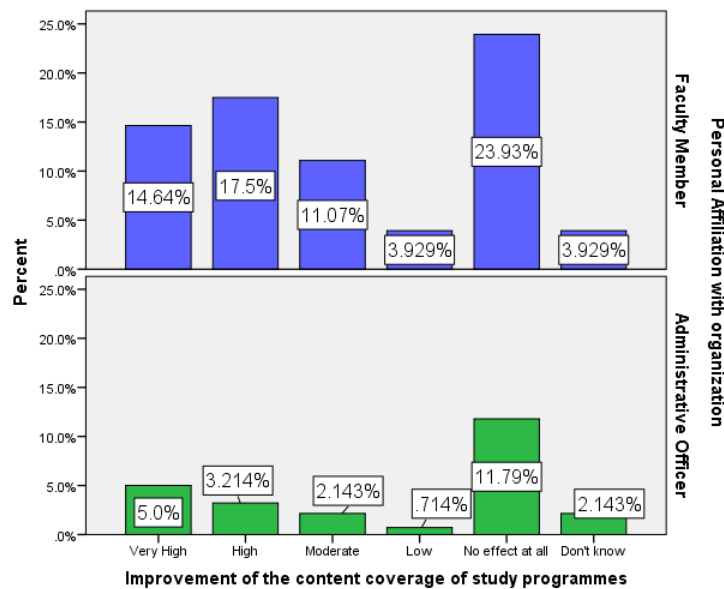


Figure 5.15: Improvement of the content coverage of study program

Figure 5.15 is showing that, improvement of the content coverage of a study program. We observed that very high 14.64%, high 17.5%, moderate 11.07%, low 3.929%, No effect at all 23.93%, don't know 3.929% of faculty member. And very high 5.0%, high 3.214%,

moderate 2.143%, low .714%, No effect at all 11.79%, don't know 2.143% of administrative officer.

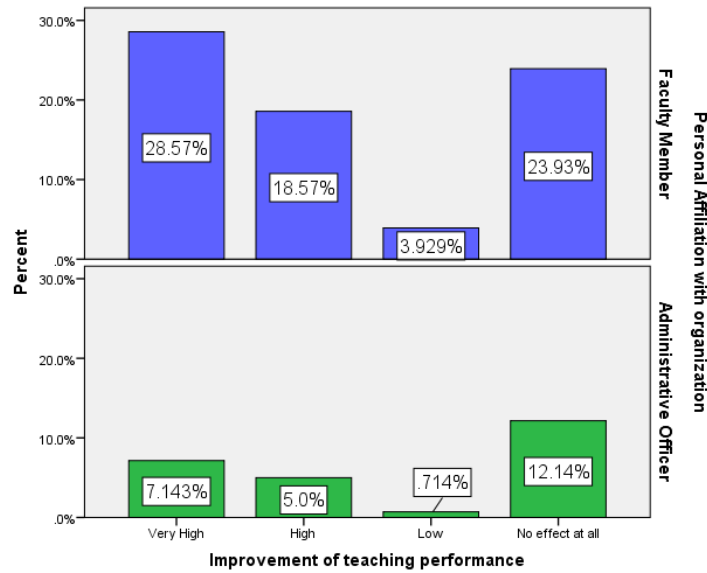


Figure 5.16: Improvement of teaching performance

Figure 5.16 Represents, improvement of teaching performance. We observed that very high 28.57%, high 18.57% low 3.929%, No effect at all 23.93% of faculty member. And very high 7.143%, high 5.0%, low .714%, No effect at all 12.14% of administrative officer.

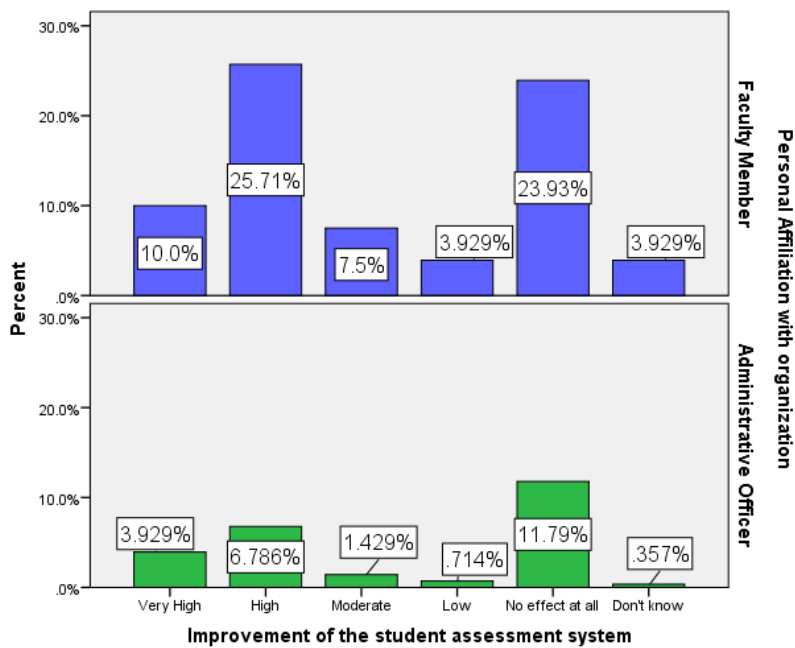


Figure 5.17: Improvement of the student assessment system

Figure 5.17 represents, improvement of the student assessment system. We observed that very high 10.0%, high 25.71%, moderate 7.5%, low 3.929%, No effect at all 23.93%, don't know 3.929% of faculty member. And Very high 3.929%, high 6.786%, moderate 1.429%, low .714%, No effect at all 11.79%, don't know .357% of administrative officer.

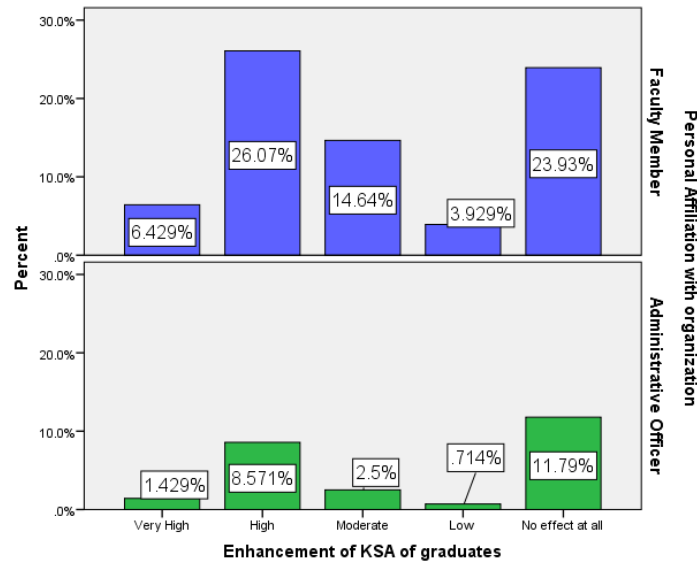


Figure 5.18: Enhancement of KSA of graduates

Figure 5.18 is showing that, Enhancement of KSA of graduates. We observed that very high 6.429%, high 26.07%, moderate 14.64%, low 3.929%, No effect at all 23.93% of faculty member very high 1.429%, high 8.571%, moderate 2.5%, low .714%, No effect at all 11.79% of administrative officer.

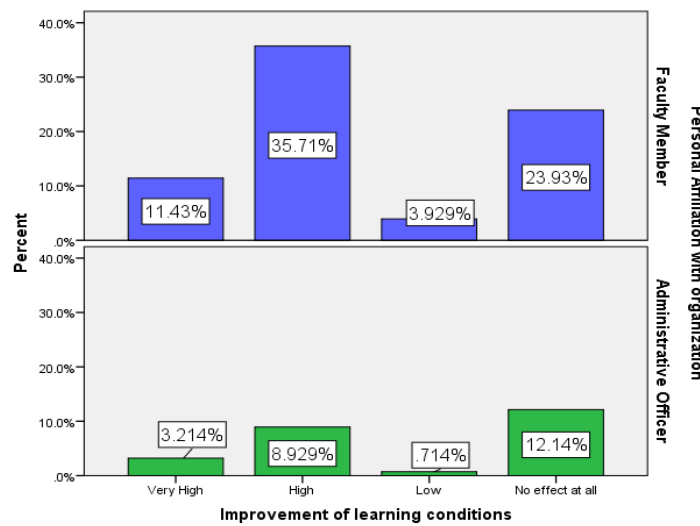


Figure 5.19: Improvement of learning conditions

Figure 5.19 is showing that, improvement of learning conditions. We observed that very high 11.43%, high 35.71%, low 3.929%, No effect at all 23.93% of faculty member. And very high 3.214%, high 8.929%, low .714%, No effect at all 12.14% of administrative officer.

Graph 5.8: QA Tools for improvement of Curriculum Content, T-L and Assessment

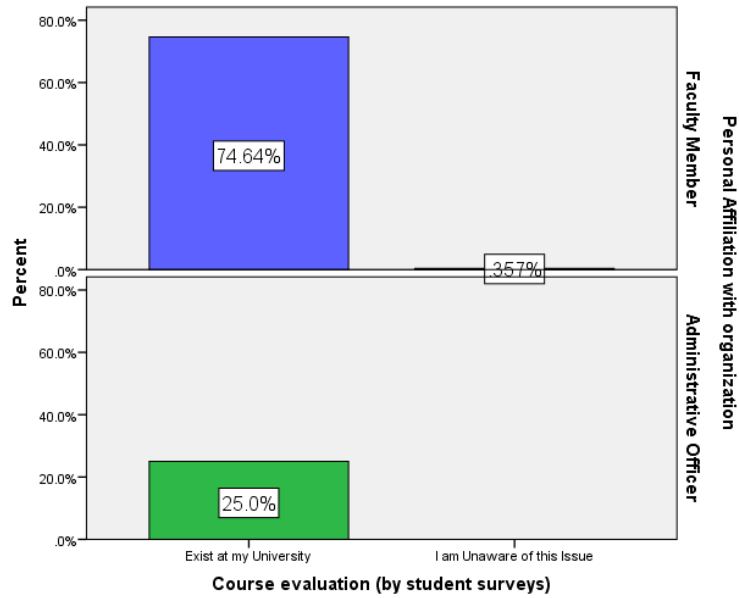


Figure 5.20: Course evaluation (by student surveys)

Figure 5.20 is showing that, QA Tools for improvement of curriculum content . We observed that 74.64% faculty member says document exist at my university and 357% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

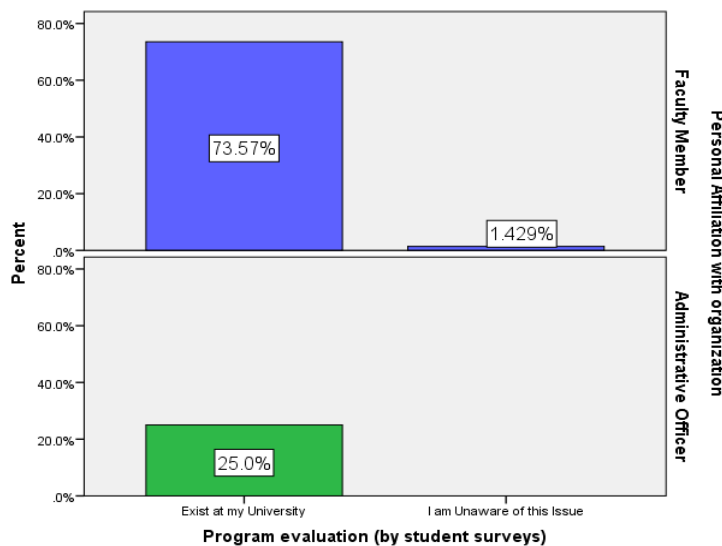


Figure 5.21: Program evaluation (by student surveys)

Figure 5.21 is showing that Program evaluation (by student surveys). We observed that 73.57% faculty member says document exist at my university and 1.429% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

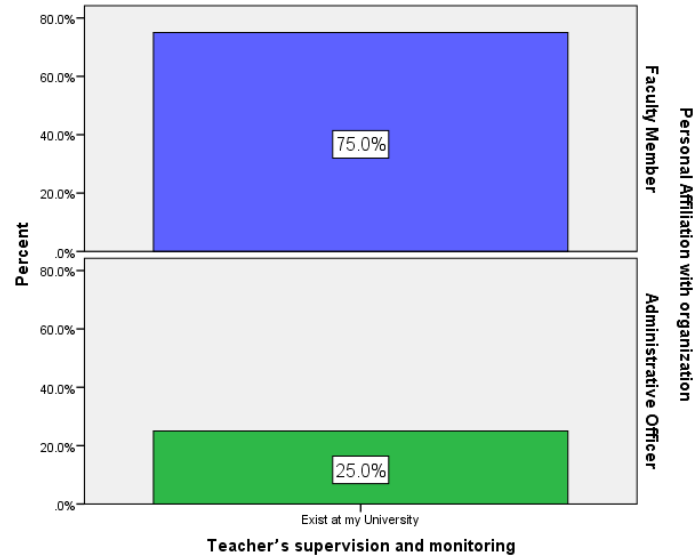


Figure 5.22: Teacher's supervision and monitoring

Figure 5.22 is showing that, Teacher's supervision and monitoring. We observed that 75.0% faculty member says document exist at my university and 25.0% administrative officer says documents exist at my university.

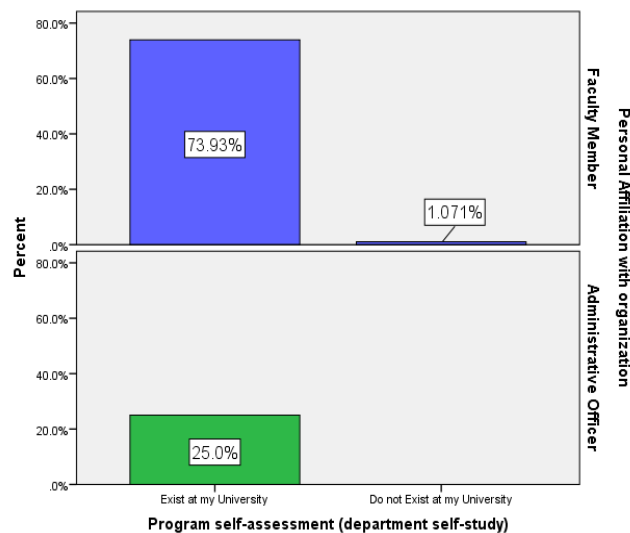


Figure 5.23: Program self-assessment (department self-study)

Figure 5.23 is showing that, Program self-assessment (department self-study). We observed that 73.93% faculty member says document exist at my university and 1.071% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

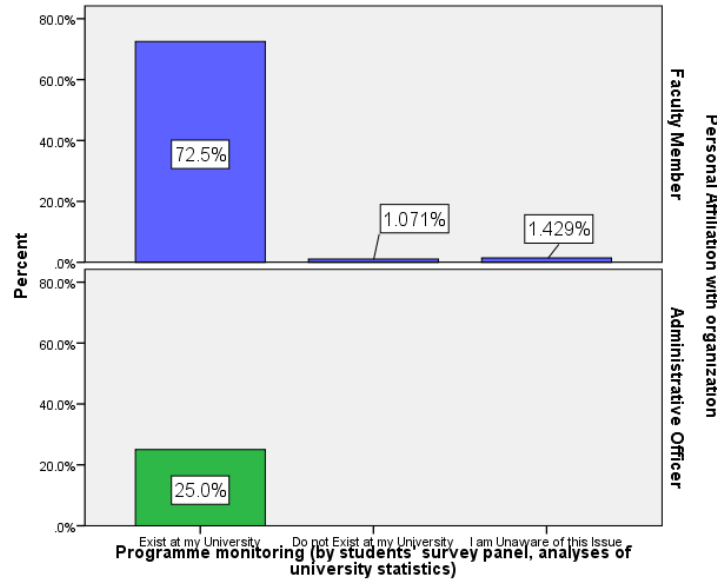


Figure 5.24: Program monitoring (by students' survey panel, analyses of university statistics)

Figure 5.24 is showing that, Program monitoring (by students' survey panel, analyses of university statistics). We observed that 72.5% faculty member says document exist at my university, 1.071% faculty member says do not document exist at my university and 1.429% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

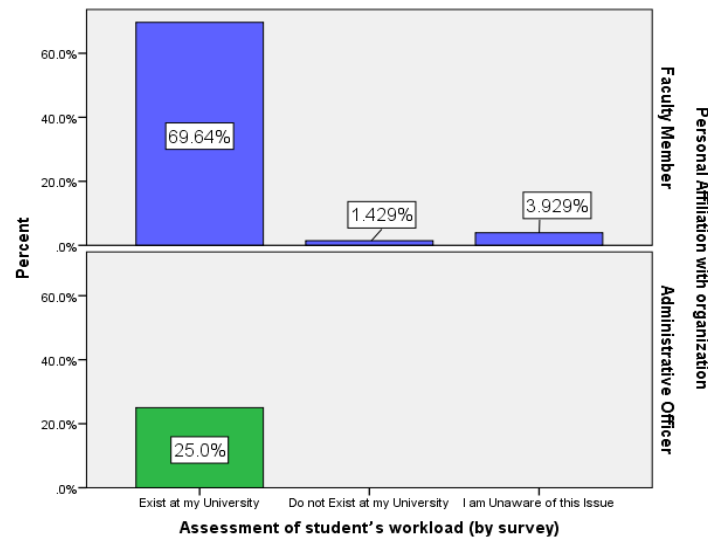


Figure 5.25: Assessment of student's workload (by survey)

Figure 5.25 represents, Assessment of student’s workload (by survey). We observed that 69.64% faculty member says document exist at my university, 1.429% faculty member says do not document exist at my university and 3.929% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

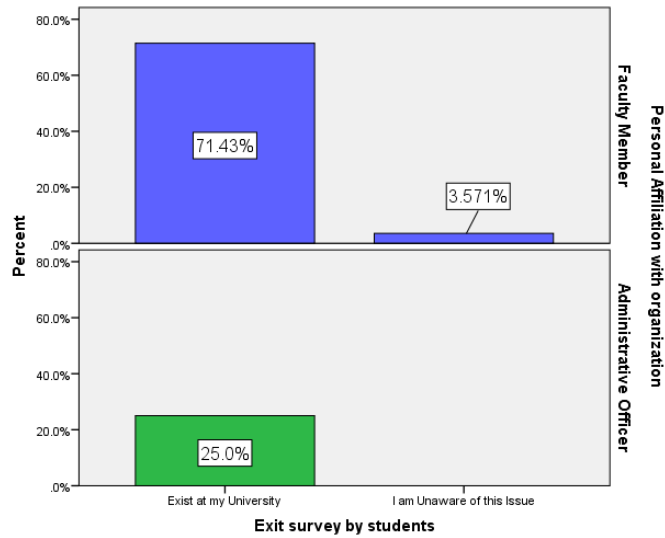


Figure 5.26: Exit survey by students

Figure 5.26 is showing that, Exit survey by students. We observed that 71.43% faculty member says document exist at my university and 3.571% faculty member says I am unaware of this issue and 25.0% administrative officer says documents exist at my university.

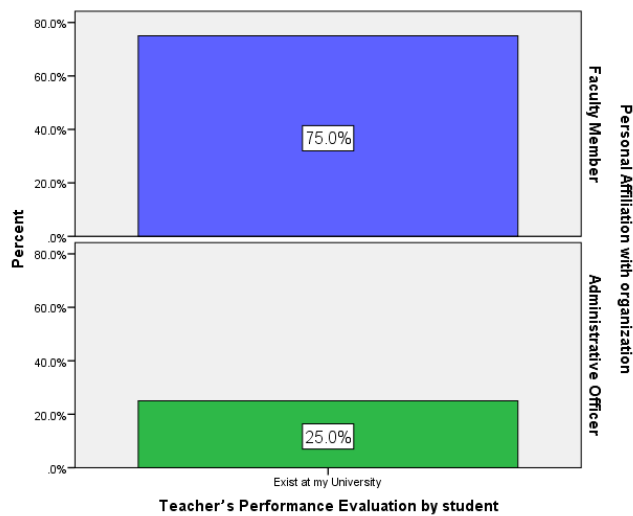


Figure 5.27: Teacher's Performance Evaluation by student

Figure 5.27 is showing that, Teacher’s Performance Evaluation by student. We observed that 75.0% faculty member says document exist at my university and 25.0% administrative officer says documents exist at my university.

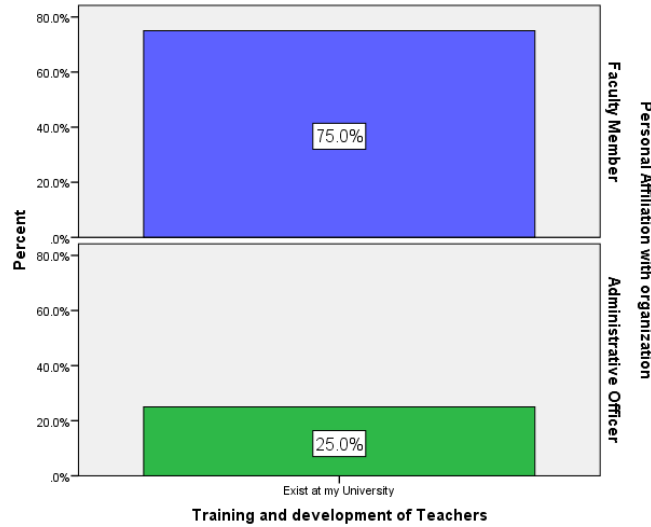


Figure 5.28: Training and development of Teachers

Figure 5.28 represents, Teacher’s Performance Evaluation by student. We observed that 75.0% faculty member says document exist at my university and 25.0% administrative officer says documents exist at my university.

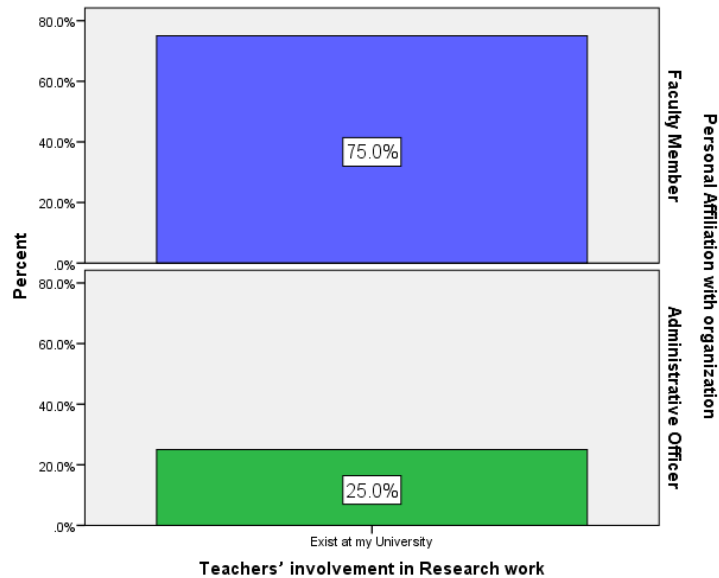


Figure 5.29: Teachers' involvement in Research work

Figure 5.29 is showing that, Teachers' involvement in Research work. We observed that 75.0% faculty member says document exist at my university and 25.0% administrative officer says documents exist at my university.

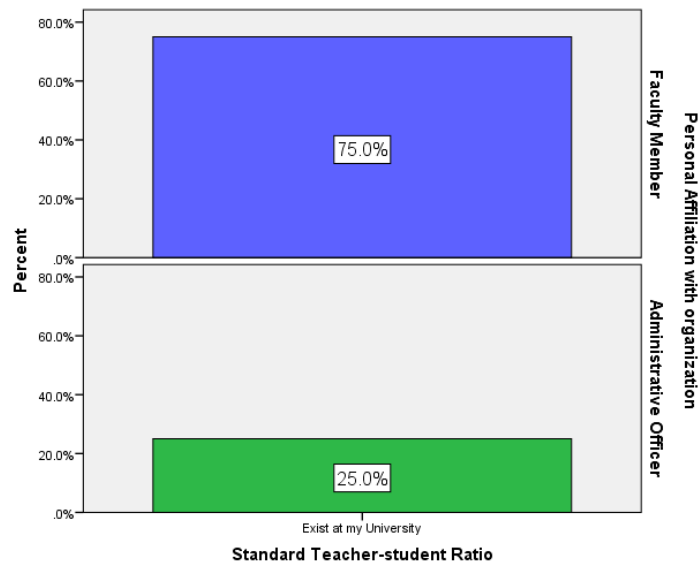


Figure 5.30: Standard Teacher-student Ratio

Figure 5.30 is showing that, Standard Teacher-student Ratio. We observed that 75.0% faculty member says document exist at my university and 25.0% administrative officer says documents exist at my university.

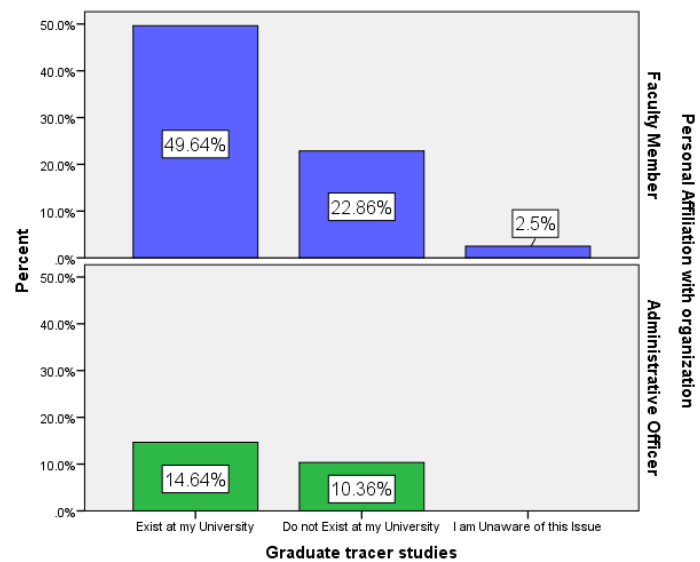


Figure 5.31: Graduate tracer studies

Figure 5.31 is showing that, Graduate tracer studies. We observed that 49.64% faculty member says document exist at my university, 22.86% faculty member says do not document exist at my university and 2.5% faculty member says I am unaware of this issue and 14.64% administrative officer says documents exist at my university and 10.36% administrative officer says do not document exist at my university.

