

***ACCOUNTING AND REPORTING SYSTEM OF
AIRLINES INDUSTRY:***

A CASE STUDY OF BIMAN BANGLADESH

By

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Accounting and Reporting System of Airlines Industry

TABLE OF CONTENTS

Topics	Page no.
Declaration from student	4-5
Declaration from Supervisor	06
Acknowledgement	07
Abstract	08
List of figures	09
List of appendix	11
List of tables	12
Chapter 1: INTRODUCTION	14-99
1.1 History of Airline industry	15
1.2 Overview of the Airline Business of the World	19
1.3 Pattern of Business of Airlines Industry	27
1.3.1 How major Airlines are structured	31
1.4 International Air Transport Association (IATA)	34
1.5 International Civil Aviation Organization (ICAO)	37
1.6 Airlines' Financial Statements	40
1.7 Airlines' Financial Ratios	54
1.8 Airlines' Valuations	62
1.9 Sources of Airlines' Finance	66
1.10 Airline Deregulation	76
1.11 Airline Privatization	83
1.12 Aircraft Leasing	84
1.13 Accounting and Reporting System of Private Airlines of the World	88
1.13.1 Singapore Airlines Limited	90
1.13.2 Cathay Pacific airways Limited	93
1.13.3 British Airways	95
1.14 World Airline Financial Results	97
Chapter 2: LITERATURE REVIEW	100-112
Chapter 3: MATHODOLOGY OF THE STUDY AND AIRLINES' DESCRIPTION AND OPERATIONAL PROFILE	113-189
3.1 Company Background and History	113
3.2 Characteristics of Biman Bangladesh Airlines	116
3.3 Ownership Structure	125
3.4 Organizational Structure	129
3.5 Business Overview / Nature of business and consolidation	130
3.5.1 Core Passenger Business	131
3.5.2 Non-core Business	132
3.5.3 Other core operations	135
3.6 Properties and Subsidiaries of Biman Bangladesh Airlines	135
3.6.1 Biman Flight Catering Center (BFCC)	135
3.6.2 Biman Poultry Complex (BPC)	136
3.6.3 Ground and Cargo Handling	137
3.6.4 Biman Press and Printing	138
3.6.5 Biman Airline Training Center (BATC)	139
3.6.6 Biman Engineering	140



Accounting and Reporting System of Airlines Industry

3.6.7 Real Estate	141
3.7 Marketing and Distribution	142
3.7.1 Liberalization of Aviation Market in Bangladesh	143
3.7.2 Distribution Structure and Agency Relationship	144
3.7.3 Domestic Sales	147
3.7.4 Foreign Sales	149
3.7.5 Foreign Sales and Representations	151
3.7.6 Global Distribution System (GDS)	152
3.7.7 Bank Settlement Plan (BSP)	153
3.7.8 Fares and Yield Management	153
3.7.9 Frequent Flyer Program (FFP)	154
3.7.10 Biman Passenger Mix	154
3.7.11 Biman's Market Share	155
3.8 Biman Legal Environments	157
3.8.1 General Framework	157
3.8.2 Regulatory Bodies	158
3.8.3 Bangladesh Investment Legislation	158
3.8.4 Air Transport Regulatory Framework	159
3.8.5 Bangladesh Commercial Laws	161
3.8.6 Bangladesh Labor Laws	162
3.8.7 Air service Agreements	164
3.9 Fleet and Maintenance	166
3.9.1 Fleet Planning exercise	166
3.9.2 Aircraft Insurance	171
3.9.3 Aircraft Maintenance	177
3.9.4 Safety and Quality Control	178
3.10 Some other Private Airlines of Bangladesh	180
3.10.1 United Airways Bangladesh Ltd.	180
3.10.2 Regent Airways	182
3.10.3 NovoAir	184
3.11 List of Airlines and Airports of Bangladesh	185
Chapter 4: FINDINGS AND DATA ANALYSIS	190-284
4.1 Accounting Policies and Disclosures	190
4.2 Accounting task distributed/classified to sections	194
4.2.1 Revenue Division	195
4.2.2 Payrolls	197
4.2.3 Cash and Banking	198
4.2.4 Disbursement Section	198
4.2.5 Assets	201
4.2.6 Store Accounting	201
4.2.7 Central Accounts	202
4.3 Biman's Accounting Flow Chart	203
4.4 Financial and Operational Performance Analysis	209
4.5 Auditing of Accounts in Biman	238
4.5.1 Appointment of Auditors	238
4.5.2 Different types of Audit	238
4.5.3 Auditors Responsibility	239
4.6 Budget Preparation and Presentation in Biman	240