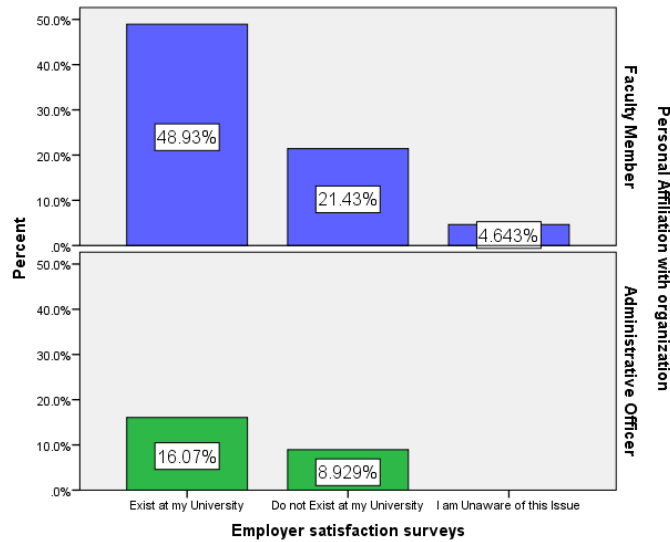


Figure 5.32: Employer satisfaction surveys

Figure 5.32 is showing that, Employer satisfaction surveys. We observed that 48.93% faculty member says document exist at my university, 21.43% faculty member says do not document exist at my university and 4.643% faculty member says I am unaware of this issue and 16.07% administrative officer says documents exist at my university and 8.929% administrative officer says do not document exist at my university.

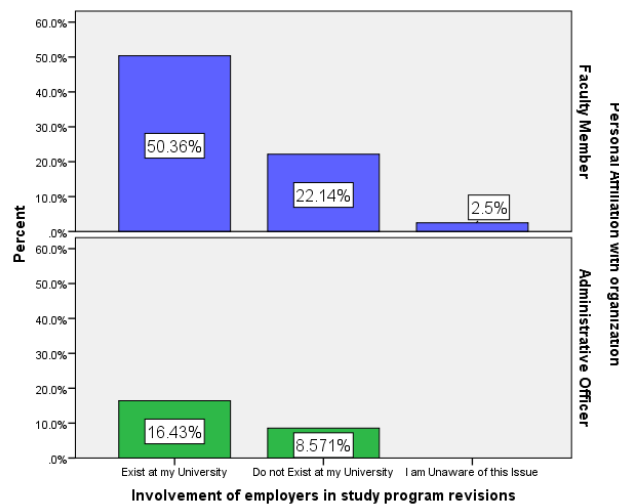


Figure 5.33: Involvement of employers in study program revisions

Figure 5.33 is showing that, Involvement of employers in study program revisions. We observed that 50.36% faculty member says document exist at my university, 22.14% faculty member says do not document exist at my university and 2.5% faculty member says I am unaware of this issue. 16.43% administrative officer says documents exist at my university and 8.571% administrative officer says do not document exist at my university.

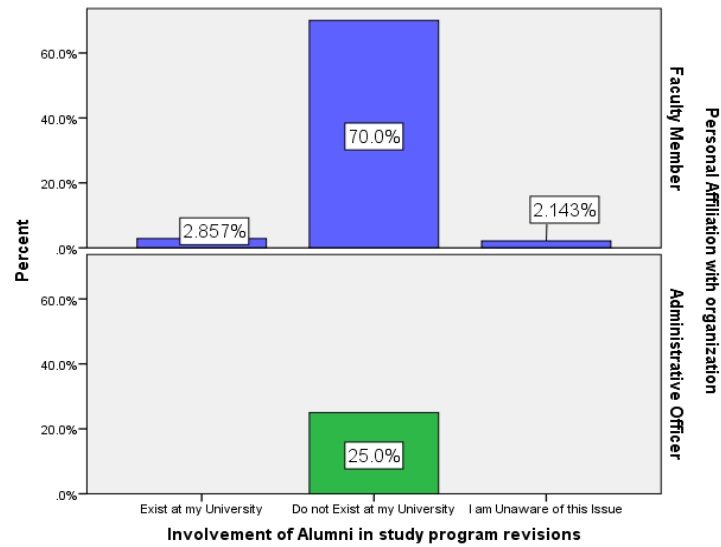


Figure 5.34: Involvement of Alumni in study program revisions

Figure 5.34 is showing that, Involvement of Alumni in study program revisions. We observed that 2.857% faculty member says document exist at my university, 70.0% faculty member says do not document exist at my university and 2.143% faculty member says I am unaware of this issue and 25.0% administrative officer says do not document exist at my university.

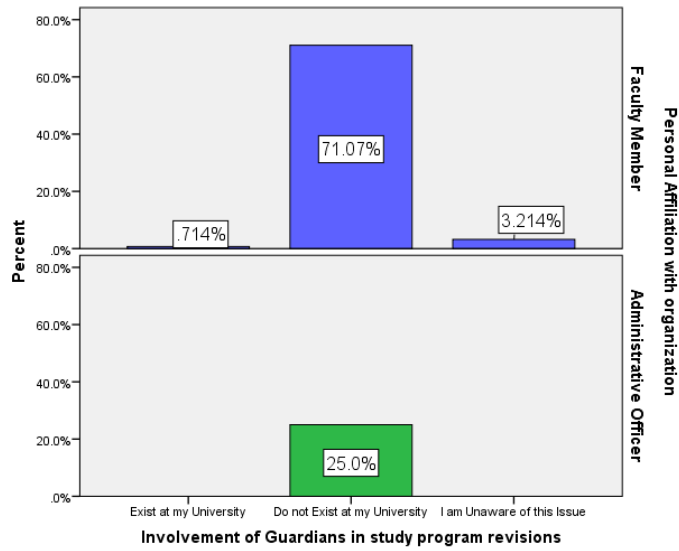


Figure 5.35: Involvement of Guardians in study program revisions

Figure 5.35 is showing that, Involvement of Guardians in study program revisions. We observed that 0.714% faculty member says document exist at my university, 70.07% faculty member says do not document exist at my university and 3.214% faculty member says I am unaware of this issue and 25.0% administrative officer says do not document exist at my university.

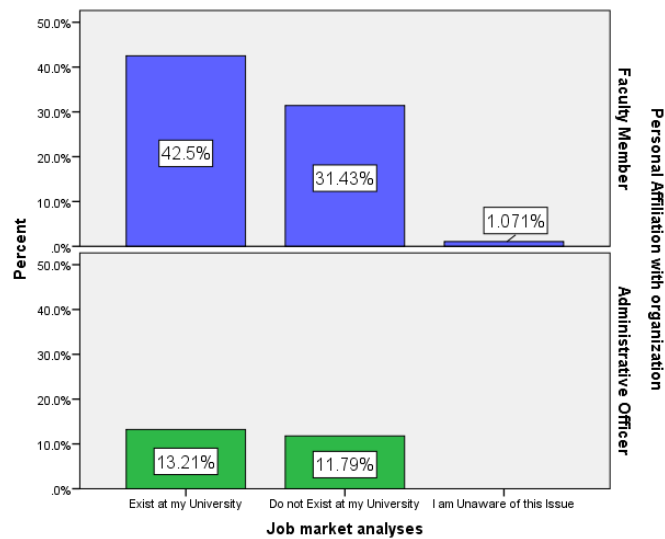


Figure 5.36: Job market analyses

Figure 5.36 is showing that, Job market analyses. We observed that 42.5% faculty member says document exist at my university, 31.43% faculty member says do not document exist at my university and 1.071% faculty member says I am unaware of this issue. 13.21% administrative

officer says documents exist at my university and 11.79% administrative officer says do not document exist at my university.

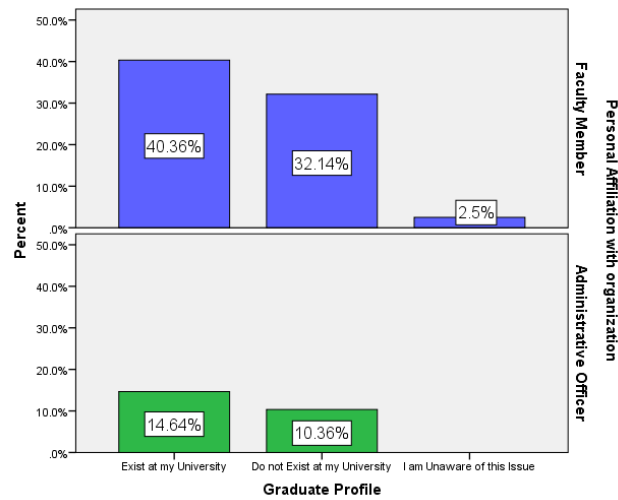


Figure 5.37: Graduate Profile

Figure 5.37 is showing that, Graduate Profile. We observed that 40.36% faculty member says document exist at my university, 32.14% faculty member says do not document exist at my university and 2.5% faculty member says I am unaware of this issue. 14.64% administrative officer says documents exist at my university and 10.36% administrative officer says do not document exist at my university.

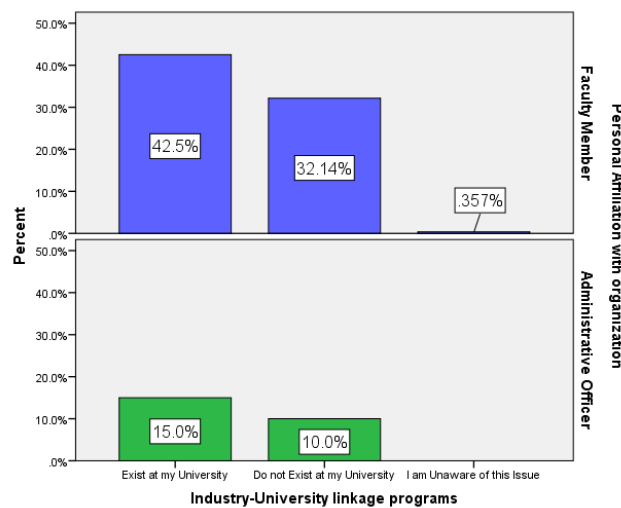


Figure 5.38: Industry-University linkage programs

Figure 5.38 is showing that, Industry-University linkage programs. We observed that 42.5% faculty member says document exist at my university, 32.14% faculty member says do not document exist at my university and 0.357% faculty member says I am unaware of this issue. 15.0% administrative officer says documents exist at my university and 10.0% administrative officer says do not document exist at my university.

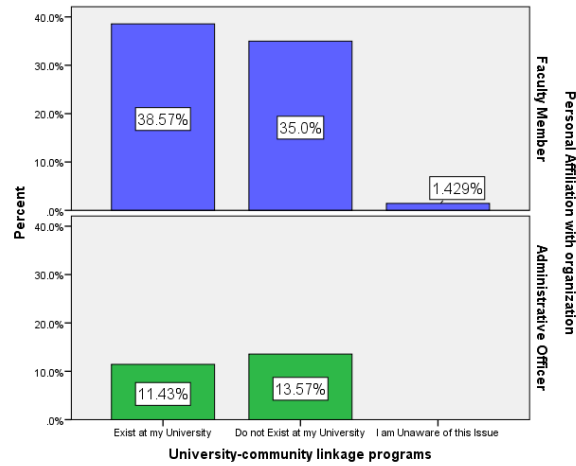


Figure 5.39: University-community linkage programs

Figure 5.39 is showing that, University-community linkage programs. We observed that 38.57% faculty member says document exist at my university, 35.0% faculty member says do not document exist at my university and 1.429% faculty member says I am unaware of this issue. 11.43% administrative officer says documents exist at my university and 13.57% administrative officer says do not document exist at my university.

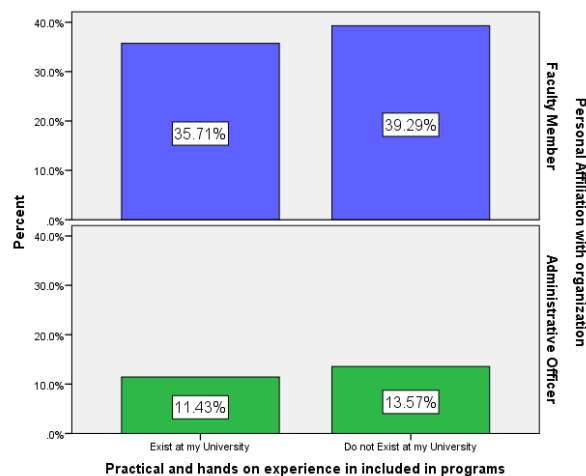


Figure 5.40: Practical and hands on experience in included in programs

Figure 5.40 is showing that, Practical and hands on experience in included in programs. We observed that 35.71% faculty member says document exist at my university, 39.29% faculty member says do not document exist at my university. 11.43% administrative officer says documents exist at my university and 13.57% administrative officer says do not document exist at my university.

5.6.3 Findings on the roles and challenges faced by QAM in the HEIs based on the response of the academic and administrative staff

This discussion is based on descriptive analysis from additional questionnaire for academic and administrative Staffs' perception. These findings are derived from chapter five, analysis and interpretation in section 5.9.2.

Academic and administrative staff were provided with a separate focused survey questionnaire. The questionnaire is attached in the appendix 1 The questionnaire was segregated into sub-parts, with the first part addressing the higher education institution's quality assurance policy, strategy, and documentation. Among the respondents, the majority, or 85%, stated that there was a strategic QA document, outlining the future direction of QA. However, 15% of respondents indicated that they were not aware of any such document within their organization. This points to a problem with the dissemination of information within the HEIs. Management is lacking in its ability to provide critical information to staff. Secondly, as part of the same introductory segment, academic and non-academic staff were asked whether their organization's QA activities at the operational and tactical level were guided by a QA manual, handbook, or policy book. Around 77% of respondents stated that a QA manual or handbook guided internal quality assurance. However, about 23% of respondents indicated that they were not aware of any such manual or handbook. This again represents the management or quality assurance department's failure to keep all organizational academic and non-academic aware of quality assurance activities, documents, or manuals.

In the next questionnaire segment, the academic and administrative staff were asked to rate the impact of QAM on 12 distinct areas of operation, namely curriculum content development; curriculum update and modification; Teaching -Learning methods; student performance assessment; co-curricular and extra-curricular activities, improvement of KSA of students,

student support services, progress and achievement, involvement of stakeholders in academic process, feedback of the stakeholders in the QA process, internal QA process, system and activities, internal QA tools and Meeting the requirement of UGC. The rating was marked on a 10-point Likert scale, with 10 being the most impactful, and 1 being the least impactful. The majority of respondents or 65% stated that quality assurance activities had the most impact (or 10 on Likert scale) when it came to curriculum content development. On curriculum update and modification, approximately 53% of respondents stated that QA activities had the most impact (or 10 on the Likert Scale). On the issue of TL methods and IQA process and activities, a majority or around 57% of the academic and administrative staff noted that QAM were the most impactful (or 10 on the Likert Scale). On co-curricular and extra-curricular activities, approximately 53% of respondents stated that QAM was most impactful. On the issue of improving KSA of students, student support services, progress and achievement, and IQA tools, around 66% of respondents indicated that QAM were most impactful (or 10 on the Likert Scale). Around 55%, or a majority of respondents, stated that QAM were the most impactful on student performance assessment, and also involvement of stakeholders in academic performance and feedback of stakeholders in the QA Process. Lastly, around 73%, an overwhelming majority, stated that QAM were the most impactful, or 10 on Likert Scale when meeting the requirements of the UGC Bangladesh.

From these statistics, it was found that some areas were most impacted by the use of QA activities within the HEIs such as meeting UGC Requirements, curriculum Content development, KSA of students, student support services, progress and achievement, and IQA tools. As part of the questionnaire for academic and administrative staff, the respondents were asked to rate the overall impact of QAM on 7 different distinct areas of activity, namely improvement of the overall coherence of a study program, improvement of the content coverage of courses, improvement of the content coverage of study programs, improvement of teaching performance, improvement of the student assessment system, enhancement of KSA of graduates, and improvement of learning conditions. Respondents were asked to rate the importance on a 7-point scale of very high, high, moderate, low, not affected at all, not intended with this instrument, and don't know.' The responses to the questions from this segment provide interesting context to the issue of quality assurance activities. Firstly, expect for improvement of learning conditions, all other 6 areas were rated by respondents as having both high impacts and not impact at all due to QA respondents. For example, most of the six areas showed high

impact ratings in the region of 20-30% points. However, they were also rated as not affected at all by the same margin of 20-30% points. This shows that even though 20-30% of respondents thought that QA activities were impactful in work areas, just as many people thought that QAM were not impactful at all in the same areas. This suggests either organizational members not buying into the idea of QA activities, or genuinely not perceiving any impact of work areas due to QAM.

As part of the questionnaire survey, the next part addressed respondent's knowledge on the existence of QA tools for improving CCDR, TLP and SPA. In all of the areas, the respondents stated in the majority, above 70%, that the said tools existed in their HEIs. Lastly, respondents were also asked to rate the existence of QA tools for improving student's KSA in the respective HEIs. The majority of respondents stated that multiple programs and tools existed at their institutions. A gap did emerge from the results, as a majority or a significant minority stated that tools such as practical hands-on experience, alumni involvement in curriculum development, graduate profiles, industry-university linkage programs, and job market analyses were not featured in their institutions.

CHAPTER SIX: DISCUSSION ON APPROACHES TOWARDS HRD BY IMPROVEMENT OF KSA THROUGH TLP, SPA, CCDR AND SIQAM OF QAM IN HE OF BD

The conceptual framework validation has commenced using a three-step procedure, namely, reliability analysis using Cronbach Alpha and EFA, Partial Least Squares (PLS), Regression for structuring and framework, and lastly, T-Value test for hypothesis testing. Before factor analysis, a reliability test has undertaken to see internal data consistency. Cronbach's Alpha is used to determine if the questionnaire responses are all reliably measured by the same latent variable: the impact of QAM in HEIs for KSA improvement that will ultimately impact HRD in Bangladesh. The Cronbach's Alpha value 0.964 demonstrates a high level of reliability or internal consistency amongst the data set.

6.1 Triangulation of the Findings and Discussion on the effect of TLP, SPA, SIQAM AND CCDR OF QAM in improvement of KSA and HRD of Bangladesh

6.1.1 Discussion on the Conceptual Model on the effect of TLP, SPA, SIQAM AND CCDR OF QAM in improvement of KSA and HRD of Bangladesh

The EFA with Varimax Rotation used KMO and Bartlett's Test to reveal data's suitability for structure detection. All KMO values were close to 1, and all Bartlett's Test values were less than 0.5, suggesting acceptable variance caused by underlying variables and indicating that Factor Analysis is warranted. Once completed with a rotated matrix, exploratory factor analysis revealed a reduced number of variables, a total 45, which could explain the majority of the variance in the data. The reduced variables are as follows:

Table 6.1: Summary of the results

Factor	Reliability	Total Variables
CCDR, SPA, SI and T-L		
Student Performance Assessment (SPA)	0.896	8
Teaching-Learning Process (TL)	0.874	8

Factor	Reliability	Total Variables
Stakeholders' Involvement in Quality Assurance Mechanism (SI)	0.823	5
Curriculum Content Development and Review Process (CCDR)	0.836	4
QA		
Factor	Reliability	Total Variables
QAM	0.795	6
KSA	.881	6
HRD	.827	8
Total Number of Variables		45

The EFA revealed the factors and variable groupings fed into the Partial Least Squares Regression technique or PLS. The PLS disclosed that TLP, CCDR, and SI had a well-founded relationship with QAM. However, SPA, seemingly salient, did not stand up to the data collected and was found not to have a good relationship with QAM, with a negative coefficient value of -0.006. QAM had a positive and valid relationship with the improvement of KSA. KSA, in turn, had a positive relationship with HRD. The following figure demonstrates these relationships.

The relationship between SPA and QAM hypothesis was not accepted. The QAM has still not fully implemented outcome-based assessment; General education does not include specific inclusion of assessment of student's skill, and ability though knowledge is being assessed regularly. Only a few engineering educations very recently, including assessment of KSA in the Curriculum. Though KSA is incorporated in curriculum and teaching-learning, SPA should focus more on skill and abilities. Not only skill and abilities, but outcome focused curriculum assessment process is also not integrated yet in the HEIs. HEIs are still undergoing training on outcome based curriculum. Graduate profile or attributes are not even prepared in most of the HEIs. Only a graduation certificate is provided to the graduates. The graduate profile or attributes or KSA list is not assessed and not included in the students' transcript. The transcripts with KSA list will provide a clear view of KSA that graduates have developed during their

studies. However, in the literature review, the following studies have emphasized the SPA for KSA development.

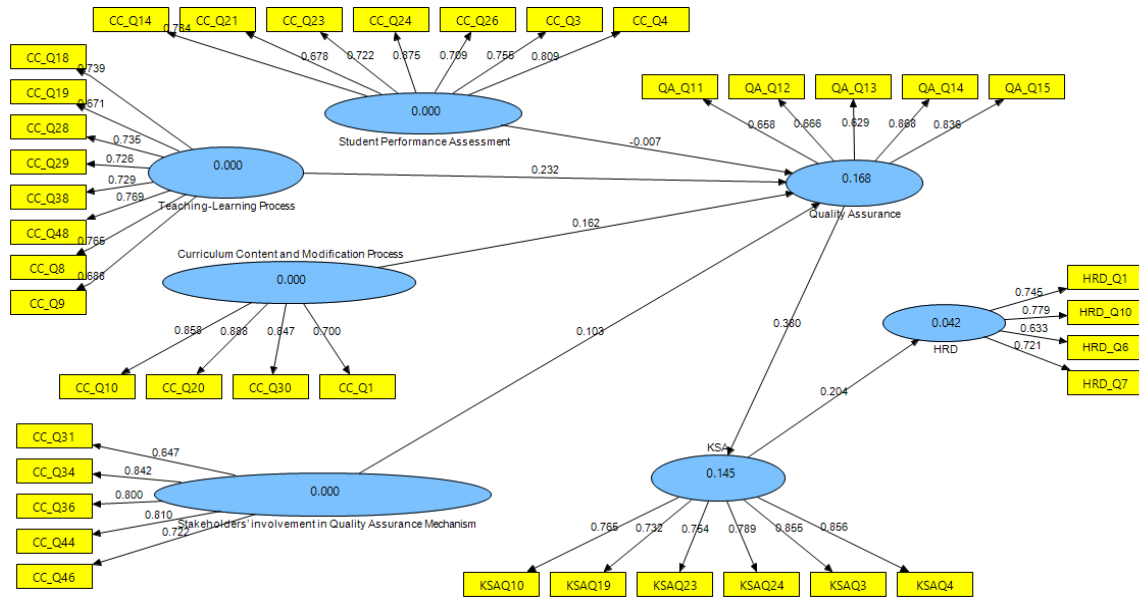


Figure 6.1: Structural model

Source: simulation output

Lastly, Hypothesis testing has conducted using T-Value from the factors. The summary of the test is tabulating below. The test supported all the aforementioned relationships except that between student Performance Assessment and Quality Assurance.

Table 6.2: Measurement of Hypotheses

Hypotheses	Relationships	Std. Beta	Std. Error	t- value	Decision
H1	CCDMP -> QAM	0.1655	0.0539	3.0704	Supported
H2	KSA -> HRD	0.2038	0.0441	4.6257	Supported
H3	QAM -> KSA	0.3802	0.0474	8.0209	Supported
H4	SIQAM -> QAM	0.1085	0.0534	2.0315	Supported
H5	SPA -> QAM	-0.0242	0.0348	0.6961	Not Supported
H6	TLP -> QAM	0.2379	0.0596	3.9897	Supported

Factoring and Conceptual Framework Validation

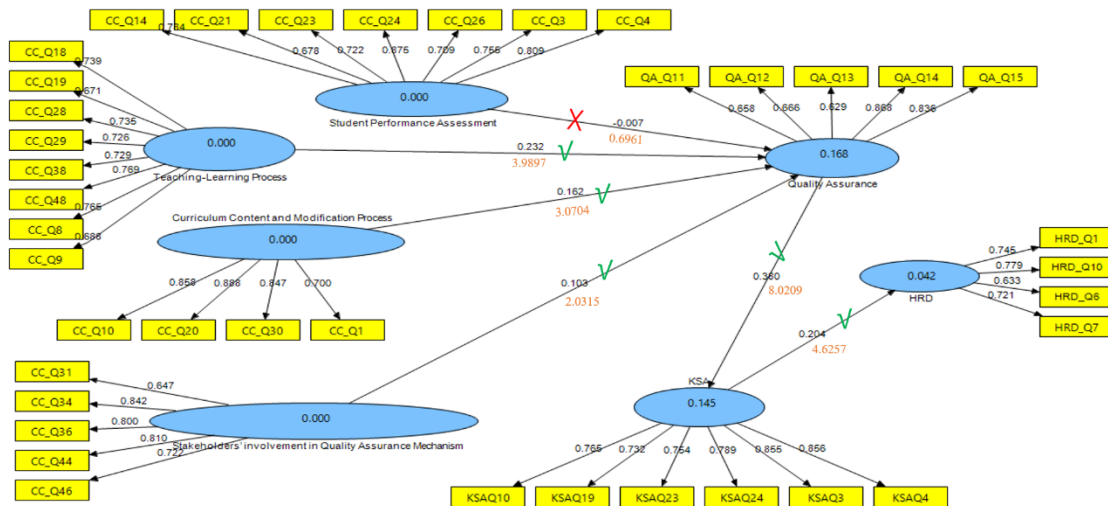


Figure 6.2: Adjusted Model of Conceptual Framework

This section of the chapter includes the findings based on conceptual model relationship as well as the findings from the open-ended questionnaire and interview on the different variables of model. Furthermore, it also includes the outcome and findings of the additional questionnaire for the academic and administrative staff to have find out the challenges faced by the QAM in HEIs and the findings from the employers and alumni on the existing KSA gap. Each variable and relationship between the variables are established based on the findings of the conceptual model, descriptive statistical analysis in the last chapter and qualitative questionnaire.

6.1.2 Discussion on the relationship between CCDR, QAM, KSA improvement and HRD

Discussion on the Conceptual model on relationship between CCDR, QAM, improvement of KSA and HRD

According to the conceptual model and analysis based on that, CCDR has a positive relationship with QAM. The model established that CCDR influences the QAM in the HEIs. The first hypothesis of the study is hence reflected as positive through this relationship. Hence, the research question and objective of the study is, established through the following findings.

Table 6.3: Research question, Hypothesis, Objective and Factor 1(CCDR) and Item's relation

Number	Research Questions, Hypothesis and Objective	<p style="text-align: center;">FACTOR 1:</p> <p style="text-align: center;">Curriculum Content Development and Review Process (CCDR)</p>	Items	
RQ1-A:	How the A. Curriculum Content, Development and Review contribute positively in improvement of Knowledge Skill and Ability of Graduates of Higher Education Institutes (HEIs)?			<p style="text-align: center;">CC_Q10</p> <p>Information from job market analysis is linked during curriculum modification</p>
H1-A:	Curriculum Content Development and Review process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.			<p style="text-align: center;">CC_Q20</p> <p>The entity provides co-curricular and extra-curricular exposures to the students</p>
SO1-A:	To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: A. Curriculum Content Design and Review in the process and to document the required process.			<p style="text-align: center;">CC_Q30</p> <p>Program objectives and program learning outcomes focuses on the improvement of KSA</p>
				<p style="text-align: center;">CC_Q1</p> <p>Curriculum is reviewed and updated at regular intervals in compliance with the rules</p>

- CC_Q10: Information from job market analysis is linked during curriculum modification (SA Manual, IQAC, 2015)); According to SA Manual (2015), curriculum modification is expected to be linked with the information received from job market analysis. This evidence supporting the hypothesis, that suggests that the process of CCDR in QAM is impacting QAM positively in developing the KSA of the HE graduates through the analysis of job market. Similarly, it can be mentioned that, job market analysis is required for CCDR process to have positive impact on QAM, which can eventually effect the improvement of KSA of graduates of HEIs,
- CC_Q20: The entity provides co-curricular and extra-curricular exposures to the students. SA Manual (2015); Evidence has been found from the conceptual model's analysis and interpretation that the CCDR of QAM provides co-curricular and extra-curricular exposures to the students. The findings suggest a positive relationship between the CCDR process and inclusion of co-curricular and extra-curricular exposures. The outcomes from inclusion of co-curricular and extracurricular activities in the curriculum content bring positive changes by improving the KSA of the HE graduates. Thus, improvement of KSA helps minimizing the KSA gap between job market demand and supply from graduates of HEIs.
- CC_Q30: Program objectives and program learning outcomes focuses on the improvement of KSA: Concerning the research hypothesis of H1A, it supports the fact that preparation, development and focus on the program objectives and program learning outcomes improves the KSA when it is related to the way the CCDR is taking place and QAM is conducted. The findings suggest that outcome based curriculum preparation, development and implementation, and review has a significant positive impact on improving the KSA of graduates in HEIs.
- CC_Q1: The Curriculum is reviewed and updated at regular intervals in compliance with the rules. Shao-Wen Su, (2012) According to Shao-Wen Su (2012), Curriculum should be reviewed and updated at regular intervals in compliance with the rules and regulations to have an impact on the improvement of KSA, which supports the hypothesis of the research of CCDR process of QAM having a positive influence on KSA improvement of the graduates. Hence, periodic and regular review of curriculum helps in QAM and improvement of KSA.

Discussion from open ended questionnaire and interview on relationship between CCDR, OAM, KSA improvement and HRD

- The present curriculum in the HEIs is not outcome oriented and aligned with the program or the university: As the university lacks quality culture, a need for a curriculum, an outcome-oriented education process and competence development is mandatory to accelerate the growth and performance of graduates as it will help the students to perform to the level required by any organization. This will also contribute in the improvement of KSA and the graduate attributes needed by the job market. QAM plays an important role in improvement of curriculum. The curriculum is suggested to be developed and reviewed with the response from the stakeholders with the feedback from their respective fields as well as based on current trends and new practices. The implementation of these feedbacks helps HEIs to improve their courses or curriculum with new ideas, topics or revisions. This should be maintained as a continuous process and as an integral part of the QAM.
- Curriculum lacks higher standard: according to feedback from the open ended questionnaire and interview, employer's sense that HEIs tend to concentrate particularly more in the zone of critical thinking, communications, problem-solving, ICT skills etc. to upgrade higher order cognitive competencies of graduates. Even though few universities are concentrating on these required skills, however, most HEIs are far behind. It is necessary to introduce standard curricula and modern education with added technological devices for teaching-learning and assessment of the KSA outcomes.
- Revise, Restructure, and Redesign the curriculum attuned with stakeholders' demands anticipating the future demands: As changes are taking place rapidly in the industrial economy, it is essential to revise, restructure and redesign the university curriculum in harmony with stakeholders' demands. The societal, economy, market is going through several changes and development simultaneously, which results in more challenges for the graduates to face. Improvement of students from HEIs through appropriate curriculum based on the changes in the world will help the future graduates to cope up with challenging future.

6.1.3 Discussion on the relationship between TLP, QAM, KSA improvement and HRD

Discussion on the Conceptual model on relationship between TLP and QAM

According to the conceptual model and analysis based on that, TLP has a positive relationship with QAM. The model established that TLP influences the QAM in the HEIs. The first hypothesis of the study is hence reflected as positive through this relationship. Hence, the research question and objective of the study established through the following findings.

Table 6.4: Research question, Hypothesis, Objective and Factor 2 (TLP) and Items' relation

Number	Research Questions, Hypothesis and Objective		Items
RQ1-B:	How can the Teaching-Learning process (TLP), contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	FACTOR 2: Teaching-Learning Process (TLP)	CC_Q29 Teaching strategies are clearly stated in the curriculum
			CC_Q18 T-L and PLO includes Knowledge Skills and Abilities development
H1-B:	Teaching-Learning process of QA Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.		CC_Q8 Lesson plan is prepared by teachers
			CC_Q19 The learning environment is conducive for the students
SO1-B:	To examine empirically the overall relationship between elements of the QA Mechanism and		CC_Q28 Modern systems are used to improve teaching-learning process

Number	Research Questions, Hypothesis and Objective		Items
	improvement of HRD, specifically: B. Teaching-Learning in the process and to document the required process.		
SO1-B:	To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: B. Teaching-Learning in the process and to document the required process.		<p style="text-align: center;">CC_Q9</p> <p style="text-align: center;">Teaching-learning is affecting the improvement of KSA of students</p>
			<p style="text-align: center;">CC_Q48</p> <p style="text-align: center;">Training and development of Teachers</p>
			<p style="text-align: center;">CC_Q38</p> <p style="text-align: center;">Program self-assessment (department self-study)</p>

- CC_Q29: Teaching strategies are clearly stated in the curriculum (Shao-Wen Su,2012) According to Shao-Wen Su (2012) teaching strategies are suggested to be clearly stated in the curriculum for a impactful TL environment. The positive relationship reveals that the curriculum should clearly mention the TL strategy as a n integral part of it. Inclusion of TL strategy in the curriculum and following it has a positive impact on QAM and improvement of KSA. As TLP ensures the strategy for the KSA improvement of the students in class room or HEI environment, it is necessary to incorporate the TL strategy in the curriculum.
- CC_Q18: T-L and PLO includes KSA development; Sequeira (2012) states that TLP and inclusion and attainment of Program Learning Outcomes (PLO) are related to KSA

development. This statement supports the H1B research hypothesis as the T-L and inclusion of PLO in TLP are closely related to the process of the QAM. Evidence has been found that T-L and the inclusion of Program Learning Outcomes in TLP improves the KSA of the students when aided by a well-structured QAM. Program educational objective and program objectives should incorporate KSA attainment for the students through TLP.

- CC_Q8: Lesson plan is prepared by teachers Shao-Wen Su, (2012); According to Shao-Wen Su (2012), the lesson plan is expected to be prepared by teachers to help improve the KSA, which is positively related to the teaching-learning process of the QAM and aid the development of KSA. As lesson plan includes TL and assessment strategy for of KSA improvement, it should be considered as an important part of TLP.
- CC_Q19: The learning environment is conducive for the students. Maclean and Ordonez (2007); It is stated that the learning environment to be conducive to help students and teachers concentrate on improving the students KSA. It is relative because of the positive relationship TLP and QAM has been established. The learning environment refers to the class room atmosphere, teaching aid and materials, TL strategies, class size etc. The statement shows support to the research hypothesis of supporting the TLP and QAM in improving graduates' KSA in higher education.
- CC_Q28: Modern systems are used to improve teaching-learning process. Sequeira (2012); Inclusion and integration of modern systems like technological support, equipment, ICT are used to improve the teaching-learning process. This helps the graduates to improve their KSA because the contemporary techniques of the teaching-learning process have directly impacted the improvement of KSA of the students through well-designed QAM.
- CC_Q9: Training and development of Teachers. Meera Alagaraja, (2015); There are evidence that training and development of the teachers have positive relationship with the well-designed TLP of the QA mechanism. Training and development of teachers through a well-designed process is essential to impact the TLP for improvement of KSA of the HE graduates.
- CC_Q48: Program self-assessment (department self-study) (Clamagna et al.; (2016); It has been mentioned that the self-assessment for the program by the teachers and students in the HE is a crucial part of the Teaching-Learning process of QAM. My

research hypothesis supports the fact that program self-assessment by the teachers and students help the teachers and administration of HE to build up the quality and improvement of KSA. It aids the QAM and Teachers to identify the gap and ways for improvement of TLP with the feedback from all the teachers and students.

- CC_Q38: Teaching-learning is affecting the improvement of KSA of students. Sequeira (2012); Interactive and participative TLP affects the improvement of KSA of students as their academic, social, and personal skills development. Conducting more interactive activities, engagement of students in classroom, providing feedback to students helps them be more effective. It also has a significant positive impact on the improvement of their KSA, which supports the research hypothesis.

Discussions on open ended questionnaire and interview on relationship between TLP, QAM, KSA improvement and HRD

- Teaching-Learning methods are not standardized: According to the respondents in the open-ended questionnaire and interview, the TLP in present days, is not up to the standard, as it does not offer or ensure high level of knowledge, competencies, project-based learnings and enhancement of skills due to poor support system, environment. In addition, a small number of qualified, trained and experienced teachers are there with minimum teaching facilities to bring the change for the benefit of the future.
- Teaching learning focuses on lower-level of skill: The current TLP focuses more on cognitive knowledge development of the students, it barely focuses to improve the higher order learning according the learning taxonomy. Mostly, students are involved in memorizing and focusing on writing skill. Analytical. problem solving. Communication, technological and critical thinking abilities are not included and improved through TLP.
- Teaching -Learning and Assessment practices do not relate to practical world: Teaching and learning practices must be providing practical evidences such as research-based strategies in order to get familiar with the corporate culture. Promoting critical thinking and encouraging students to apply acquired knowledge in real-life circumstances that depends on higher-order thinking skills (HOTS). HEIs should teach students to focus on real-life situations and help to gain appropriate knowledge so that they can acquire proper KSA and get ready to face the hardship of real life. Work related learning is essential for the students to learn in HEIs.

6.1.4 Discussion on the relationship between SPA, QAM, KSA improvement and HRD

Findings and Discussion from the Conceptual model on relationship between SPA and QAM

According to the conceptual model and analysis based on that, SPA do not have a positive relationship with QAM. The model established that SPA does not influence the QAM in the HEIs. The first hypothesis of the study is hence not reflected as positive through this relationship. Hence, the research question and objective of the study not established through the following findings.

Table 6.5: Research question, Hypothesis, Objective and Factor 3 (SPA) and Items' relation

Number	Research Questions, Hypothesis and Objective		Items
RQ1-C:	How can the Student Performance Assessment Process (SPA) process in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?	FACTOR 3: Students' Performance Assessment (SPA)	CC_Q24 Assessment systems are duly communicated to students at the outset of the term/semester
			CC_Q23 The entity maintains individual student's records properly
H1-C:	Student Performance Assessment process of Quality Assurance Mechanism in Higher Education has significant positive impact on improvement of Graduates' KSA.		CC_Q21 Students' progress is regularly recorded and monitored
			CC_Q3 Assessment of students' competencies are regular

Number	Research Questions, Hypothesis and Objective		Items
SO1-C:	To examine empirically the overall relationship between elements of the QA Mechanism and improvement of HRD, specifically: Student Performance Assessment process and to document the required process.		CC_Q26 Fairness and transparency are maintained in assessment system
			CC_Q6 PLO achievement of students are regularly monitored
			CC_Q4 Assessment strategies are explicitly mentioned in the curriculum
			CC_Q14 Assessment systems, includes skills and abilities assessment

- CC_Q24: Assessment systems are duly communicated to students at the outset of the term/semester SU Ya-hui, FENG Li-yia *et. el*; Assessment system may not be communicated to students at the outset of the term/semester through QAM. The research hypothesis of H1C supports this fact that, SPA does not bring a significant improvement in the KSA of graduates of HE, as students are not aware of the assessment process properly. It is essential to inform and make the students well aware, regarding how they are going to be evaluated and assessed. The findings reveal that assessment process is not properly

communicated with the students, which is not also suggested in an ideal QAM. Students should know about how they are being assessed, the assessment criteria (rubric) and the result, which should be communicated with students accordingly.

- CC_Q23: The entity maintains individual student's records properly. SU Ya-hui.; FENG Li-yia *et. el*; One of the criteria of QAM is maintaining individual student's records properly, through the SPA process. It is crucial for the QAM to maintain each student's records to keep track of their progress to decide which area of learning, development and further improvement they need. The research hypothesis supports the findings of the fact that it has an impact on KSA improvement but the analysis made it evident that the present context of QAM in HE is marinating the individual students' records accordingly.
- CC_Q3: Students' progress is regularly recorded and monitored. SU Ya-hui.; FENG Li-yia *et el*); Concerning the SPA, student's progress is regularly recorded and monitored according and shows the positive impact of the research hypothesis. QA mechanism's approach in this has brought a positive effect on the KSA of the graduates of HE because the record and monitoring have helped identify their areas of improvement needed.
- CC_Q26: Assessment of students' competencies are regular. SU Ya-hui ; FENG Li-yia *et el.*; It is stated that assessing student's competencies is a regular procedure and supposed to be performed through the SPA process by QAM in HEIs. The research hypothesis supports that assessing student competencies is done through evaluation measurement of the competency growth or engagement through participating in a TLP experience and cognition measurement. These regular assessment methods would provide important information and impact to have a significant change in the KSA of the graduates.
- CC_Q6: Fairness and transparency are maintained in the assessment system. SA Manual (2015); According to SA Manual, IQAC, 2015, it is a positive sign that fairness and transparency are being maintained in the assessment system. To maintain fairness and transparency during the assessment, is crucial to identify the graduates' weak points to work on, which would eventually increase their KSA by further intervention and development. The research hypothesis shares a positive relationship with this fact with enough evidence to ensure positive impact on graduates' KSA's improvement in HE by being fair and transparent with the students in assessment process.

- CC_Q4: SU Ya-hui; FENG Li-yia *et. el*; also stated that the QAM regularly monitors Program Learning Outcome (PLO) as a part of SPA process; It is essential to regularly monitor what the students achieved upon completing their course or program, as an ongoing process. The research hypothesis shows enough evidence by proving that regular monitoring of the students' PLO achievement through the SPA process brings out the improved KSA within the graduates of HE.
- CC_Q14: Assessment strategies are explicitly mentioned in the curriculum. Shao-Wen Su, (2012); Assessment strategies are expected to be clearly stated in the curriculum and well communicated with the students the curriculum of the program should incorporated how the students are expected to be assessed. In relation to the SPA process of QAM in HE, this strategy is essential to be implied vigorously since it brings a positive impact on the improvement of graduates' KSA.
- Assessment systems, includes skills and abilities assessment. SA Manual (2015) According to SA Manual, IQAC, 2015, it is important for the QAM that skills and abilities assessment is included in the SPA. A well-structured QAM's one of the aim is to assess how much skills and abilities the graduates have achieved and what needs to be done if it is not accordingly acquired. The research hypothesis shares a positive relationship with this fact with enough evidence to ensure positive impact on improvement of graduates' KSA in HE when a proper assessment of the skills and abilities is conducted.

6.1.5 Discussion on the relationship between SIQAM, TLP, QAM, KSA improvement and HRD

Discussion on the conceptual model on the relationship between SIQAM, QAM, KSA improvement and HRD

According to the conceptual model and analysis based on that, SIQAM has a positive relationship with QAM. The model established that SI influences the QAM in the HEIs. The first hypothesis of the study is hence reflected as positive through this relationship. Hence, the research question and objective of the study established through the following findings.

Table 6.6: Research question, Hypothesis, Objective and Factor 4 (SI) and Items' relation

Number	Research Questions, Hypothesis and Objective	FACTOR 4: Stakeholders Involvement	Items
RQ1-D:	How can the Stakeholders' Involvement in Higher Education (SI) contribute positively in improvement of Knowledge Skill and Ability (KSA) of Graduates of Higher Education Institutes (HEIs)?		CC_Q34 Involvement of Alumni in study program revisions
H1-D:	Involvement of Stakeholders in Quality Assurance Mechanism in Higher Education process has significant positive impact on improvement of Graduates' KSA.		CC_Q36 Job Market analyses
SO1-D:	To examine empirically the overall relationship between elements of the QA Mechanism and		CC_Q44 Industry-University linkage programs
	improvement of HRD, specifically: Involvement of Stakeholders in the process and to document the required process.		CC_Q31 Tracing the graduates through survey regarding employment and career is important
			CC_Q46 Assessment of student's workload (by survey)

- CC_Q34: Involvement of Alumni in study program revisions. (Pandey et. el.); Alumni's involvement in study program revisions is important because alumni have a clear idea of what sort of curriculum development is needed to improve the KSA of the graduates since the alumni have had practical hands-on experience. Alumni should be referred to as a permanent stakeholder of HEIs because they stay connected for life. In relation to the statement, the H1D research hypothesis proves that the involvement of stakeholders (alumni) in the QAM in the HE process has a significant impact on graduates' KSA's improvement.
- CC_Q36: Job Market analysis. Zhang and Guo, (2014); C.lamagna, et el. (2016); It is stated that job market analysis is very important to identify the more demanding jobs and KSAs by the industries for the HEIs. Stakeholders' involvement in arranging data and programs to support the graduates to improve their KSA is very crucial. Analysis of job market is required by the HEIs to successfully determine the demand/need of the KSA requirement by the job market, so that the HEIs can include those KSAs in the curriculum, TLP and assessment process. There is a positive relationship with this statement and the research hypothesis as it says that the involvement of stakeholders in the QAM in HE process has significant impact on improvement of graduates' KSA.
- CC_Q44: Industry-University linkage programs. C.lamagna, et el. (2016); It is mentioned that industry-university linkage programs are crucial for the graduates to have a rich knowledge of the industries' current requirements, which mainly includes provisions of standard KSA. The stakeholders' responsibility is to get involved in HEIs through QAM to organize programs linked with industry-university for the students/graduates to have enough ideas and exposure to the available jobs in the labor market and avail the opportunities by improving their KSA. The research hypothesis supports this statement as the stakeholders' involvement in QAM is directly linked with KSA's impact amongst the graduates.
- CC_Q31: Assessment of student's workload (by survey) . Clamagna, et. el; Assessing student's workload is necessary to identify that the curriculum, TLP and SPA is not that heavy or relaxed for the students. The workload of students in HEIs can be improved by targeting course review to constructively implement aligned curricula by involving stakeholders' (students) in the process and in implementation. The balanced workload would help the graduates to be more responsive and active in TLP which will help them

to improve their KSA. Therefore, we see that evidence has been found to match the research hypothesis.

- CC_Q46: Tracing the graduates through survey regarding employment and career is important. Zhang and Guo (2014); and Lamagna, et al. (2016); It is mention that tracing the graduates through a survey regarding employment and career is essential to help to identify to collecting feedback from the graduates whether the quality and experience achieved in the HEI by them is being effective or not. Stakeholders' involvement in QAM by surveying this field is essential to identify KSA areas to be improved by the students in HE. The hypothesis is proved to be positive in this study.

Discussion on the relationship between SIOAM, OAM, KSA improvement and HRD based on open ended question and interview

- Industry and Community Linkage is absent: The stakeholder s of HEIs should not only be involved with T-L and curriculum, the industry is supposed to be linked with the HEIs in research, community development initiatives. None the less, for the development of shared KSA focusing on current needs, a focused industry-academia linkage is very important to play a vital role in community development, nation building, and socio-economic progress. Therefore, for establishing these linkages between the industry and academia, bridges need to be built to connect the shared knowledge with industries and academia community which will help ensuring the national HRD.
- Curriculum must be linked to industry: curriculum and TLP is expected to be focused on established outcomes and address the holistic development of students. Universities need to work on the curriculum towards giving students the exact KSA they need if students are to find long term success and rewarding jobs. Consultation with business entities can be arranged to offer TLP and SPA tailored to industries' demand. This will develop the graduates as more valuable to the industries.
- Involvement of students and alumni should be ensured in the pedagogy and CCDR: In other words, it can be clearly stated that curriculum and the techniques of instruction are the key of the educational process. The TLP and CCDR process should involve the feedback, suggestion and input from the stakeholders.

6.1.6 Discussion on the roles and challenges of QAM in HE of BD and its relation to improvement of KSA and HRD

Discussion on the conceptual model on the roles and challenges of the QAM in HEIs and its relation to improvement of KSA and HRD

According to the conceptual model and analysis based on that, QAM in HEIs of Bangladesh are facing challenges though it has initiated important tools, process and system of QA. QA plays an effective role in the improvement of students KSA. The model established that QAM influences the KSA of the students in the HEIs. The second hypothesis of the study is hence reflected as positive through this relationship. Hence, the research question and objective of the study established through the following findings.

Table 6.7: Research question, Hypothesis, Objective and Factor 5 (QAM) and Items' relation

Number	Research Questions, Hypothesis and Objective		Items
RQ2:	What are the Roles and Challenges of QAM to improve Graduates' Knowledge Skill and Ability in HEIs?	FACTOR 5: Quality Assurance Mechanism (QAM)	QA_14 Lack of Documentation
			QA_11 Lack of expertise
H2:	The Role and Challenges of Quality Assurance mechanism in Higher Education Institution has significant impact in Improvement of KSA of Graduates.		QA_15 Lack of overall synchronized implementation
SO2	To measure the Role and Challenges of QAM on the improvement of KSA of graduates, to unearth/generate the opinion of respondents who are.		QA_13 Lack of support from the stakeholders (Employer, Parents, Academic, Non-academic staff, students)

Number	Research Questions, Hypothesis and Objective		Items
	involved with the Higher Education and QA activities		
			<p style="text-align: center;">QA_12</p> <p style="text-align: center;">Lack of support from the Government</p>
			<p style="text-align: center;">QA_7</p> <p style="text-align: center;">Financial Issues</p>

A. Challenges/ Problems of QAM

- QA_14: Lack of Documentation (C. lamagna, et el. (n.d.); IIEP-UNESCO, 2017); Lack of proper documentation has been a challenge for QAM because it is burdensome and time-consuming to maintain and keep up side-by-side with other lessons' preparation. However, the QAM somehow has to take the burden for proper documentation to keep track and record, which would benefit to impact the improvement of KSA in HE.
- QA_11: Lack of expertise. Lamagna, et el. (216.); Lack of expertise of QAM in HE helps to make mistakes and is unable to identify flaws in the mechanism or resolving them. It stagnates the acceleration growth and performance due to the unstructured curriculum by denying students the required KSA needed. In support of the H2 research hypothesis, if the expertise of the QA related professionals in HE is not ensured, QAM will, not be sustainable and lose potentiality. Hence, QAM cannot provide an impact on the improvement of KSA.
- QA_15: Lack of overall synchronized implementation; The challenges lie in the lack of overall synchronized implementation of QAM in public and private HEIs due to its unstructured, lengthy, and complicated implementation process, which affects quality and compliance, eventually resulting in falling apart from its primary tasks. Evidence of the research hypothesis states that the KSA improvement would be possible only through the reconstruction of the QAM with quality management, leadership commitment, and involvement from all stakeholders towards improvement of KSA.

There should be proper coordination among the different departments and managements with IQAC. The other departments and management should be well aware of the IQAC activities and be supportive to the overall process.

- QA_13: Lack of support from the stakeholders. Feiye Zhang and Shenghao Guo, (2014); The lack of support from stakeholders regarding QAM in HEIs, results in inefficient and poor quality outcomes of graduates. Here the stakeholders meant by investors, administrators, employers, parents, academic, non-academic staff, alumni, students, etc. who do not have proper understanding of the QAM because of complex environmental settings that drag them away from paying attention to the whole process, thus from the improvement of KSA of graduates.
- QA_12: Lack of support from the Government. Meera Alagaraja, (2015); Lack of support from the government has been a challenge for the QAM to implement in the public and private HEIs properly. Lack of government initiatives for a comprehensive plan for proper implementation and regular monitoring, including developing new QA tools and following the international standards, is missing. The government's focus and initiative, expertise, guidelines, policy on these implementations can improve the QAM further to have impact on the KSA of the graduates.
- QA_7: Financial Issues. Meera Alagaraja, (2015); Financial issues are also a challenge for QAM's proper implementation and utilization. Supporting this statement and evidence in this research shows that lack of financial resources devoted to QA initiatives can be the reluctance of investors, government, public or private sources to invest in this sector. Things can improve if these sectors and the government can plan to allocate special budgets for QAM employees to attract.
- Institutional and additional student enrolment policy. Manzoor Ahmed and James H. Williams (2008); Institutional and additional student enrollment policy without admission test and prior quality checking of the applicants certainly decrease education quality. It impacts the class size, teacher-student ratio. The students are admitted in different program which they are not suitable for. When institutions enroll many students to earn more tuition fees without having a substantial quantity of professional faculties, education's quality tends to decline. This happens because faculties do not focus on and target many students who struggle to fail and expedite their individual needs and progress. Here is where the QAM faces the challenges, and if this practice

can be stopped, the QAM can further progress with its task smoothly and thus can improve the student's KSA in the HE, which is positively related to the statement of the research hypothesis.

- Commitment and support of academic community. Manzoor Ahmed and James H. Williams (2008); The academic community's commitment and support is needed for a proper QAM in HEIs. The academic community can come forward to foster creating, sharing, and applying knowledge and quality assurance related activities and tasks, which would eventually bring positive changes and developments amongst students and in whole university. It is evident that faculty members should have the proper understanding of the QAM. Follow it in their day to day work life in terms of TLP, SPA, CCDR and other arena.
- Lack of Institutional commitment (C. lamagna, et el. (n.d.); IIEP-UNESCO, 2017); Lack of institutional commitment and support results in a poor QAM approach. Due to the complex environment setting, the institutions are reluctant to develop or change QAM, finds the QAM as time consuming and not making the process as integral part of HE, support and fund is not provided may result in ineffective QAM.