Accounting and Reporting System of Airlines Industry

4.6.1 Budget and Budgetary Control	240
4.6.2 Budget Preparation and Presentation	242
4.7 Factors affecting financial results and financial ratios in Biman	247
4.7.1 Factors affecting financial results	247
4.7.2 Factors affecting financial ratios	247
4.8 Costs Structure and Cost Accounting Procedure followed by Biman	249
4.8.1 The traditional approach to Airline costs	250
4.8.2 Determinants of Airline Costs	259
4.8.3 A detail Proforma of Route Profitability Analysis of any Flight Of Biman	260
4.9 Rout profitability Analysis with minimum break-even capacity	264
4.10 Contribution Analysis before opening new route in Biman	276
Chapter 5: CONCLUSION AND RECOMMENDATIONS	285
5.1 Some Significant Achievements and Future Plan	285
5.1.1 Technological Advantages:	285
5.1.2 Automation of Revenue Accounting	294
5.1.3 Information Technology	297
5.1.4 Aircraft Maintenance Facilities	299
5.2 Corporate Social Responsibilities	300
5.3 Contribution to The National Economy	301
5.4 Biman's Ethics	303
5.5 Identification Of Biman's Problems and Recommendations	303
5.6 Conclusion	313
Appendices	318- 354
References	355- 359
About the Author	360



Accounting and Reporting System of Airlines Industry

December, 2015

Md. Nazim Uddin Bhuiyan

Professor

Department of Accounting & Information Systems

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Subject: Submission of Thesis on “Accounting and Reporting System of Airlines Industry: A Case Study of Biman Bangladesh”.

Dear Sir,

I am pleased to submit my report on “Accounting and Reporting System of Airlines Industry: A case Study of Biman Bangladesh” as a partial fulfillment of Master of Philosophy (M.Phil.) course. According to your guidance I have concentrated myself on academic and practical aspects. On the eve of submission, I would like to convey my heartfelt gratitude for placing me in such challenging and comprehensive task.

Best regards.

Sincerely yours,

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Accounting and Reporting System of Airlines Industry

Declaration

Thereby declared that the thesis titled “Accounting And Reporting System of Airlines Industry: A Case Study of Biman Bangladesh” is submitted in the partial fulfillment of the requirement for the degree of Masters of Philosophy to the department of Accounting & Information System under the Faculty of Business, University of Dhaka.

It is my original work and has not been submitted before for any form of publication including articles, periodicals etc. or the award of any other Degree/Diploma/Fellowship on similar title or topic.

December, 2015

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Declaration from the Supervisor

This is to certify that the thesis titled “Accounting and Reporting System of Airlines Industry: A Case Study of Biman Bangladesh” is a record of confide research carried out by Firoza Rashid under my direct supervision and close monitoring, All the material parts of it original and has not been submitted elsewhere for any other degree or diploma. In my opinion, the thesis is worthy of consideration for the award of M. Phil. Degree.

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Accounting and Reporting System of Airlines Industry

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Accounting and Reporting System of Airlines Industry

Abstract

The accounting system is the most important elements of an entity's information system. The analysis of accounting as an information system facilitates certain key issue. The pattern of financial accounting and reporting varies in the countries or regions or nature of business. Like other business, the basic purpose of an Airline Accounting System is to manage the control, reporting, use and accounting of tickets, miscellaneous charges orders, excess baggage tickets and other 'accountable' documents. In doing so, it should be accurate and flexible, and provide maximum efficiency in processing ticket data, and posting and billing accurate values. It should validate all transactions, and initiate recoveries where under collections or errors have occurred. It should minimize opportunities for fraud, and identify circumstances in which a fraud may have taken place. It must deliver fast, accurate revenue and segment data to management and management information system. This is an outline of generic passenger revenue accounting processes, and does not represent any particular system; however it may be useful when considering possible revenue accounting system choices. Equally, out-sourced revenue accounting service providers are likely to have or need a similar system as the basis of their services. The modular structure of individual accounting systems will vary, as well as well as their coverage of the various processes within them.