B. QAM is Helpful in

- Helpful in enhancement of the KSA through CCDR. SA Manual (2015); It is evident from the model's interpretation that QAM helps enhance the KSA through CCDR. Therefore, the research hypothesis supports the fact that if QAM can somehow take the responsibility of sustainable CCDR, it would make an impact on the improvement and enhancement of KSA.
- Helpful in enhancement of the KSA through SPA. SA Manual (2015); QAM helps in enhancement of the KSA through SPA. The research hypothesis supports that if the SPA is planned and conducted through outcome oriented measurement, it will eventually result into improvement of KSA of students. Engagement of students, participation in the learning experience, interactive learning assessment will impact significant change in the KSA of the graduates.
- Helpful in enhancement of the KSA by involving stakeholders in the process (C. lamagna, et el. (20116); QAM helps enhance the KSA by involving stakeholders. Stakeholder's involvement is crucial for successful implementation and ensuring the

effectiveness of QAM. Stakeholders work as a bridge between the academia and industry/community/market/govt. Their feedback, suggestion and involvement in various ways is essential for QAM. Stakeholders can contribute in curricular review, identifying the demand of KSA in the market, trend and issues of job market and thus incorporate them in the CCDR, TLP and SPA in HEIs through QAM.

- Helpful in enhancement of the KSA through Teaching-Learning (SA Manual, IQAC, 2017); That QAM helps enhance the KSA through TLP. A well-designed QAM can initiate modern systems of the teaching-learning process, technology related TLP, blended learning, modern teaching aid, classroom environment which can directly impact the KSA of the students.

6.2 Discussion on roles and challenges of QAM in HE and its relation to improvement of KSA and HRD

- QAM should be well accepted and understood by the stakeholders: Unstructured, lengthy and complex/complicated implementation process of QA will have an effect on the quality and compliance which would eventually result in the fall apart from its primary tasks. The stakeholders should have proper understanding of the QAM and how its benefit them as well as the HEIs. Particularly the Academic and Administrative staff should know and have a grasp by proper training in QA process in HEIs.
- Understanding the benefit and importance of QAM: Developing quality in HEIs is a long-term systematic process and there is no alternative to ensure that. In such process. Developing quality in HEIs is a long-term systematic process because it requires proper planning of continuous improvement in its standards by continuous improvement CCDR, SPA and TLP as the graduates from HEIs are expected to be of the finest quality to be able to be fit into the job market environment. The stakeholders and HEIs have to realize the benefit of QAM.
- Management should be supportive to QAM: Management of HEIs should be open to suggestions and motivate all teaching and administrative staff to do their best with utmost dedication and sincerity. Management should be open to further development, budget allocation and motivate all teaching and administrative staff to get involved and successfully implement the QAM. Support from the Administrative staff: should be made responsive and dedicated to develop harmonious cooperation: By working long-

term alongside the faculty and administration, administrative staff gathers experience and can provide invaluable skills, essential knowledge whose input and opinions can be vital to many decision-making processes. Therefore, HEIs should be responsive to their support and dedicate to develop a harmonious relationship and cooperation with them for implementing QAM.

- QAM must be organized and coordinated: development of new QA tools, implementing the best feedbacks from the stakeholders, practicing the good policies from different institutions or countries, following the Govt. and international standards can improve the QA mechanism further. Few universities among the 100 HEIs' IQAC is still mandated by the syndicate or university authority. IQAC is not considered as a part of all the functional area and budget allocation system. IQAC structure has not been mandated as a part of the total organigram. As a result, less importance, visibility and activities are carried on.
- Time Consuming: QA is time consuming and a lengthy process: if it is unstructured, complex, poorly implemented and not focused on its primary tasks, not outcome oriented QAM will not bring any positive result in the HEIs. The HEIs and stakeholders should consider time for implementing the QAM and to reap the benefit from it.
- Proper documentation is required: Faculty may want to get burdened with documentation. The burden of documentation to be maintained by the faculty members, IQACs, administrative staffs may seem to them as time consuming and not effective. IQAC, administrative staff, the employees are left with very little time to prepare their documents, lesson plans other related papers, as it is very time consuming.
- Acceptance and preparedness for QA in HEIs: acceptance is also key factor. It is very important to realize the benefit of QAM, create the acceptance and awareness among stakeholders for QA; As it ensures the quality of HE which is a major driving force to national and international completeness as well as social development. Resistance from academics considering QA as an external process imposed on them may work as a barrier. QA is perceived to monitor and control academic work in relation to teaching and research but due to differences of interests and complexity of academic reactions to these processes that are being offered to them, challenges and resistance from academics and administrative staff eventually generates a potential for conflict.

- Similar QA approach for all the HEIs: HEIs should undertake the identical mechanism in all the universities; All universities should undertake same QA initiatives; Primary, secondary, higher secondary schools and colleges should implement QA; It is essential for all the faculties and HEIs to undertake, initiate and implement similar QAM and to have a one government body to supervise and evaluate the processes.
- Lack of expertise in QA in HE: lack of specialists in QAM, who can relate initiate, train and implement QAM properly is there. This leads to failure to understand the mistakes and inability to identify flaws in the mechanism or resolving them. On the other hand, only a handful of specialists are able to ensure quality and can appropriately function on the QAM.
- Insufficient Resources to support QA initiatives: lack of financial resources devoted to QA initiatives can be evidenced in many ways, such as the country being poor of having insufficient domestic fund allocated for the same purpose, reluctance of public or private sources to invest in this sector etc. In order to draw attention to the qualified teachers, coaching programs on QAM can be organized, as well as the government can carry out such a plan that would attract the teaching professionals in HE to be part of the QAM.
- Internationalization/Cross National Orientation on QAM: In order to reform the QAM, BD can benchmark practices especially from developed countries. It is helpful for the QAM to adopt and borrow QA tools, ideas and practices and should be implemented in public and private universities.
- Vacuum in QAM implementation and sustainability in the universities: in 2015 the QA process and institutionalization of IQAC was initiated and by 2018 in 69 universities the mechanism was instilled. Presently there are 100 universities with IQACs. QA resource person, trainers received massive training during that period and at the same time the awareness and requirement of QAM was taking place simultaneously. But after 2018, the 69 universities and other universities are not pursuing QA in that manner like previous. A vacuum is created and a gap is there in successful implementation and sustainability of QAM in the universities.
- Lack of ownership resulting in limited impact: Lack of ownership often stems from ineffective leadership practices and mindsets and also due to culture effect, low income and incentive effect, poor infrastructure and environment etc. that result in limited

impact on quality of education. QAM should be owned by the QA related professionals and ensuring the effectiveness depends much on the employees associated with the QA office and administration.

- In HEIs more focus is given on gaining theoretical knowledge not related to practical world and skills for job markets. Theoretical knowledge is required for their professional growth and development but it is not relevant to teaching the practical aspects which is required in the highly competitive job market. Universities should teach students to focus on real-life situations, world related learning and help to gain appropriate knowledge so that they can analyze the ways of knowing while facing the hardship of real life. Most universities lack the system of teaching the corporate culture to the students or attachment with various corporate because of low quality administration resulting in low exposure to corporate culture and therefore face difficulties in the job life.

6.3 Discussion on the existing gap of Knowledge Skill and Ability (KSA)

6.3.1 Discussion on the conceptual model on the existing gap of KSA

According to the conceptual model and analysis based on that, QAM has a positive relationship with KSA improvement. The model established that QAM influences the KSA of graduates/students in the HEIs and KSA improvement effects HRD. The third hypothesis of the study is hence reflected as positive through this relationship. Hence, the research question and objective of the study established through the following findings.

Table 6.8: Research question, Hypothesis, Objective and Factor 6 (KSA) and Items' relation

Number	Research Questions, Hypothesis and Objective		Items
RQ3:	Is there any Gap existing in KSA requirement between HEIs and HRD of BD?		<p style="text-align: center;">KSA_Q4</p> Knowledge of how to do a work is improved by QA process in the university

Number	Research Questions, Hypothesis and Objective	FACTOR 6: Knowledge Skill and Ability (KSA)	Items
			KSA_Q3 Knowledge in designing a system component is improved by QA process in the university
H3:	There is a Gap existing in KSA between HEIs and requirement for HRD.		KSA_Q24 Appreciation of ethical values ability is improved by QA process in the university
			KSA_Q23 Self-Motivation ability is improved by QA process in the university
SO 3:	To identify the gaps that exist in KSA by investigating the role of QA mechanism in HEIs in developing Human Resources of Bangladesh.		KSA_Q19 Sense of Responsibility is improved by QA process in the university
		KSA_Q10 Office communication is improved by QA process in the university	

- KSA_4: Knowledge of how to do a work is improved by QA process in the university (Thomas N. Garavan, n.d.). The knowledge of how to do a job is improved by the university's QAM. The proper QA tools ensure the required knowledge needed for the way work can be done and be completed successfully in the job life or work related to any other places, ultimately ensuring HRD. Therefore, H3 research hypothesis supports the fact that the improvement of graduates' KSA through QAM in the university, which

allows them to apply appropriately in the workplace, makes a significant impact on the development of human resources in the country.

- KSA_3: Knowledge in designing a system component is improved by QA process in the university. Mohiuddin (2012); A substantial knowledge has to be present and taught in designing a system component by QAM in the university which will ensure the improvement of KSA of the students in the University. A system that would continuously work on the devices that would trace and discover the students' elements to improve their KSAs. The impact would be enormous, making a significant impact on the country's overall development of human resources, which supports the research hypothesis statement.
- KSA_24: Appreciation of ethical values ability is improved by QA process in the university. Gonda (2014); The QAM improves the students' ability to appreciate ethical values through appropriate CCDD, TLP and SPA. To be able to appreciate ethical values play an essential role in education, helping graduates become a right person in the job market because industries require employees with good social values and be able to appreciate ethical values. In relation to this, it can be said that the improvement of the ability to appreciate the ethical values is improved by QAM and has a significant impact on improving the graduates' KSA.
- KSA_23: Self-Motivation ability is improved by QAM in the university. Ismail (2006); Self-Motivation ability is improved by the QAM in the HEIs. QAM improves the self-motivation in a way where a student would feel encouraged to have a personal drive, initiative, and commitment to achieve his goals. The improvement of KSA also includes life-skills, work related learning and such as these. The result of improved self-motivation through the enhances KSA's enhancement, directly impacting the development of HR as the thesis hypothesis supports this fact.
- KSA_19: Sense of responsibility is improved by QA process in the university. Ismail, (2006); The QAM improves the sense of responsibility through TLP, CCDD and SPA within the university graduates. QAM improves a sense of responsibility in a way where students would feel the awareness and be encouraged to take responsibility for their actions by keeping their spirits up. A better sense of responsibility through the QAM improves their cooperative attitudes, decision-making, problem-solving, and responsibility, enhancing their KSAs and impacting HRD.

- KSA_10: Office communication is improved by QA process in the university. Mansour et. al.; (2016); The QAM improves office communication skill of the students in the HEIs, through CCDDR, TLP and SPA as well as with the involvement of stakeholders. QAM's strategies of open-door policy learning, giving clarifying roles and responsibilities, offering effective in-house training for building team spirit and simple social events amongst the students enhances the communication skills within the students and university environment, which reflect on the students the same way when applied. Therefore, improving the KSA of graduates with a significant impact on the HRD. The research hypothesis relates to the same.

6.3.2 Discussion on the existing KSA gap from the analysis and interpretation of open ended questionnaire and Interview

A. Knowledge gap between HEIs and job markets

As the beneficiaries of the QAM efforts of the HEIs are the stakeholders, they should provide feedback, suggest the types of contents of the courses and design the program based on their needs of KSA, as they are the producers and users at the same time.

- Knowledge related to service industry and entrepreneurial: Job market demand basis KSAs are very important to get hired and to succeed in the workplace either in the service industry or to start an entrepreneurial initiative. KSA is not only soft skills but also other capabilities like: communication, interpersonal, ethical, critical thinking and problem-solving, financial, managerial, analytical, creativity, technological etc. which is crucial for the university to relate, teach and address these through TLP, SPA and CCDDR to the students and graduates.
- Knowledge about job market: It is important for the HEIs to aware and inform the students regarding the present job market, job availability, trend and cases, these can be taught and ensure the learning by through CCDDR. TLP and SPA. University officials and academic staff can provide KSA about the opportunities of the job market to the graduates, give detailed information, and encourage students of its pros and cons. Failing to do so, graduates would find it hard to get a job in the market due to a lack of required skills and qualifications or experience.

- Vocational or short term training or certification courses on skill development: introducing quality vocational training as a part of university education will provide an opportunity to follow a well-defined path for, HE and competitive graduates globally and within the region. Integrating structured classroom TLP with vocational training would help the graduates learn to practice in a work setting and make them to become critical thinkers and problem solvers.
- Knowledge related to contemporary Global issues: workplace shapes according to contemporary global issues such as competitive markets, expansion of the economy, developments in new technology, changes in demography, etc. Therefore, it is crucial to shaping graduates accordingly.

B. Skill gap between HEIs and workplace/job market

- ICT Skill: Initiation and utilization of learning advanced ICT skills such as Virtual/E-Learning, mastering in computer programming, can enhance the knowledge to the optimal level by shaping students' and teachers' roles into a new turn. Strong IT skills, interpersonal skills, self-management skills, and decision-making skills are essential for the students because most jobs require to effectively interact with other people and it is crucial for success in the workplace. Positive attitude and teamwork help to form stronger relationships with each other and help achieve lifelong learning. Use of technology in HE or, in other words, technology-infused classrooms with digital learning tools such as computers and handy gadgets can achieve significant improvements in productivity, increase student engagement, motivate and accelerate learning. The modern technical equipment can present a significant challenge to the implementation due to limited resources, high cost, lack of sponsors, and implementation gap caused by the stakeholders who often pay attention to regular compliance instead of quality improvement.
- The other skill list: In addition to ICT skills, the other skills such as Leadership, Self-Awareness, Communication, Adaptation, and Critical thinking is crucial because today's world economy demands the diverse sources of knowledge in problem-solving, and the benefits of these skills are standard of excellence and provides better control of learning and use. Students and graduates ought to engage in more complex tasks in-class assignments that involve critical thinking as it enables them to present their thoughts in a much more logical and organized manner and support them while facing

real-world situations. A logical approach to new ideas, sorting problems, discovering creative solutions are all part of the analytical and problem-solving skills which is essential to teach the students in the university as most job applicants are being measured under these categories. Analytical and problem-solving skills are equally important on today's world. As from the survey, it has been revealed that, communication skill is one of the most required skill by the employers in the job market. Communication skill does not only include writing skill. It includes several other skills (e.g. appendix: questionnaire). AS the current assessment process in the HEIs are mostly written based, the other communication related skills are not developed or assesses in the HEIs. Lifelong learning is also required for future professional development of the students.

- The 4Cs (critical thinking, creativity, collaboration and communication) is necessary for the university to provide knowledge on the importance of the 4Cs to the students. The 4Cs are the four qualities that are essential to empower students to achieve anything and to succeed in the workplace.
- Language skill: University can have free advanced spoken English courses as well as other foreign language courses as English language today is widely spoken in the world and is mandatory and essential either in business, training, teaching, lecturing as well as for self-development and social situations. Every university ought to give high priority to increase spoken English, Chinese, French as well as computer classes.
- Life Skills and Soft Skill: To be able to deal effectively and efficiently with the events and challenges of life, emotional intelligence, spiritual intelligence life skills such as ethical behavior, moral character, patriotism, self –awareness, and empathy, being updated in all affairs, etc. are essential to make a person a good citizen. It is important to teach these in the universities because business entities also look for candidates who can handle common challenges at work, and these life skills help employees do that because these skills are critical to management and leadership positions.

C. Ability gap between HEIs and job Market

- Ethics, Moral and Spiritual value: Ethics play an essential role in education helping students to become a good citizen because with only intelligence and without social value, it will not help the students to have a good recognition. “Adolf Hitler” can be a

good example of a human with intelligence with no social values. Ethics play an essential role in education helping students to become a good citizen resulting in being honest in the job market.

- Openness, ready to accept new and traditional mindset: It is believed that skills, intelligence and talents are important for professional development. Human resource without open mind results in ignoring feedback and criticism, resisting learning to improve upon their skills, intelligence.
- Adaptation and ability to handle changes: It is important to shape the curriculum in a way where the students would get familiar with adaptation and have the ability to handle changes before getting into the job market because recruiters want their candidates to be able to demonstrate that they can adapt to changing circumstances and environments and show they can cope with the new environment.

D. Discussion on the KSA gap between HEIs and Job Market

An enriched curriculum focused on KSA ensures better opportunities for the graduates to enter into the job market. On the other hand, few opinions opt that curriculum focused on KSA should be enriched with up-to-date technology/practices and more open in providing new learning materials as well as developing soft skills. The following are the findings to minimize the K SA gap between the supply from HEIs and demand by workplace/job market.

- Private universities- should create knowledge society, not only professionals: for employability, students can go for TVET not may be university. Private universities should give priority to knowledge society because it would help students to improve their intellectual, moral, physical and psychological development which will not be present if it just concentrates on career purposes without any social skills, respect for culture, ethical and moral values and emotions.
- Unpack and reveal what is existing in our country, rather than importing whole from west: The curriculum can be a mixed approach of local context and international practices. Benchmarking of good CCDR. TLP and SPA and other practices can be combined with local existing curriculum. Along with existing curriculum in the country, a substantial percentage of more advanced and higher standard curriculum can be imported from the universities of Western countries. The reform of HE regionally

and globally would help to focus a position within a national as well as international market place contributing both to regional and global economies.

- KSA need to be sustained and grow in the future: since the world is transforming on a fast pace, it is essential to change the approach of KSA because according to the global changes and requirement. The KSA of today as we believe are essential for today's work force, will have changed in future. Therefore, to stay ahead for fast-paced changes of the future to come, KSA needs to sustain, adopted and grow accordingly so that future students can acquire the skills needed to succeed in the future workplace.
- KSA should certainly not be read or taught only: KSA should be taught in the universities in a way where there should have some affiliation with practical knowledge through collaborations with business entities and project-based classes and not only taught theoretically. work related learning, practical and hands on experience is essential for HRD.

6.3.3 Discussion on the existing KSA gap from the analysis of Additional Questionnaire for Alumni and Employers Perception

A separate questionnaire was used to survey alumni and employers regarding four separate sets or areas of KSAs. These were namely knowledge, communications skills, interpersonal skills, and abilities. The survey was designed to measure the importance of these sets of skills as a job requirement as perceived by alumni and employers. At the same time, the respondents were asked to rate how well graduates performed in these areas.

In the area of knowledge, surveyed alumni stated that all areas of knowledge were between essential and very important, with areas such as 'Knowledge of terminology and specific facts,' and 'Knowledge for the plan, monitor and regulate a work' being highlighted as the most important job requirements. However, when it came to comparing these results with actual graduate performance, the alumni stated that performance was always slightly lower than expectations. Particularly poor was IT knowledge, which alumni scored relatively low when it came to graduate performance.

When it came to employers, they stated that particular knowledge areas were very important, such as knowledge in designing a system component, Knowledge of terminology and specific facts, and Knowledge of categories, principles, and models. When it came to measuring

graduate performance, employers identified lacking areas, by stating that IT knowledge was an area where employers were performing poorly and the area related to 'Breakdown objects or ideas into simpler parts and finds evidence to generalization.' Breakdown object or ideas into simpler parts and finds evidence to generalization in this area of knowledge, employers and alumni's response as job requirement is same but alumni's response in terms of graduate performance is lower than the employer. Compile component ideas to a new whole idea or propose alternative ideas in this area, Employer's response is lower than alumni in terms of job requirement, again graduate performance is higher according to employers' perception than alumni. Knowledge in designing a system component, according to employers the job requirement is high and Graduate performance is even higher than the requirement. But according to alumni the graduate performance is lower than the job requirement.

Both alumni and employers assessed communication skills. According to alumni, all forms of communication skills were very important as job requirements, particularly reading, writing, listening, speaking and presentation skills. Non-verbal skills were also identified as very important. When it came to measuring graduate performance, both employers and alumni indicated that graduate performance was lacking in regards to communication skills and below expectation. Employers identified new lacking areas, by stating that reading skills were particularly important, as well as formal office drafting skills. Employers stated that there was a severe lack of formal office drafting skills when it came to graduate performance. In the area of Teamwork, Employer's response were that Job requirement and Graduate performance is equal. But according to the Alumni, the Job requirement is higher than their performance in the job on Teamwork. Both employers and alumni indicated that Interpersonal Skills, such as Leadership, Teamwork, Emotional Intelligence, Spiritual Intelligence, and Negotiation skills were essential. Employers identified Leadership as an area that needed improvement in terms of graduate performance, whereas alumni identified emotional intelligence as needing improvement.

The set of Abilities were listed and presented to respondents as part of the questionnaire. Both alumni and employers identified abilities as necessary, with employers especially highlighting areas such as discipline, organizing, problem-solving, creativity, and critical thinking. Employers also highlighted these very areas as needing improvement when it comes to graduate performance.

6.4 Challenges of QAM in HEIs in HRD of BD

6.4.1 Findings from the conceptual model on the challenges of HEIs in HRD of BD

According to the conceptual model and analysis it is evident that QAM in HEIs has a positive relationship with KSA improvement and eventually on HRD. The model established that QAM influences the KSA of graduates/students in the HEIs and KSA improvement effects HRD. The fourth hypothesis of the study is hence reflected as positive through this relationship. At the same time, it can also be stated from the analysis of both qualitative and qualitative method, that HEIs in BD are facing challenges in developing the HR. Hence, the research question and objective of the study established through the following findings.

Table 6.9: Research question, Hypothesis, Objective and Factor 7 (HRD) and Items' relation

Number	Research Questions, Hypothesis and Objective		Items
RQ 4:	What are the challenges faced by the HEIs to develop the Human Resource of Bangladesh?	FACTOR 7: HRD	HRD_Q1 Improvement of IT Knowledge of graduates influence overall HRD of BD
H 4:	There are challenges faced by the HEIs for Human Resource Development in present context of Bangladesh		HRD_Q2 Improvement of strategic Knowledge related to job of graduates influence overall HRD of BD
			HRD_Q4 Improvement of Leadership skill of graduates influence overall HRD of BD
SO 4	To suggest steps to meet the challenges for the further Development of Human Resource through HEIs of Bangladesh.		HRD_Q6 Improvement of Discipline of graduates influence overall HRD of BD
			HRD_Q7 Improvement of Negotiation skill of graduates influence overall HRD of BD

- HRD_Q1: Improvement of IT Knowledge of graduates influence overall HRD of BD (HRD an Economic Review Report, 2017); The improvement of IT Knowledge of graduates influences the overall HRD of Bangladesh. Initiation and utilization of learning advanced ICT skills enhance the knowledge to the optimal level by shaping graduates' roles into a new turn. In support of the research hypothesis, it can be said that strong IT skills in BD are essential for the students as most job requirements today are based on it. And acquiring the skill would make a significant impact on the development of Human Resource in Bangladesh.
- HRD_Q2: Improvement of strategic knowledge related to job of graduates influence overall HRD of BD (Olugbenga S. Adedeji and Omolara A. Campbell, n.d.); Improvement of strategic knowledge related to graduates' job influences overall HRD of BD because it makes it easier for them to secure a career in the job market. HEIs needs to have appropriate textbooks related to practical knowledge and skills to teach graduates real-life situations and help them gain appropriate knowledge to face the job market with prior job-related knowledge.
- HRD_Q4: Improvement of leadership skill of graduates influence overall HRD of BD (HRD an Economic Review Report, 2017); Improvement of graduates' leadership skill influence overall HRD of BD. Institutions must keep in mind that job market requires strong leadership skills, communication skills, and management skills and therefore institutions need to groom the graduates accordingly. In relation to the research hypothesis, if this skill is improved, then it would improve the KSA of the graduates and have a significant impact on the country's HRD because these skills are critical to management and leadership positions.
- HRD_Q6: Improvement of discipline of graduates influence overall HRD of BD. Addeji (1999); Improvement of the discipline of graduates influence overall HRD of BD. Effective discipline strategies in institutions develop graduates' capacity to be constructive, cooperative, rational, morally reasoning and help engage them in decision-making and problem solving with improved KSA, which would ultimately influence the HRD of BD.
- HRD_Q7: Improvement of negotiation skill of graduates influence overall HRD of BD Addeji (1999); Improvement of the negotiation skill of graduates influences overall

HRD of BD. The institution needs to teach the graduates negotiation skills, which will help them deal with the clients once they are in professional life. The institution can take a proactive approach to negotiation training for the graduates, which will teach them to be active listeners, read body language verbal communication, find areas of compromise, aim for a win-win situation, and make connections. This would as well improve the KSA of the graduates resulting in a significant influence on the HRD of BD.

6.4.2 Findings on HEIs challenges on HRD of BD based on open ended questionnaire and Interview

As QAM plays an important role in improving the CCDR of universities, the stakeholders should provide feedback from their respective fields based on current trends and new practices and the implementation of these feedback will help an HEI improve their courses or curriculum with new ideas topics or changes. This should be a continuous process. The challenges of whether universities actually develop skills and abilities of students or just gain simple knowledge by memorization can be addressed through a well functioned IQAC, quality culture of HEIs, professional development of academic and administrative staffs.

The HEIs can play an important role to contribute developing students/graduates as human resources through more affiliation with corporate entities along with more career related education program and seminars. To produce dynamic professionals, it is pertinent that HEI have a close tie-up with industries and overcome from traditional management style by coping with the global changes and create expert and innovative management systems by providing them high-quality educational training. A well planned and organized education program to create new knowledge in order to apply their civic knowledge, deal with the rapid global economic changes and issues, is essential in producing good citizens for the nation. The universities are highly expected to work for the production of skilled human capital and a significant contribution to socio-economic development. Nowadays people are more inclined to go for a few specific types of jobs and currently has sufficient human resources to fulfil those requirements.

A. Challenges faced by HEIs for HRD in BD

- Update of education to align with the latest practices/technology: in order to keep pace with the changes in latest corporate practices and technology, the national education system needs to be updated. Accessibility of broadband in classrooms, increased emphasis on preparing teachers to lead with technology is just a couple of examples to move forward with. Reform of HE process is required to ensure the HRD of BD. The HE process should be reform based on the benchmarking with the universities regionally and globally and reach the competitive edge.
- Existing education policy does not prepare resourceful human being for the nation: Bangladesh's Higher Education Policy needs to focus on National Goal, focus more on national development goals in the infrastructure of agriculture, ports, roads, power stations, rural development, health and education etc. Therefore, academic concentration in these areas should be given priority in the universities. Bangladesh needs to work harder and go beyond the personal interest in order to have a bright future and at the same time political commitment with positive signs is required with the exclusion of any third-party interference. Education policy and goal attainment have been inconsistent and conflicting with each other due to implementation. The higher education system in Bangladesh mostly is knowledge based and not skill oriented. Therefore, the graduates can little contribute in the national development and results in producing incompetent graduates for the nation contributing barely in the national development.
- Limited Education Budget and dependency on government allocated fund: limited education budget creates a disproportionate effect on the education of students. Therefore, scarcity of teachers and quality teachers brings out less efficient students which results in the drastic impact on the ability of universities to continue to deliver high-quality education and graduates.
- Unexpected political interference: Education standards corrode of unexpected political interference which create tensions and crisis, student disturbances, political harassments to create concerns to the stakeholders for budget cuts.
- Need for proper quality culture: to play role to develop students/graduates as human resource a well-functioning IQA system and quality culture should be institutionalize in the HEIs in the first place. A well-functioning IQA needs to ensure that the quality of the teaching programs is well documented and assessable,

improvement in academic programs are continuous, teachers are professionally developed, access to information is understandable to students in the employment world.

- Proper utilization of CETL initiative by the HEIs: The British Council and UGC Bangladesh's joint initiative is Centre for Excellence in Teaching-Learning. CETL. Presently it is in only 10 universities (BC report 2020). CETL's initial aim is the professional development of Teachers in TLP in the HEIs. CETL should always be in the background to ensure that teachers are trained and graduates perform confidently and competently at the start of their professional careers with qualified and trained teachers.
- Graduates from National university-colleges: the ultimate HRD of Bangladesh has to be viewed holistically. This survey primarily focused on HRD of 151 universities. But it is found that more than double graduates are coming out of the National university-colleges (number). Apart from focusing on 151 universities to develop the HR of BD, the initiative has to address by inclusion of the national university-colleges. under the umbrella of national university.
- Focus on innovation and research in HEIs: It is found that majority of the HEIs are preoccupied to run the educational process for the students. Whereas, in reference to the western remarkable leading universities, lay primary focus on innovation, invention, educational strategy development and research. Therefore, HEIs have to now leap forward towards the areas of innovation, invention and research to remain at par with the global educational system. This will prepare and develop the graduates to contribute more meaningfully to meet the Bangladesh's requirement as well as global challenges.
- National Education is not aligned with National Demand and Supply of Job Market: Graduates are absorbed in the jobs with which their KSA are not matching or disintegration with community and market. Graduates from physics, history is working in a bank; Most of the time, the graduates work in different fields, not in the area they have studied/graduated. Most graduates today are involved in the workforce different to the field of their academic studies. Therefore, possibilities are there that these graduates cannot fully utilize their acquired KSA essential for success on the job.

- QA in holistic educational process: The holistic QAM has to address the National schooling system of Primary, secondary and higher secondary level. There should consider a bottom-up approach of QA of education in the entire educational infrastructure and system, starting from schools to HEIs.

B. Human Resource Development

- Lack of Government initiative for HRD: BD should draw up a comprehensive plan in the national budget with proper implementation and regular monitoring; the Quota system for a job opportunity should be removed entirely. HRD efforts should be clear and transparent in the right direction among people and Bangladesh's young generation. HRD lacks proper planning at the national level, which results in poor productivity. Therefore, it requires proper, contextual and consistent planning, enormous investment and appropriate technology at the national policy level and requires coordination, monitoring and implementation of these plans and initiatives accordingly. The aim of the National Education should be creating knowledge of culture, new knowledge and producing good citizens for the nation. Increasing investment in technology with various organizations may be through partnerships, fundraising, or incentives by drawing attention to them by the authorities with motivations like tax rebates, recognition, etc.
- Workforce Diversity: More female workers are part of the workforce, and ethnic groups of people should be considered. Female workers have overcome the challenge of inequality if not entirely in the workforce today and contribute substantially to the economy. Saying this, ethnic female groups should also be considered more in the workforce. The demographic dividend is another cause for a large number of unemployment in BD.
- Recruitment and Selection process by the industry: The industry and government's recruitment and selection process should be KSA based, authentic, proper, and talented candidates should be recruited instead of favoritism and nepotism. An authentic and proper selection process is to be present to avoid nepotism. KSA based selection process and selecting gifted employees should be initiated. To boost their business, industries would want a combination of on the job training and academic study by upskilling the existing workforce and investment in new talents

etc. The establishment and proper enforcement of corporate governance in the industries should be incorporated. Lack of corporate governance means a lack of accountability and responsibility, poor control system within an organization and low-level business ethics. Therefore, a strong establishment and proper enforcement of corporate governance are needed to ensure positive outcomes.

- Intervening variables for HRD: In any country, the HRD does not solely depend on the educational system of that country. There are catalysts and intervening variables like political, environmental, societal, technological, economic and legal (PESTEL) arena along with the macro perspective and situation of that country. In many definitions, HRD focus has been toward education and health of a geographical area's population.
- Vocational trainings and diploma are considered to be less accepted in the job Market: There are a number of graduates from the Poly-technique institutes. The educational system of Bangladesh also needs to emphasize the QA in vocational training institutes also. Though the graduates from the vocational and poly-technique institutes are less absorbed and accepted in the job market, they are important for the overall HRD of BD due to societal and cultural reason as well.

6.5 Approaches towards HRD of BD by improvement of KSA through CCDR, TLP, SPA, SIQAM, QAM in HE

The emphasis of development planning in the future must be shifted from growth to modernization of education at all levels and resource allocation for HE needs to be allocated with the aim for HRD. A mismatch between education and occupation has to be removed. The right person with proper KSA should be positioned in the appropriate job. Skilled and educated human resources need to be provided with employment possibilities and appropriate placement. HRD have to be given precedence. A nationalized campaign has to be undertaken and a separate Ministry may be established to deal with the distinctive components of HRD.

6.5.1. Changes suggested in CCDR for effective QAM in HEIs

According to the findings in previous sections, it is found that, there is a requirement for an effective curriculum management process in the institutions which would be dynamic in nature and would focus on continuously reviewing materials and shaping it according to its needs.

Therefore, it would enhance student's experience and sharpen their skills and understanding about the global world around them.

- **Development of Curriculum Committee:** A well-structured curriculum committee is required who would maintain the high standard of the curriculum, implement it in an efficient and organized manner and review, modify and approve it according to the needs of the institution. Furthermore, a flexible curriculum with the involvement of stakeholders in the process, must be in place and formulated according to the needs of the students, industry and as well as the community. An effective curriculum management process with the involvement of stakeholders may be introduced.
- **Inclusion of KSA based curriculum:** A special program development in the curriculum can be recommended to emphasize more on generic skills such as interpersonal skills, oral and written communications skills, ICT, vocational skills, and others found through the study and mentioned in the previous section. because generic skills are critical for the better prospects of employment as companies more often tend to prefer on the generic skills on top of technical skills while selecting candidates. HEIs need to develop curriculum in line with the national needs, enhance facilities to implement the curriculum and follow up if the graduates are falling behind the requirements of the KSA of the country. Stakeholders' involvement in CCDR, through job market analysis can contribute in preparing and improving the KSA required by the job market.
- **Introducing outcome based curriculum:** Outcome Based Education (OBE) gives an understanding on global-local industry, demand. The objective of the program and outcome should be reflected in the HEIs through curriculum, TLP and SPA for the students/graduates to become more informative, responsible and open-minded individuals to respond to global economy. To revise and prepare outcome-based curriculum, it is essential to revise, restructure and redesign the existing curriculum according to the changes and development that are taking place rapidly in the industrial economy today. It is important for the educational institutions to accelerate growth and performance following the well-designed curriculum by providing students with necessary KSAs. Lesson plan, structured course outline, standard TLP and SPA should be integral part of the OBE curriculum. Program Learning Outcomes (PLOs) in the institution is recommended to be consistent in developing KSAs of the students while

they are progressing through the academic program so that they would be able to sense the know-hows by the time of their graduation. Furthermore, outcome as KSA based curriculum is very important and mentioning the TLP and SPA process in curriculum are the key to the quality educational process, therefore students transform into HR when they join the workplace and job market.

6.5.2 Suggested improvement in Teaching-Learning Process for effective QAM in HEIs

According to the findings of "Teaching-Learning methods are not standardized", Perhaps introducing a standardize quality teaching methods by offering and ensuring high levels of knowledge and competencies, project-based learnings and skills with good programs, support system and environment will mitigate this gap.

- Technology and other skill development oriented TLP: The TLP should be more interactive, such as engaging students in the classroom are productive for the students' overall development. Hence, class presentations, case studies, and communication skills improvement activities can be conducted regularly. The findings also say that "Teaching-learning focuses more on lower-level thinking skills (memorization and understanding), which is one of our institutions' most common problems. It is highly recommended to change the trend from traditional teaching and memorizing to a much more constructive way of thinking, which will help the teaching-learning expose higher-level thinking skills. TLP should integrate technology, hence, blended learning can be useful TLP strategy for the students. The environment of the TL should be conducive with the inclusion of technology based teaching aid, online and blended technological support.
- Training of university teachers: The teaching facilities and welfare of the teachers need to be considered so that more qualified and experienced teachers intend to teach in the universities and bring changes to the overall standard of education. Scarcity of teachers and lack of quality teachers in HEIs particularly in private universities. Alternatively, universities are more liberal in enrolling teachers even though there are possibilities of politicization in enrollment. Additionally, professional advancement chances are rare as a handful of faculties are provided in the HE. Continuous capacity building of QA is necessary through continuous performance measurement systems for sustainability and potential effectiveness. CETL is currently operating in 10 universities in the 2nd phase of its operation. The training and development of teachers on T-L create impact on the

HEIs in which it has been implemented. CETL operation should be extended to the other HEIs and continue the CPD.

- Licensure Exam for university Teachers: To aim to improve teachers to enhance the overall educational system, it is recommended to organize licensure exam for all the teachers of HEIs to achieve a professional teaching license in professional education. The Licensure exam would teach the teachers to enhance their principles of teaching, develop teaching methods and strategies, and help to develop curriculum and the overall teaching profession in general. It is also applicable for other professionals and different professions/area of study.

6.5.3 Student Performance Assessment and its effect on QAM

- Work related learning and assessment: It is recommended that the assessment process of the students should be introduced based on real-life situations, which would benefit them to work more independently and develop a better understanding with a deeper impact. Inclusion of more work related learning and assessment may improve the KSA and overall development of graduates. It is important to balance theoretical knowledge and practical knowledge such as acquiring the knowledge, skills, and ability by practically engaging these through the performance of practical tasks that the students would find means to be engaged with. Graduates must keep in mind that they will be evaluated in terms of their communication skills, management ability and leadership skills, creativity, global and cultural exposure etc. by their employers before considering to selecting them into the job. Therefore, institutions must be aware of these things and groom the graduates accordingly. According to the findings of 6.2.1 of Chapter 6, Competency based assessment is important for IQAC and QAM in order to identify and measure the students'/graduates' competences of their skills gaps and work on it by setting goals, making changes accordingly and by teaching new skills.
- Focus on more continuous assessment method: In some university activities like case study, poster competition, project work or any other activities, employers can be involved as judge. Assessment method should be rationally developed and well managed. Assessment should be aligned with Program Learning objectives, Graduate attributes/KSA, and T-L methods. There should be clear transparent performance continuous and (Summative and formative) assessment process and well understood by students. Students should receive feedback immediately after

assessment. Weaker or underperforming students should be taken special care and given scope for improvement. All teachers including Part timers should be trained in assessing student performance.

6.5.4 Changes suggested to increase Stakeholders' involvement in QAM for improvement of KSA

According to the findings, the effective leadership role of the stakeholder for the development of education is very crucial as stakeholders' involvement creates the assessment of education policies through their ideas, opinions and implementation of curriculum and a proper administrative practice can take place. However, it is recommended that the stakeholders' may influence in the decision-making process and their involvement must be cautious and systematic.

- Ensuring involvement in CCDR by stakeholders: The curriculum committee must include employer and alumni, guardians and community members. The stakeholders can be invited in the HEI campus for seminar, workshop, discussion, resource speaker, evaluators of projects, job fair, and many other ways. It can be recommended that stakeholders must pay attention to the improvement of KSA of graduates in order to further expand the opportunities of receiving quality outputs from HE.
- Incorporating community as stakeholder of HEI: Community can come forward as a stakeholder to the interest of fulfilling the success of its own community and the result that would bring positive changes and developments amongst students as well as faculty and the overall administration. Government, local and International NGOs, Guardians should be considered as a part of the stakeholders of the HE processes as well.

The QAM which started from 2015, the system did not include guardians as stakeholders. In Bangladesh's context, guardians are the primary decision maker for the career of their children as well as they are fund/tuition fee provider. There were 5 stakeholders as academic and administrative staff, alumni, students, employers but not guardians. But in a social context like Bangladesh, the guardians, community (NGOs, government and others) should be part of the HE processes as one the stakeholders.

- Initiate and maintain Industry-Academia Linkage: It is implied that to have a sustainable, significant linkage between industry, community, and academia as it is important because it improves to give access to staff and students to connect with the industry requirements as well as learn community-level activities. Professional organizations like DCCI, BGMEA, Chemical Industries, etc. and other bodies should be part of the HE processes in many aspects. In terms of CCDR, Assessment, T-L method, they can contribute significantly to bridging the gap between Academia and Industry-Community. Joint Research is also another aspect where academia and industry can work together. Involvement of students as interns or apprentice in the industry, research involving students and academicians and industry, and professional scholarship grants from the industry can develop the students as future human resources. There are many countries where the industries are funding students' tuition fees simultaneously. Academia is helping the industry by research and development of the product or service. This can also be followed in BD.

Promoting apprenticeship such as combination of on the job training and academic study, more accessibility by the industries for internships, etc. is much needed to upgrade the skills of the students. Job Fair and Study tour in industries can be a tool for this. In view of the findings of “Lack of Ownership Resulting in limited impact”, it is highly recommended for the HEIs and especially the stakeholders such as investors, administrators, professionals, and even the community to take ownership and responsibility of the educational system and contribute in the success and welfare of the institutions and succeed in the educational goals. Academia should have a close linkage with industries in order to create a practical education environment so that the students get the opportunity to acquire the practical knowledge and skills needed before getting into the job market. Limited engagement of the educational institutes with the industry is a major concern on the development of shared and practical knowledge which creates an obstacle to focus on the current needs in the job market today. More and more engagement is needed between the educational institutes and the industries for the betterment of the students. Industry-Academia Linkage which is very important to play a vital role in community development, nation building, and socio-economic progress. Shared knowledge with industries and academia by collaborating with the industry, initiating and supporting joint/funded research work with industry, will help with the process of ultimately ensuring the growth of national economy.

Most students/graduates today lack the talent and specialized skills to fill up the industry's needs. A shortage in this area needs to be filled up to get jobs in the market that are quite demanding in terms of technical skills. In order to fill up this gap, the educational institutions have to make an effort to tie up with industry through partnership and develop a relationship to offer practical learning opportunities for the students. A new curriculum, programs and trainings can be initiated to exchange information and ideas collaborating with the industry. Networking, mobility and collaboration with industries is very essential as it gives the students the opportunity of being a part in the practical field alongside what the students are learning in the institutions. This would give the students the access to know what challenges lie, what to expect in the real world and how to deal with it appropriately.

- Inclusion of Job Market Analysis, Skill Mapping, Exit Survey, Tracer Study and over all Career Planning of Graduates in HEIs

It is recommended that an exit survey and a tracer study are done of the students after graduation. It is crucial to help identify the institution's effectiveness and ineffectiveness by collecting feedback from the graduates of the quality and experience they achieved while studying in the institute. It is also recommended to have a strong bonding of alumni, which is crucial for the institution's benefit as the graduates can share their experience and skills with the continuing students.

Job market analysis such as tracer study, skill mapping is very essential for the institution as it teaches to judge the context and nature of the job as well as helps to determine the students/graduates the environment, salary, and possibilities of growth of the industry in future. Following these two analyses, educational institutions should decide on the type of contents to be delivered which would guide the students/graduates to decide the area of major to choose as they will be able to make a more precise judgment about the job market. Furthermore, it is helpful for the students in order to know what sort of jobs are available and are more demanding in the labor market currently. There should be program for individual, group, and community of students in the HEIs level as well as national level for proper career path design development and guidance.

- Minimizing the conflict of interest between stakeholders of HEIs: As per the findings of “Conflict of Interest” amongst multiple stakeholders, it needs to be dealt with cautiously by the university by eradicating the tradition business way of thinking of competitiveness and complex environmental settings. It is advised to the stakeholders to collaborate with each for greater purpose to achieve by defining their goal rather than compete with one another.

6.5.5 Suggested approaches for ensuring effective QAM in HEIs for HRD

The key success factor for QAM will be in the 21st century the following: Documentation, accountability, transparency; Evaluation, monitoring and reporting; Commitment to improve; Professional development; Involvement-engagement partnership; Team work and building, appreciation and motivation; CQI; The following are the discussion from the analysis and findings from the qualitative and quantitative data.

- **IQA is suggested to be internally cohesive and supporting**

The Institutional Quality Assurance must be unified internally so that it can efficiently monitor and manage the quality of the education in the institutional level. All the programs should be brought under same umbrella and under a similar process of IQA. Support from administrative staffs, top level and all the teachers including programs, schools, faculties and offices are to be ensured for successful operation and implementation of QAM in HEIs. There should be a process of IQA based on the university’s environment, culture, documentation, monitoring and reporting. Governance of the IQA and the university is equally important. The whole process of IQA should have a focus on CQI. The following flowchart can be one of the examples for the HEIs to follow for IQA as a combined process of QA.

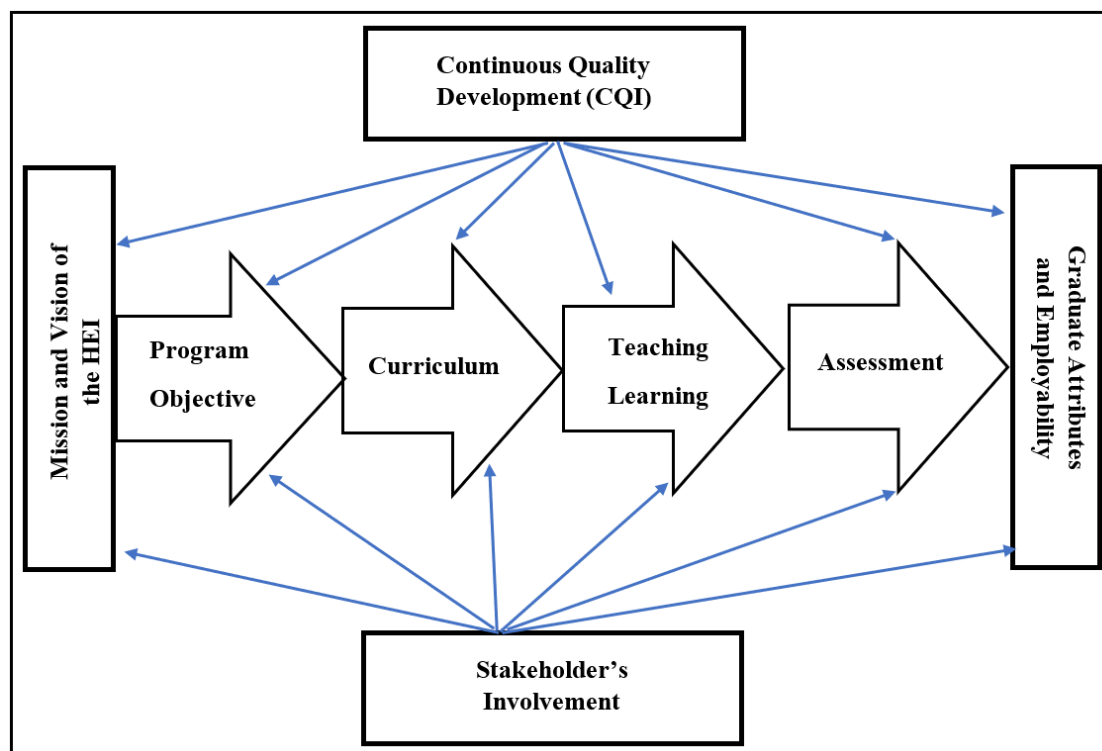


Figure 6.3: The CQI process

As CQI is a continuous process proper monitoring and feedback procedure alongside with exploring new mechanism applied in developed country can improve the QAM in BD presently. Implication on prescribed guidelines can be strongly maintained and should be monitored; By studying from mistakes, the QAM can be revised. From the basis of previous structure as well as studying from previous mistakes and as it being a continuous process, QAM can be revised by proper implementation and close monitoring through responsible units by strongly maintained prescribed guidelines. Furthermore, QAM in BD can be improved through proper monitoring and feedback procedure by exploring new mechanism which are been applied in developed countries.

- **Creating awareness and proper understanding of QAM to the stakeholders**

Due to lack of awareness and understanding, it becomes difficult for the stakeholders to understand or cope up with the QAM, how it works and the tolls used by it. There can be seminars, meetings on QAM in the HEIs for the stakeholder. Hence, periodic workshops and seminar, awareness programs on the QAM are needed for the students, employers, graduates, guardians and other staff.

- **HEIs need to re-engineer the education cycle**

State-of-the-Art facilities are required to match the emerging advancement of technology and should be made available to facilitate an effective and conducive learning environment. The limited use of technology has always been a concern in the HEIs for quite some time now. It is time that the use of technology with more advanced and various digital learning tools are to be included, to bring significant improvement in TLP. In response to the rapidly changing world economy, HEIs should also re-engineer the education cycle by building up its learning and capacity by concentrating more on effective management, program development as well as resource generation. QAM should be developed by applying different and innovative QA tools for improving and standardizing education system and other related services and resources so that the students and other stakeholders receive the highest benefit from the HEIs. Implementation of QAM should be ensured in both public and private universities and the development of quality culture in both should be up to similar extent.

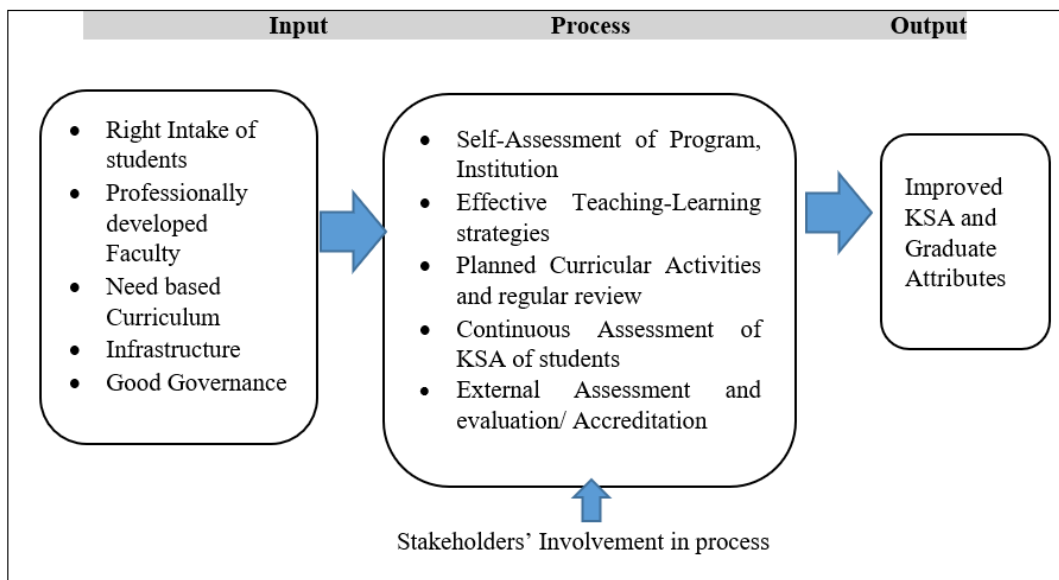


Figure 6.4: The IPO Process of HEI

- **Increase in government support for QAM in HEIs:**

Coverage and support from govt. of Bangladesh is required to implement and sustain the QAM effectively. Institutional guidance and accountability to UGC is required. The process should be similar for both public and private universities.

The compliance with BNQF for HE is very important as it will ensure determining the students' learning outcomes. It is also very important to have compliance of BNQF with the regional and international level in order to be able to develop quality education. In an increasingly globalized and knowledge-based economy, it is crucial to maintain the quality and promote learning in the HEIs for the students to become professional, competitive, and up to the standards in the local and global job market with the support and aid from the government and other national organizations related to HE.

- **Initiating one or two years' certification Course/diploma, if 4 years cannot be completed by the students**

A one or two-year certification course with all the requirement fulfilled by the students, and who are unable to carry on the study due to fund problem or any other problem, the HEIs should be able to give certification courses/ diploma certification to the drop out students with the compliance with BNQF and fulfilling other requirements. It can help the students to excel in their career, HEIs to manage the drop out of students, minimize the dropout rate and thus transform the students into HR.

- **Developing vision for internationalization of HE**

The next step or goal of QAM in Bangladesh should be internationalization of HE and get recognized globally. According to the findings of 6.2.1 of Chapter 6, internationalization of HE should be the next step for the HEIs. KSAs of the student must be recognized globally and accepted accordingly. The internationalization of HE can take place by ensuring the HEIs are having financial resources, and expertise for internationalizing the HE; By modifying the curriculum, infusing with KSAs recognized globally particularly for that program; By institutionalizing the policy, governance and monitoring the internationalization policy; Attracting foreign students by maintaining global standards and achieving global accreditation; Researches conducted on the international level and joint/shared researches with the foreign universities; Partnerships and Cooperation: Student Exchange Program, Faculty Exchange Program, foreign students and teachers as part time teachers in one semester. Cross border education especially from advanced countries should be included in the institution in order to adopt and borrow quality education policies, ideas and practices to upgrade the educational performance and explore developments. The curriculum should be reformed and should be a diversified one which would benefit the students to develop the knowledge of interaction, diverse culture, and have the edge to perform better in the global market.