Airline Accounting System is designed according to the requirement of airline practice. Airline must give high emphasis on revenue accounting as the airline accounting system is unique and specialized in nature, any laps in the system may deplete millions of dollars of hard earned revenue earnings. Due to its distinctive nature, the process of reporting does not at all match with other transport industry and manufacturing organization as such; it requires specialized and experienced manpower from airline revenue to handle efficiently. Airline always maintain seasonal personnel in revenue accounts to look after and check revenue loopholes. The revenue airlines put efforts in revenue accounting, the more it checks leakage and contributes to revenue earnings of the airline. Finally Airline business is highly perishable and competitive in nature. Once airplane takes off with empty seat, there is no scope to recover revenue losses as it perishes.



Accounting and Reporting System of Airlines Industry

List of Figures

Serial No.	Title	Page No.
1.	Direct relation between Air travel and Economic Growth	20
2.	Growth of World air travel	20
3.	Variation of International traffic by region	21
4.	Contribution to the growth of International travel by different region	21
5.	Global Air traffic growth rate	22
6.	Total air travel and air freight volumes	23
7.	Freight load factor and aircraft utilization	23
8.	World Traffic by airline domicile	24
9.	Air travel growth by market	24
10.	South Asia traffic, current market outlook	26
11.	Weekly (August 2000-2010) Available Seat Kilometers (ASKs) of Bangladesh	27
12.	Growth rate of Bangladesh passenger	27
13.	Principal Process in an Airline Revenue Accounting System	111
14.	Domestic destinations of Biman	146
15.	Biman's International destinations	147
16.	Domestic sales of Biman	148
17.	Comparative Net total foreign sales of Biman	151
18.	Biman Passenger Mix	155
19.	Route map of United Airways Bangladesh Ltd.	181
20.	Airports in Bangladesh	189
21.	Biman Bangladesh Airlines Limited's Accounting Flow Chart	204
22.	Comparative Revenue Income of Biman	210
23.	Comparative Revenue Expenditure of Biman	211
24.	Comparison between Revenue Income and Revenue Expenditure	211
25.	Historical Financial Performance of Biman [Net Profit/(Loss)].	212
26.	Comparative Operating Revenue of Biman	213



Accounting and Reporting System of Airlines Industry

27.	Comparative Operating Expenses of Biman	213
28.	Comparison between Operating Revenue and Expense	214
29.	Comparative Operating Profit/(Loss) of Biman	214
30.	Comparative revenue from Cargo, Mail and Excess Baggage	216
31.	Comparison between Total revenue and Total Revenue from Hajj operation of Biman	217
32.	% of Revenue from Hajj Operations of Total Revenue	218
33.	% of Fuel Expenses of Total Expenses	219
34.	Comparison between Total Exp. And Fuel Exp. Of Biman	220
35.	Tourists arrived in Bangladesh	223
36.	Operating Revenue of Biman Bangladesh Airlines (BBA)	224
37.	Total Operating Revenue of Biman Flight Catering Center	225
38.	Total Operating Revenue of Biman Poultry Complex	225
39.	Revenue from Ground Handling Services of Biman	226
40.	Comparative Operating Ratios of Biman	230
41.	Comparative Current Ratio of Biman	231
42.	Comparative Quick Ratio of Biman	231
43.	Comparison between Current ratio and Quick Ratio	232
44.	Comparative Financial Ratios of Biman	233
45.	Debt to Equity Ratio of Biman	234
46.	Average collection Period of Biman	235
47.	Revenue from Hajj Operation of last six years	286
48.	GDP growth rate (%) of Bangladesh (Base Year 1995-96)	302



Accounting and Reporting System of Airlines Industry

List of Appendices

Serial No.	Title	Page No.
1	Statement of comprehensive Income (FY2007-08 to 1012-13)	318
2	Statement of Financial Position (30 June, FY 2009-2013)	319
3	Statement of Cash Flow (30 June, FY2009-2013)	320
4	Statement of changes in Equity (30 June, FY2009-2013)	321
5	Comparative Financial Results (FY2007-08 to 2012-13)	323
6	Statement of allotment of Share	324
7	Calculation of different type of Ratios	325
8	Notes on Accounting System	332
9	Accounting Codes of Biman Bangladesh Airlines Ltd.	334
10	Assumptions of Financial Analysis and Projection	337
11	Consolidated cash Flow Statement (from FY2013-14 to 2022-23)	340
12	Projected Profit and Loss Account (FY2013-14 to 2022-23)	341
13	Profitability analysis-777-300er (revenue and cost element wise)	342
14	Details discussion about the Strategic Objectives of ICAO	347
15	Statement of Financial Position, June 30, FY 2014, Biman	350
16	Statement of Comprehensive Income, 30 June, FY 2014, Biman	351
17	Freedoms of Air	352