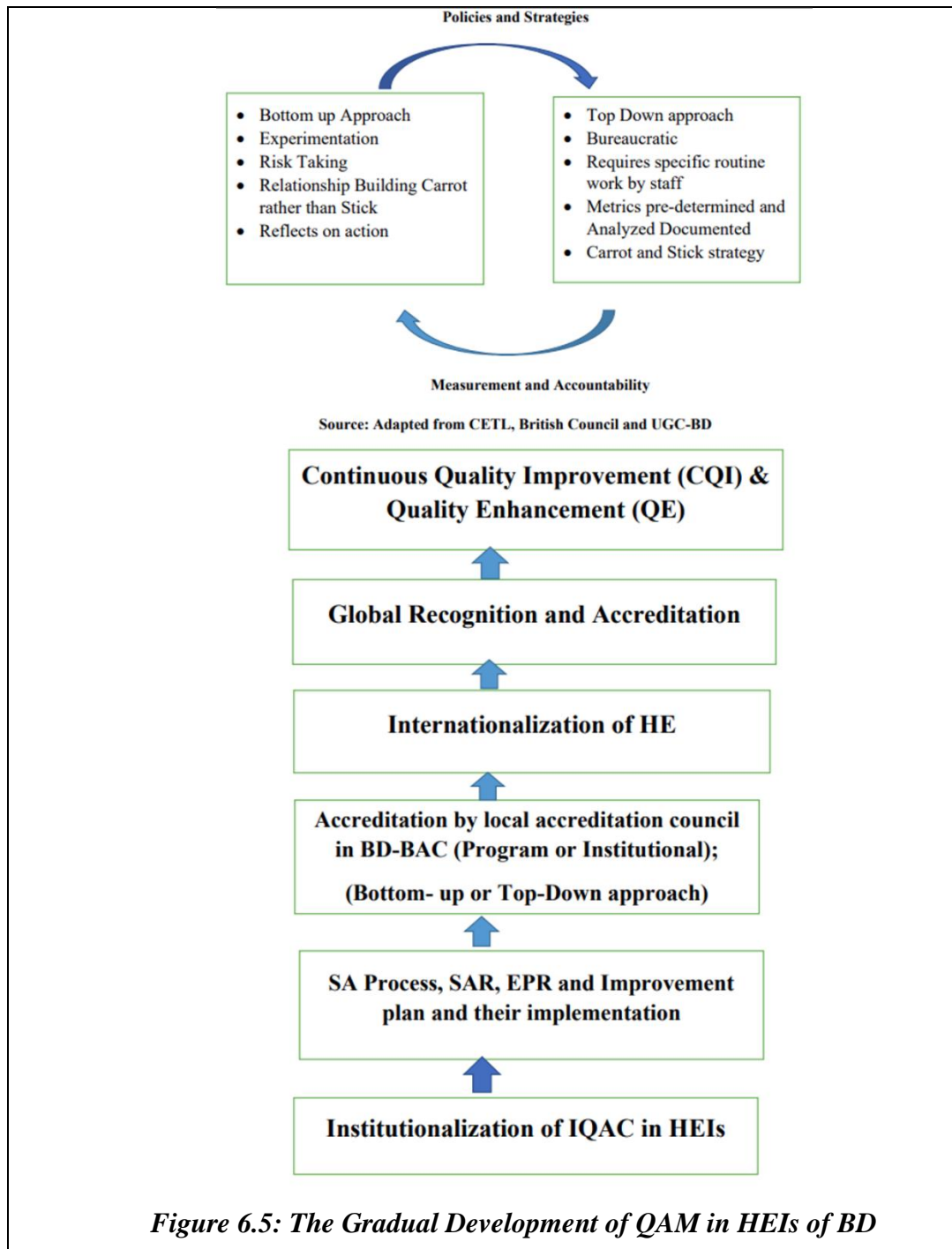
Quality education is essential and can be ensured by internationalizing the education of Bangladesh through an open-door policy from developed countries. The policy of associating or collaborating with renowned educational institutions of other countries will enhance the possibility of exchanging information, improvement and overall, the quality of the education. Various educational programs can be arranged to increase the interaction, understanding and can share potential knowledge with each other. The implementation needs to be executed starting from the school levels to ensure the nation's steady rise in educational performance and developments. The quality of teaching will change with the internationalization of education and the students will have more opportunities to explore their field of interests.

- **Creating expertise in OBE process and QA in HEIs**

Lack of trained experts in the field of OBE based curriculum, QAM (both IQA and EQA) is scarce. Massive training is required for the personnel involved in this sector. Training and continuous development programs for academic-admin staff, IQAC officials should be there.

- **Ensure QA and gradual advancement to Quality Enhancement (QE)**

QA and QE both are equally important to build for the continuous improvement and sustainability and effectiveness. New QA tools and its proper implementation and enhancement will improve the academic programs and develop teachers professionally which would ultimately reflect on the students'/graduates' outcomes. This policy should be observed to maximize performance in QA Culture. A reward and a punishment system also called as "Carrots and Stick" policy should be observed to maximize performance in QA culture. For stronger educational outcomes and to promote the core ideas of efficiency, effectiveness, and accountability in the utilization of economic sources, HEIs needs to be funded based on performance-based method to financing HEIs, properly so that it can explore its performance-based method more. The improvement of HEIs come from funding which helps to provide well prepared teachers with standard curriculum. HEIs not meeting the requirement and criteria can be out of the list of getting funded.



National university-colleges should be brought under the QA umbrella

In order to improve the quality of HEIs and HRD in the country, it is necessary to establish, Institutional Quality Assurance Cell (IQAC) in national university and colleges and it is vital to overcome the challenges of poor planning, monitoring, insufficient funding, environment etc. Establishing IQAC would provide the platform to generate valuable and comprehensive

systems of creativity and innovation within the national university and colleges in HE areas which is very important for the growth of socioeconomic development and HRD.

6.5.6 Identifying the existing KSA gap and bridge the gap by adequate KSA improvement

- HEIs may consider Growth of Competency required globally

According to the World Eco Forum, there will be an additional skill requirement. Within the next 20-25 years, there will be few jobs marked as redundant; technology will take over and professional death will be there. The fusion of technology, augmented and virtual reality, Artificial intelligence will be dominating the workplace. It is revealed from the findings that it is necessary to modify the curriculum by developing targets and measurable objectives so that the students can benefit from the initiatives taken by the HEIs on real-world based tasks, case studies based on real-life experience etc. The inclusion and improvement of KSA all through the academic curriculum is important to engage students to take the challenge of many co-curricular and extracurricular activities and focusing on the curriculum related to the service sector.

Present day Skill requirement: The following skills and abilities are to be included in HE through CCDR, SPA, T-L and Stakeholders' Involvement for the HRD of BD (e.g. Table 6.10)

Table 6.10: The KSA requirement for HRD in BD

<p>KSA demand of the destination of the countries where our graduates are migrating</p>	<p>KSA should concentrate more on the destination of the regions where our graduates are migrating and should internationalize for the betterment of the graduate migrants. The system does not meet the educational purposes if the proper process control and inputs are ignored. Therefore, process management and inputs are very critical in order to develop a system to get the output for the desired competence. BD will be able to export skilled manpower and not only semi-skilled or nonskilled migrant workers.</p>
<p>Moral values</p>	<p>A proper HE and QA system with effective discipline strategies develop students' capacity to be constructive, cooperative, rational, morally reasoning and helps to engage them in moral decision making and problem solving. Moreover, institutions need to work on the IQ, EQ</p>

	and SQ levels of the students to be able to be more creative and have the emotions to facilitate social communication.
Entrepreneurial skill should be added	According to the analysis in Chapter 5, it can be said that by adding entrepreneurial skill in HE and QAM such as creative and ambitious thinking, will create opportunity for students to invent their own careers other than pursuing a job in the job market.
Global skill requirement	To sustain in the economic world today, students/graduates must understand the importance of global skills such as the importance of communication, exposure to various cultures, flexibility and going forward with a positive frame of mind.
Life skill	Life skills are important and very useful to have amongst the students/graduates which helps them to deal with the events and challenges of everyday life by dealing with their process and emotions effectively which machines do not have. Life skills helps the job seekers to be able to lever challenges at work and be professional when they get into the job.
Develop Skill responsive to climate and Environmental change; Technological change	With the advances of technological and computing power, it is high time to step away from the traditional methodology skill development to the new approaches of skill development related to new technologies that would give the students the upper hand to be closely connected to the global changes which can help them to get an easy access in the job market. It is because technological change usually has an effect on industries for the need of more technologically skilled employees.
Lifelong learning	A proper HE and QAM provides a lifelong learning to a wide range of students and graduates towards personal and professional development. It aids to develop the social, cultural and economic aspects of communities and the region.
Integration of Generic and technical skill	Integration of general and technical skills is recommended to emphasize such as interpersonal skills, oral and written communications skills, vocational skills, etc. combined with ICT skills, data analysis skills, project management skills etc. as companies prefer the combination of these two on a candidate.

Soft skill and 4IR	According to the analysis of Chapter 5, soft skill inclusion such as communication skills, problem solving skills, leadership skills, ethics, etc. is important for IQAC and QAM as it helps the students/graduates to sharpen their learnings and values ultimately leading them to academic success. The world has entered in to the Fourth Industrial Revolution of advanced robotic technologies which is transforming the way of living very rapidly. However, it is also very important to adopt the soft skills such as communications, critical thinking, adaptability, observations, flexibility, presentation, able to deal emotionally and spirituality etc. that technology cannot replace.
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Communication skill is one of the most required skills by employers in the job market. According to a survey conducted in 1988 by D.B. Curtis and presented at the Speech Communication Association's annual meeting that the most valued skills in the “contemporary job market” today are communication skills. It will be beneficial that HEIs teach students/graduates the communication skills because it is a source of information for the decision-making process to identify and assess the course of action. They must know how to effectively convey and receive messages in person as well as via email, social media and phone.

- Inclusion of skills related to CG and CSR, Gender, Environment, Ethical and Anti-corruption in curriculum of HEIs: Students/Graduates should have an idea of Corporate Governance (CG) and Corporate Social Responsibility (CSR) before getting into the job market which teaches them the corporate systems, practices, ethical decisions, green environment, transparency, and honesty that are used by corporate entities to produce best results in the company and build a corruption free environment and society regardless the program they are studying. These are common generic skill all the graduates from any stream is required for their future career and life too. According to the findings of 6.2.5 of Chapter 6, it is recommended that students/graduates learn the importance of green environment, an anti-corrupted and transparent environment, and develop moral ethics to cope with the corporate world society.
- Inclusion of KSA related to Service Industry in curriculum: According to the findings of 6.2.4 of Chapter 6, Service industries such as tourism, restaurants etc. are also important

sectors for the HE and QA mechanism to include in the curricula as it teaches the students to get involved in the service-oriented businesses specializing on the techniques and strategies of services to businesses as well as final consumers.

- Ensuring holistic development of Students: The T-L method should also include language skill (Other than English, Chinese, French or any dominant language globally), Knowledge about the heritage and culture of their own country as well as other country, since we have many migrant workers. After this Covid-19 pandemic, Basic Health, Hygiene should also be part of day to day T-L. Agricultural know how is very basic need to know by all the graduates of any program.
- Assurance of learning should be in part of the process: The HEIs need to be ensured that students are achieving the learning objectives in the curriculum that are being offered to them.
- More Skills-based Training to develop KSA: Today, to cope with the international standard HRD in Bangladesh needs to develop more skill-based training to acquire further knowledge and skills to function effectively in a global business environment. Filling up the skills gap through organizing extensive training and planning strategically is crucial for HRD because enriching graduates' KSA and acquiring soft skills, identifying the KSA after assessment of the country's need/demand; and developmental plan including requirements is important. The causes of the skill gap need to be addressed to our people at present and in the future.
- Forecast of skill Demand for local and international level should be synced with HEIs: BNQF, National Skill Development Authority (NSDA) and other organizations related to HEIs and skill development can be recommended to be in sync with HEIs to help build the student's critical thinking, interpersonal skills, improved communication, and confidence in the local and international level which will help them become skilled professionals and leaders in many sectors in future to meet the skill gap

6.5.7 HEIs and HRD

- Development of Education Sector:

It is recommended that to ensure proper HRD, the country should concentrate on the development of the education sector, particularly focusing on the practical education where the TLP and SPA would be using experimental and practical work. The backbone for developing

a country's HR is education. There is no alternative to proper education for developing a country's Human Resource because a proper education is the foundation of an individual's knowledge to bring socio-economic, cultural and political enrichment of a country. It is also suggested to have the education system aligned with national demand and supply of job market. HEIs should aim to teach the graduates with KSA and expertise relevant to the workforce. The curriculum should be offered to align with the commercial needs and integrate with community and market. The education offerings should pay special attention to the rapidly emerging areas. It is recommended that the stakeholders come forward to provide information and answers to the institutions regarding what are the current demanding jobs in the market and its future sustainability, what specialized skills are required for the jobs, what programs should be created related to job market and to fit programs to adapt to workforce needs, what skills are required for the students for the next 5 to 10 years etc. The HEIs can follow holistic approach of experiential learning, emphasizing individual development in the area of advanced skill, knowledge, and emotional and social growth. This holistic learning approach should be followed in order to survive in today's rapidly changing world-changing an individual's way of living, the purpose of life, values etc. The private higher education establishments must run according to set rules, particularly in the area of producing an efficient team of workers and meeting the HRD requirements of the job market. The difference between public and private universities based on the involvement in politics, session jam, integration and use of modern technologies should be minimized. It is advised to have a system of teaching corporate culture to the students or get them attached to various corporate entities in between their studies, which would help them to practice and apply in the workplace. Enrollment in HEIs is rising at a fast pace, and private education providers are playing a significant role in its expansion. A significant number of enrollments within the tertiary college sector have taken place, accounting for over 60% of all HE enrollments. Universities have a 30% rate while polytechnics share 8%, considering to be the lowest. Overall, the enrollment in private providers has increased 45% of all HE enrollments.

Unfortunately, in Bangladesh, a substantial amount of jobseekers lack the mix of skills needed and are less efficient in the job market today resulting in the increase of the unemployment rate. It is very important to remove the skill mismatch between the education and occupation as the jobs today need higher levels of knowledge-oriented workforce because the economy continues to grow in a rapid pace. The public and private universities need to find ways of

reform to provide skills and training by focusing more on STEM (science, technology, engineering, and math) which will guide the students/graduates decide the area of major to be able to make a clearer judgement about what skills are required more on the job market. Human Resource of Bangladesh still have a long way to go as we see that most of the top positions of many business sectors are still held by foreign expatriate transferred from other countries to lead because of the inability of the local resources. Therefore, HE needs to be focusing more on career-based education related to practical aspects and exposure rather than focusing on mere academic/theoretical aspects.

In order to guide the talented but lower-income students, especially females to pursue advanced education, a scholarship loan structure can be set up with the support of or in partnership with public and non-public financial entities and other small and medium enterprises (SME). To encourage the lower-income secondary school graduates to continue higher trainings in the universities and colleges, especially amongst the meritorious females, scholarships and tuition aid can be increased. To give support and extra privileges in education to the poverty-stricken students and to elevate them to be interested in higher education, an extra effort on providing them special programs. For the education instructors to whole-heartedly deploying themselves in rural and underprivileged areas must be looked after by readjusting their pay parameters and also by granting family funding in HE which would get the attention of the poor parents of these students. Educational pathway can also be expanded into giving attention to enroll the students more into technical areas. Even though teachers, student enrollments, TLP and student assessment is there in HEIs, inconsistencies in primary areas exist due to poor transparencies and weak accountability. In addition, the educational institutions suffer adversely due to the politicalized environment in TEIs, which leads to the commotion and student and trainer protests.

- Promote Job centric Eco Growth for HRD

Economic growth is needed to create jobs, and jobs create economic growth. As these two are linked with one another, it is obvious that there is a need to prepare graduates according to the needs of the economy and prepare them as a force to the growth of the economy. QAM in HEIs would ensure stronger student outcomes to help the economy grow by assuring the job to the right person. The economic growth can be ensured by involving workforce and their work in the center for social, economic development policy and business practices through investing in developing KSA.

Today the skill demands on the labor market are changing due to technological advancement. Education must be linked with the agenda of economic development. This means that the type of education in the institutions must be related to the labor force's knowledge that holds the key to economic development. Investment in the skills that would be linked with the development of the economy should be the institutions' primary focus as global competition and the change in technology demands for new skills.

- Minimize the gap in primary, secondary, higher secondary and HE

There is a large gap between other prior educational systems. QAM in primary, secondary, higher secondary school and colleges should also be introduced; otherwise, HEIs will not produce quality graduate. As they say the absence of quality in roots, develops into weak branches. As there is a huge gap in QA in the schools and colleges, it results into weak input to the HE. Therefore, the need for transformation by introducing QAM in these institutions is essential for HEIs to have good quality input and produce quality graduates. The intake of students in HEIs relies heavily on the higher secondary and other preceding education system. The foundation of the intake of students in the HEIs should have good quality to ensure good graduates as outcome.

- Elimination of National Politics in HEIs

Involvement of students of HEIs in the national politics should be prohibited. Presence of the national politics in the HEIs are influencing the younger generation. The effect of national politics can put pressures on the students shaping them to become active in national politics in the HEIs which may push them away from the momentum of proper education. HEIs and may allow only university level politics for legitimate reasons and demands and should discontinue involvement in national politics.

As per the findings of “Unexpected Political Interference,” it is suggested to depoliticize the education sector and formulate a mechanism by which it will be free from student disturbances, harassment of academic staff and widespread academic corruption. It is advised to have the main focus on the politics-free environment of creativity and research with faculty members and students being actively involved in their core responsibilities and the university being capable of producing eligible and employable graduates for the nation to prosper. Institutions also have to be aware of these surprising changes in the world and be prepared for it. A very recent example can be given about the Covid 19 pandemic all over the world, which has left most of the nations backlogged about how to cope with the changes and what approaches to be

taken regarding the continuation of the education system. Timely response and innovative idea can keep the education system in working properly.

- Greater Autonomy to HEIs (both Public and Private)

By granting greater economic autonomy to high performing HEIs, it can function accurately by providing teachings of income-generating activities, explore progressive techniques by financing their plans, and promote creative methods by utilizing the financial assets at their disposal.

- National Research Center-integrated approach regarding HE

The National Research Center for HE should set strategies to aim to ensure that HEIs achieve excellence in education and are able to compete globally. Furthermore, through integrated research, the central research center should find out the current strength and weaknesses of the HE system and set up a strategic framework based on a development approach to guide the HEIs to be able to enter into the global competition. The research findings will help the GoB and related institutions to act as need detector-response generator. UGC, BAC, NSDA, NQF, MoE can jointly use the information and research findings and recommendation for development of HE and HRD. The BNQF needs to focus more on the career paths by enhancing the quality of education and training and ensure that the skills and knowledge have been learnt are recognized throughout the country.

- Internationalization/Cross Border Education

In reference to the findings of Chapter 6, 6.2.4 point, it can be recommended that cross border/internationalization education should be applied in our HEIs to enhance understanding between each institution through interaction, programs and QA. Furthermore, association or collaboration with renowned universities globally and external accreditors body/organization where information exchange, potential improvement can be explored. This may offer an excellent way to raise the quality of education in HEIs.

- Developing Economy and Health Sector

Bangladesh needs to build and focus more on developing the infrastructural facilities, economy, job opportunity, assurance of peoples' health and welfare. The economy of Bangladesh is not yet fully industrialized and therefore needs to focus more on improving the infrastructural development and business environment to facilitate more job opportunities and facilities to continue the growth and reduce economic stagnation by ensuring good governance. The country also needs more improvement in health, welfare and education sector in order to

keep up with the rapidly changing economic world. As the world has recently observed the downfall of the economy and health hazard due to the Covid-19 virus attack in the whole world, the government of every country should focus more on the health sector. The countries should analyze the effect of these health hazards in the HE, HRD and overall economy.

- Elimination of Corruption

Government and Business arena should be involved in reducing corruption and ensure transparent and accountable governance within government, business arena, society and industry. It is crucial to be a corruption free country to progress further in order to attract the foreign investors to invest in Bangladesh, which would aid in economic development.

- HR Ministry needs to be set up in BD by Govt.

Sharma and Maheshwari (2013), in the article “Human Resource Development and its Technique. Vol 4 [2]: 85- 87” mentions that for HRD to be effective in a country, a HR Ministry is required to be set up and planned and it must have the potential to perform current and future roles in market economies under dynamic environment. Thus, our neighbor country “Government of India: is an example of creating a Ministry of Human Resource Development (MHRD), on September 26, 1985, through the 174th amendment to the Government of India (Allocation of Business) Rules, 1961 where their ministry works through 2 departments called as 1) Department of School Education and Literacy and 2) Department of Higher Education. One department is responsible for developing school education and literacy in the country, creating “universalization of education” and having taken continuous initiatives. In contrast, the second department is engaged in bringing world-class opportunities for HE and research to the country. In Sri Lanka, as well, there is a fully functional HRD Ministry. A national body can be created under HR Ministry for the career guidance and counselling not only in the HEIs. The ministry will guide and execute the roadmap based on the country’s HR strategy. For the development of KSA, MoE, BAC UGC and other educational organizations and bodies can work together and coordinate together for HRD.

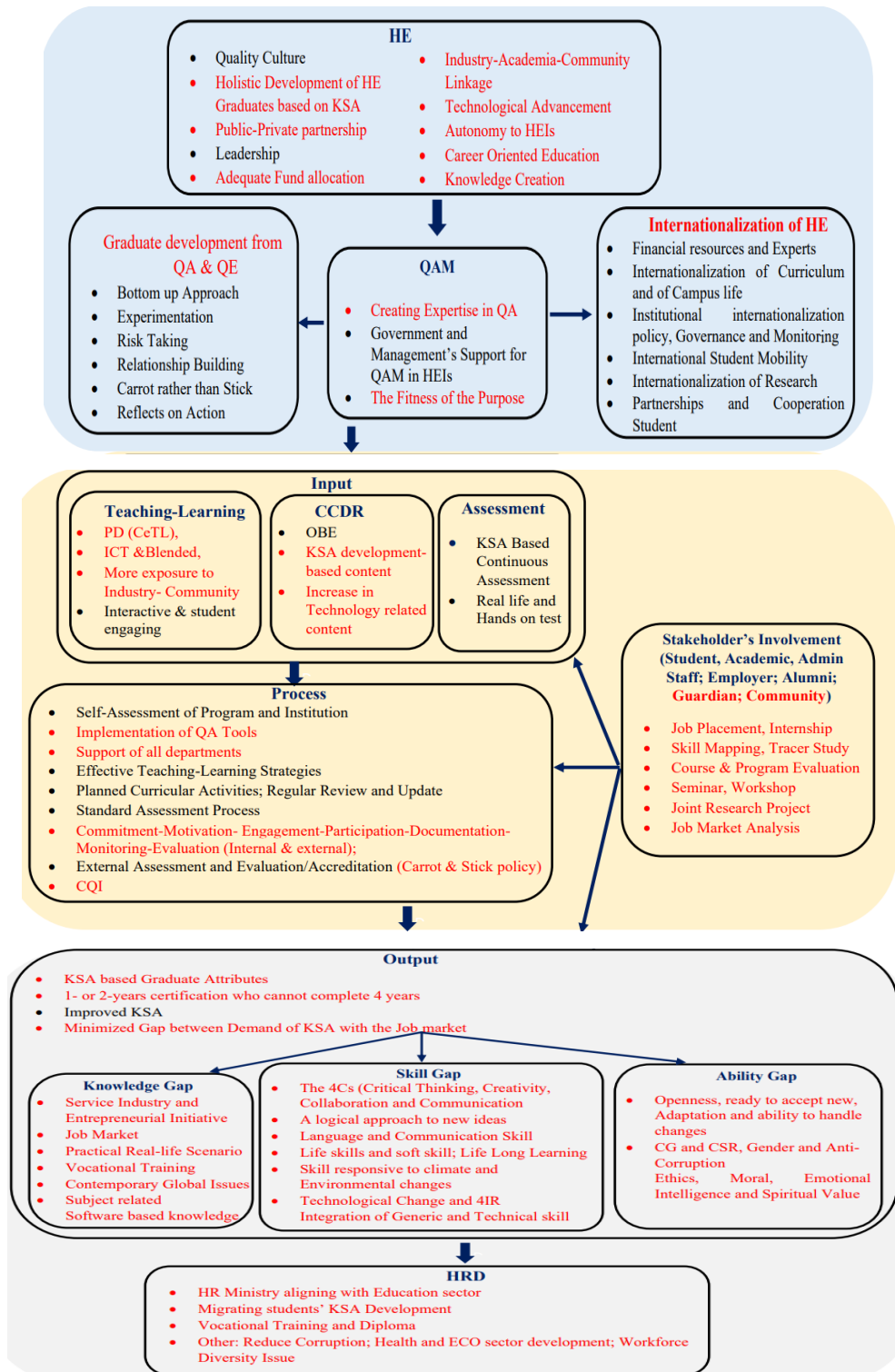


Figure 6.6: The summary of the discussion of the thesis

CHAPTER SEVEN: SUMMARY, CONCLUSION AND RECOMMENDATION

The conclusions drawn in this chapter for this thesis work are based on the analysis and findings from Chapter 5 and Chapter 6 respectively. The work has highlighted the implications as well as the significance of TLP, CCDR, SPA and SI on QAM and the effect of these on KSA improvement on HRD. The role and contributions of HE and QAM on HRD in Bangladesh and how these can have a more meaningful contribution have also been captured in this study. It is apparent that TLP, CCDR, SPA and SI in HE processes for improvement of KSA of graduates from HEIs and its positive effect on HRD in Bangladesh is a comparatively new area of study. Since the initiative of QAM in HEIs started its journey only in 2015, the recommendations provided in this thesis are unique and aligned to the ongoing economical evolution in Bangladesh. The summary of findings and discussion of this study is depicted through TOWS matrix. Weihrich (1982) developed TOWS matrix as an extension of SWOT analysis to make it more applicable and based on reality. It is normally used for analyzing external environments (threats and opportunities), alongside internal environments (weaknesses and strengths) for drawing strategies and visions. Ravanava and Charantimath, (2012). Such strategies provide future pathways and helps in decision making. The following Table (Table 7.1) provides TOWS analysis of QAM in HEI for HRD in Bangladesh.