Accounting and Reporting System of Airlines Industry

List of Tables

Serial No.	Title	Page No.
1.	Key indicators of South Asia Growth measures	26
2.	World's best Airlines of the year	89
3.	Shareholding structure of Biman	126
4.	Manpower status of Biman	130
5.	Biman's engineering service agreement with other parties in FY 2012-13 and 2014	141
6.	Biman's owned Subsidiaries	142
7.	Major competitors of Biman	144
8.	Domestic Net Sales Statement of Biman	148
9.	Domestic Air Service of Bangladesh	149
10.	Statement of Net Foreign Sales of Biman	150
11.	Biman Foreign Sales Structure-Office and GSAs	152
12.	Historical Market Share of Biman	157
13.	Delivery schedule of ten new generation aircraft (which are purchasing by Biman)	168
14.	Biman's current Fleet (2012)	169
15.	Fleet position in 2012-13	169
16.	Fleet position in 2013-14	170
17.	List of delivered new aircraft	170
18.	Historical Fleet of Biman	171
19.	Different Insurance Policies of Biman	173
20.	Biman's Agreed Insurance Values of Aircrafts	174
21.	Maintenance Facilities for Biman's Aircraft	177
22.	Fleet list of United Airways Ltd.	180
23.	Destinations of United Airways Ltd.	182
24.	Destinations of Regent Airways	183
25.	Fleet list of Regent Airways	183
26.	Fleet list of Novo Air	184
27.	List of Airlines of Bangladesh (with AOC by CAAB)	185
28.	List of private airlines of Bangladesh	186
29.	List of Airports of Bangladesh	187
30.	Depreciation Rate of Biman's Assets	191
31.	Head of Expenses with proper authority and A/C Code of Biman	199
32.	Historical Financial Performance (2000-01 to 2012-13)	210
33.	Revenue from Cargo, Mail and Excess Baggage	215
34.	Income from Hajj Operation of Biman	217
35.	Biman's Fuel Expenses	219



Accounting and Reporting System of Airlines Industry

36.	The market size and growth of Bangladesh aviation industry	221
37.	Foreign Visitors Arrival in Bangladesh (2000-2010)	222
38.	Comparative Operating Revenue of BBA, BPC and BFCC	223
39.	Operating Revenue of core business items of FY 2014-15	224
40.	Different type of Ratios used in Biman Bangladesh Airlines Ltd.	227
41.	The major Comparative Financial Ratios of Biman	228
42.	Operating Ratio of Biman Banglades Airlines	229
43.	Key Performance Indicators (KPIs)	237
44.	Summary of Budgeted Profit & Loss Account of Biman	244
45.	Budgeted Profit & Loss Account of BFCC	244
46.	Area-Wise Earned Revenue Estimates of Biman	245
47.	Summary of Cash Budget of Biman	246
48.	Structure of Operating Costs of Airlines	252
49.	Cost Structure based on fixed and variable direct operating costs	257
50.	Determinants of Airline Costs	259
51.	Statement of any Route Profitability per Flight (like DAC-CGP-CXB-DAC) -(Proforma)	260
52.	Route wise Revenue Income for Any Aircraft (Proforma)	261
53.	Route wise Costing for any aircraft or Aircraft Name (Prorma)	262
54.	Estimated Profit/(Loss) Statement for two months of Biman	266
55.	Profit /(Loss) Statement for one month of Biman	267
56.	Route-wise Profitability Analysis for two months of Biman	268
57.	Statement of Profitability for two months of Biman (Revenue and Cost Elements Wise)	271
58.	Rout profitability analysis of DAC-CAN-DAC with B737-800 aircraft	280
59.	Rout profitability analysis of DAC-CAN-DAC with B777-200ER aircraft	281
60.	Rout profitability analysis of DAC-CAN-DAC with A310-300 aircraft	282
61.	Estimated Financial Results of A310-300 aircraft	283
62.	Biman Hajj Operation of Last five years	285
63.	GDP growth rate (%) of the country (Bangladesh)	302
64.	Biman's expected net profit from FY2013-14 to FY 2022-23	316



Accounting and Reporting System of Airlines Industry

1. INTRODUCTION

An airline is a company that provides air transport services for traveling passengers and freight. Airlines lease or own their aircraft with which to supply these services and may form partnerships or alliances with other airlines for mutual benefit. Generally, airline companies are recognized with an air operating certificate or license issued by a governmental aviation body.

Airlines vary from those with a single aircraft carrying mail or cargo, through full-service international airlines operating hundreds of aircraft. Airline services can be categorized as being intercontinental, intra-continental, domestic, regional, or international, and may be operated as scheduled services or charters.