Table 7.1: TOWS Matrix for HRD of BD by improvement of KSA through CCDR, TLP, SIQAM and SPA of QAM in HE

	Strength (S)	Weakness (W)
Opportunity (O)	(Leverage Strength to maximize Opportunity) Strength- Opportunity 1. Ensure that policies and plans such as strategic Plan for Higher Education 2006–2026, National Education policy-2010, are successfully implemented to ensure the (Leverage Strength to	(Counter Weaknesses through exploiting Opportunities) Weakness- Opportunity 1. Improve quality control of universities and mandate capacity improvement, by improving facilities such as libraries, laboratories, research facilities, virtual learning systems, learning zones, study spaces, sports zone and open spaces. Particular focus has to be given to the

	<p>Strength- Opportunity maximize Opportunity)quality of students enrolled in HEI.</p>	<p>Weakness- Opportunity (Counter Weaknesses through exploiting Opportunities) training of teachers so that enrolled students are imparted quality education. Steps are needed to upgrade teaching-learning facilities, conducting self-assessments, implementing research projects and industry-academia collaboration so that quality of education is as per international standards.</p>
	<p>2. SPQAD in UGC and the MoE, BAC can strengthen individual IQACs of the universities so that the huge surge of students who are enrolling in HEI are imparted quality education.</p> <p>3. The large population of young people in Bangladesh presents a massive opportunity for the sector of HRD. If properly trained and given the required skill set, these young people can be instrumental for economic growth and development of the country. When society fails to capitalize on this and enhance the KSA of these young people, the risk of losing economically productive population increases.</p> <p>4. HEIs can attract foreign students by internationalizing the HE process through QAM and thus offer global standards.</p>	<p>2. It is essential to have a balance between theoretical knowledge and practical knowledge as it leads to a much deeper understanding of a concept when someone is hands on. It is important that the HEIs provide students with practical skills set to help them survive in any career they happen to choose. Practical skill based activities offered by the HEIs such as case study, project work, affiliation course with any industry etc. can help develop these skills sets.</p> <p>3. Competency based assessment is important for QAM of the HEIs, where students’/graduates’ competences are measured against skills gaps. These measurements are important to increase KSA which would boost the HRD of the country and help advance the economic growth.</p> <p>4. Investing more in infrastructure of education sector will help to develop the education sector which will attract international students. Initiatives by the government and NGO’s will reduce the unemployment problem.</p>

Threat (T)	<p style="text-align: center;">(Leverage Strength to minimize threat)</p> <p style="text-align: center;">Strength- Threat</p> <p>1. There are significant number of public and private universities in Bangladesh to cater for the increasing demand of higher education. In addition, there are adequate policy and plans in place. However, increasing emphasis needs to be paid in implementing these plans, policies, accreditation effort and implementation of IQAC at HEI in order to be as par with changing learning environment worldwide. Furthermore, changing industry landscape enforced by industry 4.0 would require new skills, knowledge that needs to be imparted by HEI.</p> <p>2. Bangladesh government needs to prioritize funding the education sector. Stakeholders as well as government need to have the willingness to allocate adequate resources towards implementing well-structured QAM that is well-accepted and has the potential to produce skilled HR for the emerging job market. International help in the from of ADB, World Bank and other organizations need to be made available to the HEIs. Formation of</p>	<p style="text-align: center;">(Counter Weaknesses and Threats)</p> <p style="text-align: center;">Weakness-Threat</p> <p>1. Corona virus pandemic and uncertainties since 2019 has tremendously impacted the academic year in HEIs. In the event that such uncertain circumstances continue, modernization of ICT in HEI is required in order conduct distance learning and learning over online channels.</p> <p>2. Thethreat of brain drain where talented and meritorious students/graduates are heading for overseas highlights the weak education system as well as inadequate job market to attract talent. As the saying goes, one’s loss is another’s gain. The brain drain from Bangladesh is enriching other developed countries who are benefitting from skilled talent migration. It is therefore imperative to roll out development programs within the higher education sector to stymie the brain drain process. Only a quality education system can attract domestic as well as international students across the different private and public universities.</p> <p>3. Our neighboring country, India, has a well-structured education system which is supported by their Ministry of HRD. It is essential that Bangladesh Government follows a similar blueprint and forms a Ministry for HRD which can lead future planning, development programs and provide much needed impetus to improve the quality of HR that the country</p>
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<p>(Leverage Strength to minimize threat)</p> <p style="text-align: center;">Strength- Threat</p> <p>partnership between HEIs and financial institutions, banks, microfinance institutions etc. need to be encouraged and supported. It is obvious from various case studies that when a nation invests in skilled education of its youth, economic growth becomes inevitable.</p> <p>3. Integrating technology into the curriculum is a priority today. The teachers must first learn and get trained to use the T-L tools in order to incorporate technology-based blended learning and projects and then teach the students/graduates to participate using the same. This is very important as technology is inevitably changing the way we live and work today. It is imperative that students graduating from public and private universities are given the appropriate skills set to sustain the expected economic growth of the country and become human capital. Rahnuma (2020)</p> <p>According to the article <i>The Technology of the Future Is Changing Business Today</i> in the Forbes magazine by author Serenity Gibbons, “the reality is that</p>	<p>(Counter Weaknesses and Threats)</p> <p style="text-align: center;">Weakness-Threat</p> <p>desperately needs. Political stability is also vital for the government to implement all these initiatives urgently to keep pace with other countries for future economic growth.</p> <p>4. Low dependency level on government funding will increase the risk of the reduction of the funding and investment. Good governance in the private universities can ensure quality education. Strict rules can be put in place to discourage student politics on campus as well as mitigate external political influence in all shapes and form.</p> <p>5. Through KSA improvement in QAM of HEIs, the students/graduates are expected to develop moral, ethical, and spiritual skills, which will help eradicate corruption and unethical practices in Bangladesh.</p>
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<p>(Leverage Strength to minimize threat)</p> <p style="text-align: center;">Strength- Threat</p> <p>AI and machine learning technologies are already transforming the world of business and the transformation has only just begun.” Hence it is critical that QA of HEIs prioritize integration of technology as a core requirement which will allow the students/graduates to be more proactive and alert thereby giving them an edge in the competitive job market as well as become future HR assets. Increasing number of digital classrooms, blended learning and online classes will help the students by delivering the knowledge during the time of unexpected pandemic situation.</p>	
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7.1 Implications

7.1.1 Managerial implications (for IQACs on QAM in HEIs)

The study in this dissertation, has ascertained through survey, analysis and proof of the model that the improvement of KSA through appropriate TLP, SPA, CCDR and SI involvement in QAM, results in HRD of the country. Unfortunately, the officials (both academic and administrative) managing the HEIs are facing significant challenges in implementing QAM in the HEIs which has been found through the survey and findings in the study. The findings of this study will assist the QAM professionals and Managers to take the right decisions for improving the QA process in HEIs.

7.1.2 National or policy level implication

Higher Education in BD

It is important to note that the governance framework in universities especially private universities are quite inconsistent. A lack of transparency and weak accountability has given rise to poor QA processes. To mitigate these issues, certain initiatives have been undertaken in recent time. HEIs in Bangladesh now have to meet certain prerequisites defined by the UGC and BAC's standards and criteria requirements. All the HEIs (private and public) will be required to go through an accreditation process of BAC in the near future to ensure proper accountability, transparency, governance and QA management process. Recently, BNQF has been established thereby introducing another level of prerequisites to meet before any HEI can be approved. Having such framework in place means that every single HEI will now be forced to transform their governance framework to comply with these standards and requirements, the findings of this study will therefore assist and aid the HEIs in this transformation process. In addition, the findings can also be helpful in further refining the standards defined by national organizations such as UGC, SPQAD in UGC, BAC, BNQF and Ministry of Education (MoE).

NHRD in BD

The findings of this study have the implications on the NHRD as the objective and analysis was focused on determining the existing gap of KSA between job market and HEIs of BD. It is evident from this study that improvement of KSA positively influences NHRD and if the challenges are addresses through QAM to minimize the gaps between HEIs and employment sector as well as in HRD arena. Hence the findings may aid in the developing the strategies for NHRD by addressing the challenges of the QAM through appropriate TLP, SPA, SI and CCDR process in the HEIs, thus by improved KSA of graduates.

7.2 Thesis Limitations

- The thesis only considered fours (4) areas (i.e. Curriculum Content Development and Review; Teaching-Learning Process; Student Performance Assessment process and Stakeholders involvement in QAM) of the existing QAM in HEIs of BD which has been implemented in 100 universities by UGC, MoE and HEQEP-World bank project. There are in total ten (10) areas in the QAM excluding stakeholders' involvement (SA Manual 2015). The other seven areas are: Governance, Staff, Infrastructure, Student Support Services, Student Admission and progress, Research and Extension, Internal

QA management. of QAM, according to SA manual of IQAC were not considered as variables of QAM in this research.

- This research included 13 universities from the first phase of QAM implementation. This means that all the HE graduates from 2015 are already in the job market which made it possible for the study to collect feedback from the employers and the alumni. Currently there are more than 100 universities which have IQACs or in the process of initiating QAM. Since the number of these IQACs are gradually increasing, it was not possible to broaden the scope of this study by including all 69 universities from the third phase or the entire 100 IQAC's. The findings would have been different if the study was conducted over the 2nd and 3rd phase of the QAM implementation process.

7.3 Directions for Further Research

- The research can be conducted on a longitudinal survey based on the QAM in HEIs that are adapting QAM. The research can also be extended to explore before and after effect of QAM implementation, encompassing minimum four (4) years from the inception of the graduate's entry to the job market.
- As mentioned in the previous section (7.2-I), that only four (4) areas of QAM is considered, there are other seven (7) areas of QAM according to the SA Manual,2015. Further research can be conducted on any of these seven areas individually or combined impact on all areas which were not considered.
- As mentioned in section 7.2, although this study only considered 13 universities from the first phase of QAM implementation, there is opportunity to extend the study to include all 69 universities across all phases. To further simplify the sampling process, only public universities or private universities can be considered. For respondents, the sampling can consider both employer and alumni or any one of them individually. Self-Assessment report, external peer review report and improvement plan of each university can be studied and their implementation and outcome can be measured or evaluated and researched.
- As UGC and BAC are gradually implementing OBE based curriculum across all universities, future research can consider the CCDR, TLP and SPA area only and focus on the implementation and outcome of OBE based curriculum on KSA. The research

can also explore OBE based curriculum's effect on CCDR, SPA, SI and TLP individually or altogether.

- The similar type of research can also be conducted for the Primary Education Quality Enhancement Project (PEQEP), Secondary Education Quality Enhancement Project (SEQEP) and their effect on stakeholders' involvement, TLP, SPA and on other areas.

7.4 Conclusion

To prepare students/graduates for the challenges and demand of the job market where local graduates may be competing with their international counterparts, HEIs play a very important role. HEIs are required to embrace and ensure that KSAs within QAM are improved through appropriate TLP, SPA, CCDR and SI in the HE processes so that quality education can be provided. QAM will only be successful if the graduates are equipped with improved KSAs and can easily respond to the demands of the job market. For a successful QAM, HEIs need to embrace below:

- Quality governance and management structure as well as proper roles and responsibilities under a standard umbrella framework.
- Regular feedback, evaluation and monitoring of the HE processes need to be embedded within the management framework.
- Delinking teacher/student affiliation with political parties/events and permitting student union to function within the institutions on a non-political platform.
- Maintain and continue the standard of CCDR, TLP, SPA and SI in QAM of HEIs and improvement of KSA.

QAM will ensure that students from the HEIs are able to apply the KSA and learning, retain what they have learned and adopt to changes/challenges in job market. This was validated by analyzing the survey result of the questionnaire used in this study. The hypothesis of the study is found to be positive through the conceptual model, as reflected positive through the relationships. Hence, the research question and objective of the study is, established. This research was completed based on the research questions as well as the problem statement on these variables. Finally, the model illustrated that the HRD of Bangladesh can be affirmed by ensuring the QAM in the HEIs through improving KSAs of the graduates and applying these KSA in to the real world. This research has pointed out that Quality Higher Education is an

important part of the Human Resource Development. Proper planning and appropriate implementation of QAM with in-depth understanding about the relationship/effect/influence on HE will improve the HRD. The sustainable QAM planned and designed based on the national mission and vision for economical, societal, environmental development of the country will lead the young generation to reach their personal goal as well as the goal of the nation.

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APPENDIX

Appendix 1: General Survey Questionnaire

(I-A) Gen. Q. Survey

Dear Sir/Madam

Greetings! I am working as an Associate Professor at the American International University-Bangladesh (AIUB). It can be noted that despite significant achievements tertiary education in Bangladesh requires continuous monitoring and systematic effort to enhance maintain quality. Essential organizational process, system and tools and their effectiveness at the institutional levels are imperative in this regard. Accordingly, University Grants Commission has already established IQAC in both public and private universities to ensure an acceptable standard of quality. However, after sincere efforts of four years to complete the project, much is unknown on this issue. Such literature gap encouraged me to peruse my PhD research on *Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh*. This research aims to find out the impact of this QA practices on the HEIs and its overall effectiveness in developing Human Resource in Bangladesh.

As you were involved as a stakeholder of Higher Education Institute, your contribution in the survey is highly valuable. I humbly request you to participate in the survey and help me to me identify the area for further essential steps interventions for our universities. Thanking you in advance for your patient participation in the survey!

(I-A) General Questionnaire Survey

A. Please give a Tick where appropriate		
1.	Name of the University	
2.	Type of the entity/org/university	<input type="checkbox"/> Public <input type="checkbox"/> Private
3.	Department	<input type="checkbox"/> Business <input type="checkbox"/> Social Science <input type="checkbox"/> Law <input type="checkbox"/> Engineering <input type="checkbox"/> Science <input type="checkbox"/> Others
4.	Personal Affiliation with organization	<input type="checkbox"/> Student <input type="checkbox"/> Faculty Member Parents /Guardians of Students <input type="checkbox"/> Administrative Officer <input type="checkbox"/> Alumni <input type="checkbox"/> Employer
5.	Educational Qualification	<input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> MPhil <input type="checkbox"/> PhD

6.	Age	<input type="checkbox"/> Below 20 <input type="checkbox"/> 20-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> 61-80
7.	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female

Please read the statements carefully and provide your responses in the format requested. Please indicate your reaction to each of the following statements by giving tick on **Strongly Agree=5; Agree= 4; Neutral=3; Disagree= 2; Strongly disagree=1. Put a tick in the following based on your opinion.**

B.	Please indicate your opinion regarding Curriculum Content, Teaching-Learning and Assessment in your respective university by ticking.	1	2	3	4	5
1.	Curriculum is reviewed and updated at regular intervals in compliance with the rules					
2.	Opinions from the relevant stakeholders are duly considered during review of the curriculum					
3.	Assessment of students' competencies are regular					
4.	Assessment strategies are explicitly mentioned in the curriculum					
5.	Curriculum content addresses the program Objectives (PO) and program learning outcomes					
6.	Program objectives and program learning outcomes focuses on the improvement of KSA					
7.	The entity collects alumni feedback to update the learning outcomes of the program					
8.	Lesson plan is prepared by teachers					
9.	The entity provides co-curricular and extra-curricular exposures to the students					
10	Information from job market analysis is linked during curriculum modification					
11.	Teaching-learning is interactive					
12.	Teaching-learning is supportive					
13.	Class size is optimum for interactive teaching learning					

14.	Assessment systems, includes skills and abilities assessment						
15.	Teaching-Learning methods are focused to achievement of PLO						
16.	Diverse methods are practiced to achieve Intended Program Learning Outcomes (PLO)						
17.	There is an arrangement in the entity to provide an academic guidance and counseling						
18.	T-L and PLO includes Knowledge Skills and Abilities development						
19.	The learning environment is conducive for the students						
20.	Teaching-learning is affecting the improvement of KSA of students						
21.	Students' progress is regularly recorded and monitored						
22.	Teachers provide regular feedback to the students about their progress						
23.	The entity maintains individual student's records properly						
24.	Assessment systems are duly communicated to students at the outset of the term/semester						
25.	The students are provided feedback immediately after assessment						
26.	Fairness and transparency are maintained in assessment system						
27.	Assessment systems, includes Curricular and Extra- curricular activities						
28.	Modern systems are used to improve teaching-learning process						
29.	Teaching strategies are clearly stated in the curriculum						
30.	PLO achievement of students are regularly monitored						
31.	Tracing the graduates through survey regarding employment and career is important						
32.	Employer satisfaction surveys						
33.	Involvement of employers in study program revisions						
34.	Involvement of Alumni in study program revisions						
35.	Involvement of Guardians in study program revisions						
36.	Job Market analyses						
37.	Graduate Profile						

38.	Program self-assessment (department self-study)					
39.	University-community linkage programs					
40.	Practical and hands on experience is included in programs					
	QA Tools for improvement of Curriculum Content, T-L and Assessment	1	2	3	4	5
41.	Course evaluation (by student surveys)					
42.	Program evaluation/ Exit survey (by student surveys)					
43.	Teacher's supervision and monitoring					
44.	Industry-University linkage programs					
45.	Programme monitoring (by students' survey panel, analyses of university statistics)					
46.	Assessment of student's workload (by survey)					
47.	Teacher's Performance Evaluation by student					
48.	Training and development of Teachers					
49.	Teachers' involvement in Research work					
50.	Teacher-student Ratio					

C. Please indicate your opinion regarding QA Mechanism (Tools, system and challenges) in the HEIs.

	Influence of QA in developing Knowledge Skill and Ability (KSA)	1	2	3	4	5
51.	Helpful in enhancement of KSA of students					
52.	Helpful in enhancement of the KSA through Teaching-Learning					
53.	Helpful in enhancement of the KSA through Curriculum Content Development and Modification					
54.	Helpful in enhancement of the KSA through Student Performance Assessment					
55.	Helpful in enhancement of the KSA by involving Stakeholders in the process					
	What are the challenges in improving KSA in the university?	1	2	3	4	5
56.	Lack of Institutional commitment					

57.	Financial Issues						
58.	Competence of Teachers						
59.	Institutional and additional student enrolment policy						
60.	Commitment and support of academic community						
61.	Lack of expertise						
62.	Lack of support from the Government						
63.	Lack of support from the stakeholders (Employer, Parents, Academic, Non-academic staff, students)						
64.	Lack of Documentation						
65.	Lack of overall synchronized implementation						
	How are graduates' KSA affected by QA process in the following areas in the university?	1	2	3	4	5	
66.	Academic preparedness						
67.	Motivation to learn						
68.	Attitude towards field of study						
69.	Engagement and commitment towards studies						
70.	Academic competence						
71.	Co-curricular activities						
72.	Extracurricular Activities						
	How important are the following areas for KSA Improvement in the university?	1	2	3	4	5	
73.	Curriculum Content Development						
74.	Regular Update and Modification of Curriculum						
75.	Students' Performance Assessment						
76.	Teaching –Learning Method						
77.	Student support services, progress and achievement						
78.	Co-Curricular and Extra-curricular activities						
79.	Involvement of Stakeholders in the Curriculum Process						

D. How are Graduates' following KSA are affected by the QA process in the university?

	Knowledge	1	2	3	4	5
80.	IT Knowledge is improved by QA process in the university					
81.	Knowledge for understanding the facts is improved by QA process in the university					
82.	Knowledge in designing a system component is improved by QA process in the university					
83.	Knowledge of how to do a work is improved by QA process in the university					
84.	Knowledge for plan, monitor and regulate a work is improved by QA process in the university					
	Communication Skills					
85.	Presentation skills is improved by QA process in the university					
86.	Report writing skills is improved by QA process in the university					
87.	Non-verbal (facial expressions, hand gestures, posture etc.) is improved by QA process in the university					
88.	Appropriate Data collection and analyzation is improved by QA process in university					
89.	Office communication is improved by QA process in the university					
	Interpersonal Skills					
90.	Leadership skill is improved by QA process in the university					
91.	Teamwork skill is improved by QA process in the university					
92.	Emotional Intelligence skill is improved by QA process in the university					
93.	Spiritual Intelligence skill is improved by QA process in the university					
94.	Negotiation skill is improved by QA process in the university					

	Abilities					
95.	Time management ability is improved by QA process in the university					
96.	Decision making ability is improved by QA process in the university					
97.	Discipline is improved by QA process in the university					
98.	Sense of Responsibility is improved by QA process in the university					
99.	Critical Thinking ability is improved by QA process in the university					
100.	Creativity is improved by QA process in the university					
101.	Reliability and dependability is improved by QA process in the university					
102.	Self-Motivation ability is improved by QA process in the university					
103.	Appreciation of ethical values ability is improved by QA process in the university					
104.	Adaptability is improved by QA process in the university					

E.	How the Improvement of Graduates' KSA through QA Process, can influence the overall Human Resource Development (HRD) of Bangladesh (BD)?	1	2	3	4	5
105.	Improvement of IT Knowledge of graduates influence overall HRD of BD					
106.	Improvement of strategic Knowledge related to job of graduates influence overall HRD of BD					
107.	Improvement of Communication skills of graduates influence overall HRD of BD					
108.	Improvement of Leadership skill of graduates influence overall HRD of BD					

109.	Improvement of Responsibility of graduates influence overall HRD of BD					
110.	Improvement of Discipline of graduates influence overall HRD of BD					
111.	Improvement of Negotiation skill of graduates influence overall HRD of BD					
112.	Improvement of Reliability of graduates influence overall HRD of Bangladesh					
113.	Improvement of Emotional and Intelligence of graduates influence overall HRD of BD					
114.	Improvement of critical thinking and Creativity of graduates influence overall HRD of BD					
115.	Improvement of Team management skill of graduates influence overall HRD of BD					
116.	Improvement of Problem solving, Decision making ability of graduates influence overall HRD of BD					
117.	Improvement of dependability of graduates influence overall HRD of BD					
118.	Improvement of Appreciation of ethical values ability of graduates influence overall HRD of BD					

F. (I-B) Open ended Questions

1. What do you think how the Human Resource Development can be assured in a country? Do you think Higher education plays a role in Human Resource Development of a country?
2. Do you think the existing QA mechanism in the HEIs are positively contributing in developing the Human Resources of Bangladesh?
3. What are the Knowledge, skill and ability requirement in 21st century for the graduates to be employable? Do you think addressing Knowledge, Skill and Ability through Curriculum at the university level can contribute in improved overall development of the graduates?
4. Do you think stakeholders of HE plays an important role in improvement of Curriculum of universities?

5. What are the Challenges QA mechanism is facing to develop the Students' KSA? How the challenges can be met and improved further?

Your opinion/ comments on any of the matters raised in this questionnaire can be listed below-

Would you like to receive a concise report of the research results?

YES NO , If YES, please provide your contact details on the NEXT page

Thank you for your kind participation!

Appendix 2: General Survey Questionnaire of Bengali

ক. ব্যক্তিগত তথ্য	
৮.	বিশ্ববিদ্যালয়ের নাম
৯.	বিশ্ববিদ্যালয়ের ধরন <input type="checkbox"/> সরকারী <input type="checkbox"/> বেসরকারী
১০.	বিভাগ <input type="checkbox"/> ব্যবসা <input type="checkbox"/> সমাজ বিজ্ঞান <input type="checkbox"/> আইন <input type="checkbox"/> প্রকৌশল <input type="checkbox"/> বিজ্ঞান <input type="checkbox"/> অন্যান্য
১১.	বিশ্ববিদ্যালয়ের সাথে আপনার সম্পর্ক <input type="checkbox"/> শিক্ষার্থী <input type="checkbox"/> শিক্ষক <input type="checkbox"/> অভিভাবক <input type="checkbox"/> প্রশাসনিক কর্মকর্তা <input type="checkbox"/> প্রাক্তন শিক্ষার্থী <input type="checkbox"/> চাকরিজীবী
১২.	শিক্ষাগত যোগ্যতা <input type="checkbox"/> স্নাতক ডিগ্রী <input type="checkbox"/> স্নাতকোত্তর <input type="checkbox"/> এমপিল <input type="checkbox"/> পি.এইচ.ডি
১৩.	বয়স <input type="checkbox"/> ২০ এর নিচে <input type="checkbox"/> ২০-৩০ <input type="checkbox"/> ৩১-৪০ <input type="checkbox"/> ৪১-৫০ <input type="checkbox"/> ৫১-৬০ <input type="checkbox"/> ৬১-৮০
১৪.	জেন্ডার <input type="checkbox"/> পুরুষ <input type="checkbox"/> মহিলা

দয়া করে বিবৃতিগুলি মনোযোগ সহকারে পড়ুন এবং অনুরোধ করা প্রক্রিয়ায় আপনার প্রতিক্রিয়া সরবরাহ করুন।

নিচের প্রতিটি বিবৃতিতে আপনার প্রতিক্রিয়াটি চিহ্নিত করুন, দৃঢ়ভাবে সম্মতি = ৫; সম্মতি = ৪; নিরপেক্ষ = ৩; অসম্মতি = ২; দৃঢ়ভাবে অসম্মতি = ১। আপনার মতামতের ভিত্তিতে নিম্নলিখিত আইটেমগুলিতে টিক দিন।

খ	টিক দিয়ে আপনার নিজ নিজ বিশ্ববিদ্যালয়ে পাঠ্যক্রমের বিষয়বস্তু, শিক্ষাদান-শেখা এবং মূল্যায়ন সম্পর্কিত আপনার মতামত নির্দেশ করুন।	১	২	৩	৪	৫
১.	নিয়মিত বিরতিতে এবং সঠিক নিয়ম মেনে পাঠ্যক্রম পর্যালোচনা করা হয় এবং আপডেট করা হয়					
২.	পাঠ্যক্রমের পর্যালোচনার সময় সংশ্লিষ্ট স্টেকহোল্ডারদের মতামত যথাযথভাবে বিবেচনা করা হয়					
৩.	নিয়মিত শিক্ষার্থীদের দক্ষতার মূল্যায়ন করা হয়					
৪.	দক্ষতা মূল্যায়নের কৌশলগুলি পাঠ্যক্রমে স্পষ্টভাবে উল্লেখ করা রয়েছে					
৫.	পাঠ্যক্রমের বিষয়বস্তু প্রোগ্রামের উদ্দেশ্যগুলো এবং প্রোগ্রাম শেখার ফলাফলগুলোকে সম্বোধন করে					
৬.	প্রোগ্রামের উদ্দেশ্য এবং প্রোগ্রাম শেখার ফলাফলগুলো জ্ঞান, দক্ষতা এবং ক্ষমতার উন্নতির উপর ফোকাস করে					
৭.	প্রোগ্রামের শেখার ফলাফল আপডেট করতে প্রাক্তন শিক্ষার্থীদের মতামত সংগ্রহ করে					
৮.	পাঠ পরিকল্পনা শিক্ষকগণ প্রস্তুত করেন					
৯.	বিশ্ববিদ্যালয় শিক্ষার্থীদের জন্য সহ-পাঠ্যক্রমিক এবং অতিরিক্ত পাঠ্যক্রমিক কার্যক্রম সরবরাহ করে					
১০.	বিশ্ববিদ্যালয় চাকরীর বাজার বিশ্লেষণ করে তথ্য সংগ্রহ করে এবং তা পাঠ্যক্রমে যুক্ত করে					
১১.	শিক্ষকতা এবং শিক্ষা দুটোই একে অপরের সাথে সংযুক্ত					
১২.	শিক্ষকতা এবং শিক্ষা দুটোই একে অপরের সহায়ক					
১৩.	শ্রেণীকক্ষের আকার শেখা এবং শেখানোর জন্য অনুকূল					
১৪.	দক্ষতা এবং শেখার ক্ষমতার মাধ্যমে দক্ষতা মূল্যায়ন করা হয়					
১৫.	শিক্ষকতা এবং শিক্ষার পদ্ধতি পাঠ্যক্রমিক শিক্ষার ফলাফলের উপর ফোকাস করে।					
১৬.	পাঠ্যক্রমিক শিক্ষায় দক্ষতা মূল্যায়নের জন্য বিভিন্ন পদ্ধতি অনুসরণ করা হয়।					
১৭.	শিক্ষার্থীদের সাহায্যের জন্য বিশ্ববিদ্যালয় একাডেমিক গাইডেন্স এবং কাউন্সিলিং সরবরাহ করে					
১৮.	শিক্ষকতা এবং শিক্ষা জ্ঞান, দক্ষতা এবং ক্ষমতার উপর সংযুক্ত					
১৯.	শিক্ষার্থীদের জন্য শিক্ষার পরিবেশ অনুকূল					

২০.	শিক্ষকতা এবং শিক্ষা শিক্ষার্থীদের জ্ঞান, দক্ষতা এবং ক্ষমতার উপর প্রভাব ফেলছে।							
২১.	শিক্ষার্থীদের অগ্রগতি নিয়মিত পর্যবেক্ষণ ও লিপিবদ্ধ করা হয়।							
২২.	শিক্ষকরা শিক্ষার্থীদের অগ্রগতি সম্পর্কে নিয়মিত প্রতিক্রিয়া ব্যক্ত করে থাকেন							
২৩.	বিশ্ববিদ্যালয় প্রত্যেক শিক্ষার্থীদের রেকর্ড সঠিকভাবে রক্ষণাবেক্ষণ করে রাখে							
২৪.	পাঠ্যক্রমিক মূল্যায়ন শিক্ষার্থীদের সেমিস্টারের শুরুতে যথাযথভাবে জানানো হয়							
২৫.	পাঠ্যক্রমিক মূল্যায়ন সম্পর্কে শিক্ষার্থীদের মতামত সাথে সাথে নেয়া হয়							
২৬.	পাঠ্যক্রমিক নির্ধারণ পদ্ধতিতে বিষয়বস্তুতে সমতা বজায় থাকে							
২৭.	পাঠ্যক্রমিক ও অতিরিক্ত পাঠ্যক্রমিক কার্যকলাপ মূল্যায়নের ক্ষেত্রে অন্তর্ভুক্ত							
২৮.	শিক্ষকতা এবং শিক্ষার উন্নতির জন্য উন্নত পদ্ধতি ব্যবহার করা হয়							
২৯.	শিক্ষণ কৌশল পাঠ্যক্রমগুলিতে স্পষ্টভাবে বলা আছে							
৩০.	শিক্ষার্থীদের অর্জন নিয়মিত পর্যবেক্ষণ করা হয়							
৩১.	কর্মসংস্থান এবং ক্যারিয়ার সম্পর্কিত জরিপের মাধ্যমে স্নাতকদের সন্ধান করা গুরুত্বপূর্ণ							
৩২.	চাকরীজীবীদের সন্তুষ্টি জরিপ							
৩৩.	অধ্যয়ন প্রোগ্রাম সংশোধনীতে নিয়োগকারীদের জড়িত							
৩৪.	অধ্যয়ন প্রোগ্রামের পুনর্বিবেচনাপ্রাপ্তন শিক্ষার্থীদের যোগদান							
৩৫.	অধ্যয়ন প্রোগ্রাম সংশোধনীতে অভিভাবকদের জড়িত							
৩৬.	চাকরীর বাজার বিশ্লেষণ করে							
৩৭.	স্নাতক প্রোফাইল							
৩৮.	বিভাগের স্ব-অধ্যয়ন							
৩৯.	বিশ্ববিদ্যালয়-সম্প্রদায়সংযোগ কর্মসূচি							
৪০.	ব্যবহারিক এবং অভিজ্ঞতার হাত দিয়ে প্রোগ্রামগুলিতে অন্তর্ভুক্ত করা হয়							
	পাঠ্যক্রমের বিষয়বস্তু, শিক্ষাদান-শেখা এবং মূল্যায়নের উন্নতির জন্য গুণগতমানমূলক আইটেম	১	২	৩	৪	৫		
৪১.	ছাত্র-ছাত্রীদের থেকে পাঠ্যক্রম মূল্যায়ন সম্পর্কিত জরিপ করা হয়							
৪২.	ছাত্র-ছাত্রীদের দ্বারা শেষে প্রোগ্রাম মূল্যায়ন সম্পর্কিত জরিপ করা হয়							
৪৩.	শিক্ষকের তদারকি এবং পর্যবেক্ষণ							
৪৪.	বিশ্ববিদ্যালয় এবং বিভিন্ন শিল্পকারখানার সাথে সংযোগ স্থাপনের জন্য বিভিন্ন অনুষ্ঠান করা হয়							
৪৫.	বিশ্ববিদ্যালয়ের অতীতের তথ্যাবলী এবং ছাত্র-ছাত্রীদের জরিপ এর ভিত্তিতে প্রোগ্রাম মূল্যায়ন করা হয়							
৪৬.	বিভিন্ন রকম জরিপ এর মাধ্যমে শিক্ষার্থীর চাপ মূল্যায়ন							
৪৭.	শিক্ষার্থীদের দ্বারা শিক্ষকের পারফরম্যান্স মূল্যায়ন							

৪৮.	শিক্ষকদের প্রশিক্ষণ ও উন্নয়ন					
৪৯.	শিক্ষকরা গবেষণার কাজে জড়িত					
৫০.	শিক্ষক-ছাত্র অনুপাত					

গ. উচ্চতর শিক্ষাপ্রতিষ্ঠানগুলিতে গুণমান নিশ্চিতকরণ প্রক্রিয়া (সরঞ্জাম, সিস্টেম এবং চ্যালেঞ্জ) সম্পর্কিত, দয়া করে আপনার মতামত সরবরাহ করুন।

	জ্ঞান দক্ষতা এবং ক্ষমতা বিকাশে গুণমানের আশ্বাসের প্রভাব	১	২	৩	৪	৫
১.	শিক্ষার্থীদের জ্ঞান, দক্ষতা এবং ক্ষমতার বৃদ্ধিতে সহায়ক					
২.	শিক্ষা এবং শিখনের মাধ্যমে জ্ঞান, দক্ষতা এবং ক্ষমতার উন্নতিতে সহায়ক					
৩.	পাঠ্যক্রমের বিষয়বস্তু বিকাশ এবং সংশোধন করার মাধ্যমে জ্ঞান, দক্ষতা এবং ক্ষমতার উন্নতিতে সহায়ক					
৪.	শিক্ষার্থী পারফরম্যান্স অ্যাসেসমেন্টের মাধ্যমে জ্ঞান, দক্ষতা এবং ক্ষমতার উন্নতিতে সহায়ক					
৫.	স্টেকহোল্ডারদের প্রক্রিয়ার সাথে জড়িত থাকা জ্ঞান, দক্ষতা এবং ক্ষমতার এর উন্নতিতে সহায়ক					
	বিশ্ববিদ্যালয়ে জ্ঞান, দক্ষতা এবং ক্ষমতা উন্নয়নের চ্যালেঞ্জগুলি কী কী?	১	২	৩	৪	৫
৬.	প্রাতিষ্ঠানিক প্রতিশ্রুতির অভাব					
৭.	আর্থিক বিষয়					
৮.	শিক্ষকদের কর্মদক্ষতা					
৯.	প্রাতিষ্ঠানিক এবং অতিরিক্ত ছাত্র নিবন্ধন নীতি					
১০.	প্রতিশ্রুতিবদ্ধ এবং একাডেমিক সম্প্রদায়ের সমর্থন					
১১.	দক্ষতার অভাব					
১২.	সরকারের সহায়তার অভাব					
১৩.	স্টেকহোল্ডারদের সহায়তার অভাব (চাকরিজীবী, পিতা-মাতা, একাডেমিক, নন-একাডেমিক স্টাফ, শিক্ষার্থী)					
১৪.	ডকুমেন্টেশন অভাব					
১৫.	সামগ্রিক সিঙ্ক্রোনাইজড বাস্তবায়নের অভাব					
	ইউনিভার্সিটির নিম্নোক্ত ক্ষেত্রগুলিতে স্নাতক 'জ্ঞান দক্ষতা এবং ক্ষমতা কীভাবে গুণমান নিশ্চিতকরণ প্রক্রিয়া দ্বারা প্রভাবিত হচ্ছে ?	১	২	৩	৪	৫
১৬.	একাডেমিক প্রস্তুতি					
১৭.	শেখার অনুপ্রেরণা					

১৮.	অধ্যয়নক্ষেত্রের প্রতি মনোভাব					
১৯.	ব্যস্ততা এবং পড়াশোনার প্রতি প্রতিশ্রুতিবদ্ধ					
২০.	একাডেমিক দক্ষতা					
২১.	সহ - পাঠক্রম সংক্রান্ত কার্যক্রম					
২২.	পাঠক্রম বহির্ভূত কার্যক্রম					
	বিশ্ববিদ্যালয়ে জ্ঞান দক্ষতা এবং ক্ষমতার উন্নতির জন্য নিম্নলিখিত ক্ষেত্রগুলি কতটা গুরুত্বপূর্ণ?	১	২	৩	৪	৫
২৩.	পাঠক্রম বিষয়বস্তু বিকাশ					
২৪.	নিয়মিত আপডেট ও পাঠক্রমের পরিবর্তন					
২৫.	শিক্ষার্থীদের পারফরম্যান্স মূল্যায়ন					
২৬.	শিখানো-শিখার পদ্ধতি					
২৭.	শিক্ষার্থী সহায়তা পরিষেবা, অগ্রগতি এবং অর্জন					
২৮.	সহ - পাঠক্রমিক এবং অতিরিক্ত পাঠক্রমিক ক্রিয়াকলাপ					
২৯.	পাঠক্রম প্রক্রিয়াতে অংশীদারদের অন্তর্ভুক্তি					

ঘ. স্নাতকগণের নিম্নলিখিত জ্ঞান, দক্ষতা এবং ক্ষমতা কীভাবে বিশ্ববিদ্যালয়ের মান নিশ্চিতকরণ প্রক্রিয়া দ্বারা প্রভাবিত হয়?

	জ্ঞান	১	২	৩	৪	৫
১৫.	প্রযুক্তি সম্পর্কিত জ্ঞান বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
১৬.	তথ্যসম্পর্কিত বোঝার জ্ঞান বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
১৭.	একটি সিস্টেম উপাদান নকশা জ্ঞান বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
১৮.	শিক্ষার্থীদের মূল্যায়ন বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
১৯.	কোনও কাজের পরিকল্পনা, নিরীক্ষণ এবং নিয়ন্ত্রণের জন্য জ্ঞানট বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
	যোগাযোগ দক্ষতা					
২০.	উপস্থাপনা দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২১.	প্রতিবেদন লেখার দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					

২২.	অ-মৌখিক (মুখের অভিব্যক্তি, হাতের অঙ্গভঙ্গি, ভঙ্গিমা ইত্যাদি) বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৩.	যথাযথ তথ্য সংগ্রহ এবং বিশ্লেষণ বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৪.	বিশ্ববিদ্যালয়ে গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা অফিস যোগাযোগ উন্নত হয়					
	আন্তঃব্যক্তিক দক্ষতাগুলো					
২৫.	নেতৃত্বের দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৬.	টিম ওয়ার্ক দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৭.	সংবেদনশীল বুদ্ধি দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৮.	আধ্যাত্মিক বুদ্ধি দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
২৯.	আলোচনার দক্ষতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
	ক্ষমতা					
৩০.	বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা সময়পরিচালনার দক্ষতা উন্নত হয়					
৩১.	সিদ্ধান্ত গ্রহণের ক্ষমতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
৩২.	বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা শৃঙ্খলা উন্নত হয়					
৩৩.	দায়িত্বপূর্ণ মনোভাব বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
৩৪.	সমালোচনামূলক চিন্তাভাবনা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
৩৫.	বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা সৃজনশীলতার উন্নতি হয়					
৩৬.	নির্ভরযোগ্যতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
৩৭.	বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা স্ব-প্রেরণার দক্ষতা উন্নত হয়					
৩৮.	নৈতিক মূল্যবোধের দক্ষতার প্রশংসা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					
৩৯.	অভিযোজনযোগ্যতা বিশ্ববিদ্যালয়ের গুনগতমান নির্ধারণ প্রক্রিয়া দ্বারা উন্নত হয়					

ঙ.	গুনমান নিশ্চিতকরণ প্রক্রিয়ার মাধ্যমে স্নাতকদের 'জ্ঞান, দক্ষতা ও ক্ষমতার উন্নয়ন কীভাবে বাংলাদেশের সামগ্রিক মানবসম্পদ বিকাশকে প্রভাবিত করতে পারে?	১	২	৩	৪	৫
১.	স্নাতকদের প্রযুক্তি সম্পর্কিত জ্ঞানের উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
২.	স্নাতকদের চাকরি সম্পর্কিত কৌশলগত জ্ঞানের উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৩.	স্নাতকদের যোগাযোগ দক্ষতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					

৪.	স্নাতকদের নেতৃত্বের দক্ষতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৫.	স্নাতকদের দায়বদ্ধতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৬.	স্নাতকদের শৃঙ্খলা সম্পর্কিত জ্ঞান বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৭.	স্নাতকদের আলাপ – আলোচনার দক্ষতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৮.	স্নাতকদের নির্ভরযোগ্যতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
৯.	স্নাতকদের আবেগ এবং বুদ্ধিমত্তার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
১০.	সমালোচনামূলক চিন্তাভাবনা এবং স্নাতকদের সৃজনশীলতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
১১.	স্নাতকদের টিম ম্যানেজমেন্ট দক্ষতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
১২.	সমস্যা সমাধানের উন্নতি, স্নাতকদের সিদ্ধান্ত গ্রহণের ক্ষমতা বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
১৩.	স্নাতকদের নির্ভরতার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					
১৪.	স্নাতক স্নাতকদের নৈতিক মূল্যবোধের ক্ষমতা প্রশংসার উন্নতি বাংলাদেশের সামগ্রিক মানব সম্পদ উন্নয়ন কে প্রভাবিত করে					

চ. উন্মুক্ত প্রশ্নাবলী

১. কোনও দেশে মানব সম্পদ বিকাশ কীভাবে নিশ্চিত করা যায়, আপনার কি মনে হয় ? আপনার কি মনে হয় যে একটি দেশের মানবসম্পদ উন্নয়নে উচ্চ শিক্ষা একটি ভূমিকা পালন করে?
২. আপনি কি মনে করেন, উচ্চমানের প্রতিষ্ঠানগুলিতে বিদ্যমান গুণগত মান ব্যবস্থাটি বাংলাদেশের মানবসম্পদ উন্নয়নে ইতিবাচক ভূমিকা রাখছে?
৩. একবিংশ শতাব্দীতে স্নাতকদের নিয়োগের যোগ্য হওয়ার জন্য জ্ঞান, দক্ষতা এবং ক্ষমতার প্রয়োজনীয়তা কী কী? আপনি কি মনে করেন বিশ্ববিদ্যালয়পর্যায়ের পাঠ্যক্রমের মাধ্যমে জ্ঞান, দক্ষতা এবং ক্ষমতা স্নাতকদের সার্বিক উন্নয়নে অবদান রাখতে পারে?
৪. আপনি কি মনে করেন যে, উচ্চ শিক্ষার স্টেকহোল্ডাররা বিশ্ববিদ্যালয়ের পাঠ্যক্রমের উন্নয়নে গুরুত্বপূর্ণ ভূমিকা পালন করে?

৫. কোন বিষয়গুলো শিক্ষার্থীদের জ্ঞান, দক্ষতা এবং ক্ষমতা বিকাশের জন্য সমস্যা হয়ে দাঁড়ায়? কীভাবে এই সমস্যাগুলো মোকাবেলা করা যায় এবং আরও উন্নত করা যায়?

আপনার সহযোগিতার জন্য আন্তরিকভাবে ধন্যবাদ !

Appendix 3: Expert's Interview Questionnaire

(II-A) Exp. Interview

Dear Sir/Madam

Greetings! I am working as an Associate Professor at the American International University-Bangladesh (AIUB). It can be noted that despite significant achievements tertiary education in Bangladesh requires continuous monitoring and systematic effort to enhance maintain quality. Essential organizational process, system and tools and their effectiveness at the institutional levels are imperative in this regard. Accordingly, University Grants Commission has already established IQAC in both public and private universities to ensure an acceptable standard of quality. However, after sincere efforts of four years to complete the project, much is unknown on this issue. Such literature gap encouraged me to peruse my PhD research on *Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh*. This research aims to find out the impact of this QA practices on the HEIs and its overall effectiveness in developing Human Resource in Bangladesh.

As you were involved as a stakeholder of Higher Education Institute, your contribution in the survey is highly valuable. I humbly request you to participate in the survey and help me to me identify the area for further essential steps interventions for our universities. Thanking you in advance for your patient participation in the survey!

(II-A) Expert's Opinion by Interview

A. Please give a Tick where appropriate		
1.	Name	
2.	Type of the entity/org/university	<input type="checkbox"/> Public <input type="checkbox"/> Private
3.	Personal Affiliation with organization	<input type="checkbox"/> Student <input type="checkbox"/> Faculty Member <input type="checkbox"/> Parents /Guardians of Students <input type="checkbox"/> Administrative Officer <input type="checkbox"/> Alumni <input type="checkbox"/> Employer <input type="checkbox"/> Govt. officials (Different org. like UGC, BAC, NSDA etc.)

4.	Educational Qualification	<input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> MPhil <input type="checkbox"/> PhD
5.	Age	<input type="checkbox"/> Below 20 <input type="checkbox"/> 20-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> 61-80
6.	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female

11. In your opinion how Human Resource can be Development in a country?
12. What is your opinion regarding the Human Resource of Bangladesh?
13. What are the Challenges in developing Human Resource of Bangladesh?
14. In your suggestion How these challenges can be mitigated/ addressed?
15. In your opinion What Knowledge, Skill and Ability (KSA) are required for the graduates to be employable in 21st century?
16. Do you consider that there is a gap between the demand of Job Market and Supply of Human Resource from the HEIs? (Skill Gap/Mismatch)
17. How the Universities/Higher Education Institutes (HEIs) can play role/contribute to develop students/graduates as human resource?
18. Do you think addressing Knowledge, Skill and Ability through Quality Assurance(QA) mechanism at the university level can contribute in improved overall development of the Graduates?
19. Do you think Stakeholders (Students, Academic and Non-academic staff, Alumni, Employers, Guardians/Parents) of Higher Education Institutes (HEIs) play an important role in improvement of KSA of the graduates of the universities?
20. Further comments on the role of the universities for developing students' Knowledge, Skills and Abilities and on minimizing the Skill Gap?

Your opinion/ comments on any of the matters raised in this questionnaire can be listed below-

Would you like to receive a concise report of the research results?

YES / NO, If YES, please provide your contact details on the NEXT page

Thank you for your Participation!

Appendix 4: Additional Questionnaire for Academic and Non-Academic Staff

(I-D) Questionnaire for **ACADEMIC and Non-Academic STAFF** of the HEIs of

BD (Additional)

This part focuses on the information pertaining to the circumstances of **Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh**. Please give response to the following statement by ticking (✓) the appropriate answer.

Information about your respective university’s IQAC policy, procedures and instruments. Does following document exist and do you perceive it as useful for your own work? Please write yes/no the suitable option in the box.

Quality policy and Manual	Document exists	Useful for my work	I have to deal with it	I do not Know
Internal quality assurance has policy document or strategy document (e.g. “quality policy”, “quality strategy”).				
Internal quality assurance is guided by quality manual or a quality handbook .				

B. Please rate how significantly quality assurance mechanism of your university has an impact for the following **fields of activity** (0=not at all to 10 =very intensely).

Fields of activity	0	1	2	3	4	5	6	7	8	9	10	No idea
Curriculum Content Development												
Curriculum Update and Modification												

Teaching - Learning Methods												
Student Performance Assessment												
Co-Curricular and Extra Curricular Activities												
Improvement of KSA of Students												
Student Support Services, Progress and Achievement												
Involvement of Stakeholders in Academic process												
Feedback of the Stakeholders in the QA process												
Internal QA Process, System and Activities												
Internal QA Tools												
Meeting the requirement of UGC												

C. How would you judge overall the effect of QA mechanism on the following aspects? (tick)	Very high	High	Moderate	Low	No effect at all	Not intended with this instr.*	Don't know
Improvement of the overall coherence of a study programme							
Improvement of the content coverage of courses							
Improvement of the content coverage of study programmes							
Improvement of teaching performance							
Improvement of the student assessment system							
Enhancement of KSA of graduates							
Improvement of learning conditions							
D. Which of the following QA TOOLS and Process for IQAC, EXIST at your university as far as you know? (tick)							
QA Tools for improvement of Curriculum Content, T-L and Assessment	Exist at my University	Do not Exist at my University	I am Unaware of this Issue				
QA Tools for improvement of Curriculum Content, T-L and Assessment	1	2	3				
Course evaluation (by student surveys) is important							
Program evaluation (by student surveys) is important							

Teacher's supervision and monitoring is important			
Program self-assessment (department self-study) is important			
Programme monitoring (by students' survey panel, analyses of university statistics) is important			
Assessment of student's workload (by survey) is important			
Exit survey by students is important			
Teacher's Performance Evaluation by student is important			
Training and development of Teachers			
Teachers' involvement in Research work is important			
Teacher-student Ratio should be standard			
Tools related to Improving Student's KSA			
Graduate tracer studies			
Employer satisfaction surveys			
Involvement of employers in study program revisions			
Involvement of Alumni in study program revisions			
Involvement of Guardians in study program revisions			
Job market analyses			
Graduate Profile			
Industry-University linkage programs			
University-community linkage programs			
Practical and hands on experience included in programs			

Thank you for your Participation

Appendix 5: Additional Questionnaire for Alumni and Employer
(I-C) Questionnaire for Employer and Alumni of the HEIs of BD (Additional)

This part focuses on the information pertaining to the circumstances of **Effectiveness of quality assurance mechanism in higher education for human resource development**.

Please indicate the requirement of the following Knowledge, Skill and Abilities (KSA) in the job of the organization and presence of these KSA in the Graduates from HEI. Please give response to the following statement by ticking (✓) the appropriate answer.

Dimensions		Requirement in the Job					Graduates demonstrate in the job				
		1	2	3	4	5	1	2	3	4	5
	Knowledge										
1.	IT Knowledge										
2.	Knowledge for understanding the facts										
3.	Breakdown objects or ideas into simpler parts and finds evidence to generalization										
4.	Compile component ideas to a new whole or propose alternate ideas										
5.	Make and defend judgment based on internal evidence or external criteria (Evaluate)										
6.	Knowledge in designing a system component is essential										
7.	Knowledge of terminology and specific facts)										
8.	Knowledge of categories, principles, and models)										

9.	Knowledge of how to do a work												
10.	Knowledge for plan, monitor and regulate a work												
Communication Skills													
1.	Effective oral communication skills are required												
2.	Report writing skills												
3.	Presentation skills												
4.	Reading Skill												
5.	Writing Skill												
6.	Listening Skill												
7.	Office communication/Formal (Online, Email, Memo, meeting etc.)												
8.	Appropriate Data collection and analyzation												
9.	Projecting and interpreting Graphs, charts etc.												
10.	Non-verbal/ Informal Communication (facial expressions, hand gestures, posture and even appearance, Face to face, Body language)												
Interpersonal Skills													
1.	Leadership skills												
2.	Teamwork												
3.	Emotional Intelligence												

4.	Spiritual Intelligence													
5.	Negotiation skill													
	Abilities													
1.	Time management													
2.	Rational Judgment capacity													
3.	Problem Identification, solving and decision making													
4.	Ability to relate knowledge to practice													
5.	Discipline													
6.	Sense of Responsibility													
7.	Organizing													
8.	Critical Thinking													
9.	Creativity													
10.	Reliability and dependability													
11.	IQ													
12.	Self-Motivation/ Commitment													
13.	Appreciation of ethical values													
14.	Adaptability													
15.	Independent thinking/ Self confidence													

Thank you for your Participation!

Appendix 6: Consent Letter for Participants

Date: 1st September 2019

Consent Letter for Participants

Farheen Hassan is a Ph.D. student in the Institute of Business Administration (IBA) at the University of Dhaka. She is conducting research to study “Analyzing the Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh”

She has cordially invited me to participate in the research and explained the purpose of the study, the procedures to be followed, and the expected duration of my participation. Furthermore, she assured to maintain confidentiality and ethical standards at all stages of the research. Additional information or questions will be answered for my satisfaction.

I have understood that by participating I will have the opportunity to appraise Quality Assurance practices in an environment where I am the prime assessor of strengths, weaknesses and areas for improvement. Thus, this research will advance the existing body of knowledge in the Higher Education Institutions, Quality Assurance Mechanism and Human Resource Development of Bangladesh.

For that, I am giving my consent to participate voluntarily in this research.

Sincerely yours

Name:

Date:

E-mail address:

Appendix 7: Invitation Letter to the IQACs

Dear Potential Director/Additional Director of Institutional Quality Assurance Cell (IQAC);

Dear Sir/Madam

Greetings! I am working as an Associate Professor at the American International University-Bangladesh (AIUB).

It can be noted that despite significant achievements tertiary education in Bangladesh requires continuous monitoring and systematic effort to enhance maintain quality. Essential organizational process, system and tools and their effectiveness at the institutional levels are

imperative in this regard. Accordingly, University Grants Commission has already established IQAC in both public and private universities to ensure an acceptable standard of quality. However, after sincere efforts of four years to complete the project, much is unknown on this issue. Such literature gap encouraged me to peruse my PhD research on *Effectiveness of Quality Assurance Mechanism in Higher Education for Human Resource Development in Bangladesh*. This research aims to find out the impact of this QA practices on the HEIs and its overall effectiveness in developing Human Resource in Bangladesh. The respondents for the questionnaire are 1. Academic staff, 2. Non-Academic staff, 3. Alumni, 4. Students, 5. Employers and 6. Parents/Guardians of the universities. The universities are 1. University of Dhaka; 2. University of Rajshahi; 3. Islamic University of Kushtia; 4. Shahjalal University of Sylhet; 5. Stamford University, Dhaka; and 6. Bangladesh Agricultural University, Mymensingh (BAU). As you were involved in this unique process your contribution in the IQACs and HEIs of Bangladesh, this survey and support from your end is highly valuable. I humbly request you to participate in the survey; provide support in generating and collecting Data; and help me to identify the areas for further essential steps interventions for our universities. Your participation in this study would be greatly appreciated. Any queries about your participation in this study may be directly communicated to me (Farheen@aiub.edu; or Farheen.hassan1512@gmail.com). I firmly assure you to maintain anonymity and preserve confidentiality. Your responses would be coded and used only for the research purpose only. I further affirm that basic human rights would not be violated in this process. The Consent letter is attached as enclosure and kindly put your signature in the letter as your consent. Thanking you in advance for your patient participation in the survey!

Best Regards

Farheen Hassan, Associate Professor.