Airline industry key success factors:

In the service industry, particularly the volatile, capital-intensive airline industry, success factors cover a wide spectrum--people, service product, route system, revenue/cost control and financial management.

People: High-caliber staff is critical in this service-oriented business. Training programs focusing on front-line communicative skills with customers and internal employee-management problem solving with customer-focused continuous-improvement objectives are essential ingredients.

Service Product/Promotions: The actual product--aircraft seating space, aircraft type, class of service offerings and booking ease--must be at least industry-competitive for success. Promotions, particularly those targeted to frequent high-revenue travelers, create loyalty and repeat business.

Route System: An airline's route system is perhaps the most consistent success factor. Where to fly and how often are factors that must be matched to customer demand, and at the same time, scheduled to maximize aircraft utilization.

Revenue/Cost Control: Maximizing revenue through competitive and innovative pricing schemes to attract and maintain a customer base is critical for success. Just as important is cost management, notably fuel procurement and price hedging during volatile periods.



Accounting and Reporting System of Airlines Industry

Financial Management: Net-unit revenue is the measure of profitability, representing all revenues minus all costs divided by the total seats flown. Successful management of this key indicator enables airlines to tap investment for growth.

1.1 History of Airline Industry

History of Aviation - First Flights

On December 17, 1903, Orville and Wilbur Wright capped four years of research and design efforts with a 120-foot, 12-second flight at Kitty Hawk, North Carolina - the first powered flight in a heavier-than-air machine. Prior to that, people had flown only in balloons and gliders. The first person to fly as a passenger was Leon Delagrange, who rode with French pilot Henri Farman from a meadow outside of Paris in 1908. Charles Furnas became the first American airplane passenger when he flew with Orville Wright at Kitty Hawk later that year.

History of Airline Industry

Since the birth of flight in 1903, air travel has emerged as a crucial means of transportation for people and products. The hundred-plus years following the invention of the first aircraft have brought about a revolution in the way people travel. The airline business is a major industry, relied upon by millions not only for transportation but also as a way of making a living.

Early 20th Century: Airplanes were around the first few years of the 20th century, but flying was a risky endeavor not commonplace until 1925. In this year, the Air Mail Act facilitated the development of the airline industry by allowing the postmaster to contract with private airlines to deliver mail. Shortly thereafter, the Air Commerce Act gave the Secretary of Commerce power to establish airways, certify aircraft, license pilots, and issue and enforce air traffic regulations. The first commercial airlines included Pan American, Western Air Express and Ford Transport Service. Within 10 years, many modern-day airlines, such as United and American, had emerged as major players.

Mid-20th Century: In 1938, the Civil Aeronautics Act established the Civil Aeronautics Board. This board served numerous functions, the two most significant being determining airlines' routes of travel and regulating prices for passenger fares.



Accounting and Reporting System of Airlines Industry

The CAB based fares on average costs, so because airlines couldn't compete with each other by offering lower fares, they competed by striving to offer the best quality service. If the CAB found an airline's service quality was lacking on a certain route, it would allow other carriers to begin operating on that route. In this environment, established airlines enjoyed an advantage over startups, as new carriers found it difficult to break into existing routes. The Federal Aviation Agency, now known as the Federal Aviation Administration, was created in 1958 to manage safety operations.

Deregulation: In the mid-1970s, Alfred Kahn, an economist and deregulation advocate, became chairman of the CAB. Around the same time, a British airline began offering exceptionally inexpensive transatlantic flights, awakening a desire for U.S.-based airlines to lower their fares. These influences led to Congress passing the Airline Deregulation Act of 1978, ushering in an era of unencumbered free market competition. The CAB disbanded a few years thereafter.

Late 20th Century: Post-deregulation, new carriers rushed into the market, and new routes directly connected cities previously accessible only via a string of layovers. Fares dropped as competition and the number of customers increased. A 1981 air traffic controllers strike brought a temporary setback to the growth, which continued throughout the 1980s. Some of the major carriers who had dominated the skies during the middle portion of the century, such as Pan American and TWA, began to collapse in the wake of competition. Such carriers disappeared completely following the Gulf War and subsequent recession of the early 1990s. Surviving airlines rode out the recession and returned to record profitability by the late 1990s.

21st Century: In 2001, the industry dealt with the effects of another economic downturn, as business travel decreased substantially while labor and fuel costs increased. The events 9/11 greatly magnified the airlines' issues, leading to a sharp decline in customers and significantly higher operating costs. Losses continued for years; the industry as a whole didn't return to profitability until 2006. A relatively stable period followed, although controversies arose over service quality and passenger treatment in terms of flight delays, particularly those involving planes waiting on the runway. In 2010 and 2011, the U.S. Department of Transportation



Accounting and Reporting System of Airlines Industry

issued a series of rules mandating that the airlines provide adequate modifications for passengers in extenuating circumstances.

A brief History Civil Aviation Sector

Civil aviation sector has transformed itself during the last hundred years. There has been massive technological development in passenger traffic and comfort and now the civil aviation industry accounts for approximately 30% of the overall aerospace industry. A brief account of civil aviation history is presented in this article.

The 1920s saw even more changes in the aerospace industry. Since the first powered flight by the Wright Brothers on December 17, 1903, for the first time, airplanes began to be used for passenger and airmail service. Giant rigid airships became the first aircraft to transport passengers and cargo over great distances. The most successful Zeppelin was the Graf Zeppelin. It flew over one million miles, including an around-the-world flight in August 1929. However, the dominance of the Zeppelins over the airplanes of that period, which had a range of only a few hundred miles, was diminishing as airplane design advanced. The "Golden Age" of the airships ended on May 6, 1937 when the Hindenburg caught fire, killing 36 people. Although there have been periodic initiatives to revive their use, airships have seen only niche application since that time.

Great progress was made in the field of aviation during the 1920s and 1930s, such as Charles Lindbergh's solo transatlantic flight in 1927, and Charles Kingsford Smith's transpacific flight the following year. One of the most successful designs of this period was the Douglas DC-3, which became the first airliner that was profitable carrying passengers exclusively, starting the modern era of passenger airline service. By the beginning of World War II, many towns and cities had built airports, and there were numerous qualified pilots available. The war brought many innovations to aviation, including the first jet aircraft and the first liquid-fueled rockets. Commercial Aircrafts began to transport people and cargo as designs grew larger and more reliable.

By the 1950s, the development of civil jets grew, beginning with the de Havilland Comet, though the first widely-used passenger jet was the Boeing 707, because it was much more economical than other planes at the time. At the same time,



Accounting and Reporting System of Airlines Industry

turboprop propulsion began to appear for smaller commuter planes, making it possible to serve small-volume routes in a much wider range of weather conditions.

By the 1960s, the aerospace industry was coming back to life. International travel became increasingly popular, and passenger volume increased significantly. Prompted by this increase in popularity, aircraft manufacturer Boeing released its first jumbo jet in 1969 – the iconic 747. Competition became more intense among the major commercial aircraft manufacturers as the demand for aircraft grew. Airbus launched its A300 during this period, and proved to be a major competitor for Boeing.

Since the 1960s, composite airframes and quieter, more efficient engines have become available, and Concorde provided supersonic passenger service for more than two decades, but the most important lasting innovations have taken place in instrumentation and control. The arrival of solid-state electronics, the Global Positioning System, satellite communications, and increasingly small and powerful computers and LED displays, have dramatically changed the cockpits of airliners and, increasingly, of smaller aircraft as well. Pilots can navigate much more accurately and view terrain, obstructions, and other nearby aircraft on a map or through synthetic vision, even at night or in low visibility.

From 2000 onward, aircraft manufacturers have enjoyed steady and rising revenues drove by increased air passenger traffic. Another key factor in the industry's growth during this period is the increase in traffic originating from emerging economies, such as Latin America, China and India. As these economies continue to develop, the demand for air travel is expected to rise even further.

History of PIA (Pakistan International Airlines)

After knowing the so long history of aviation broadly, now we must discuss about the PIA, because Biman was born from PIA after Liberation War of Bangladesh in 1971.

Air transport has probably never been more important to the development of a new nation than in the case of Pakistan. In June 1946, when Pakistan was still in the offing, Mr. Mohammad Ali Jinnah, the Founder of the upcoming nation, instructed Mr. M.A. Ispahani, a leading industrialist, to set up a national airline, on a priority basis. With his singular vision and foresight, Mr. Jinnah realized that with the formation of



Accounting and Reporting System of Airlines Industry

the two wings of Pakistan, separated by 1100 miles, a swift and efficient mode of transport was imperative.

On 23rd October 1946, a new airline was born. Initially registered as a pilot project in Calcutta, Orient Airways Ltd. had at its helm Mr. M.A. Ispahani as Chairman and Air vice Marshal O.K. Carter as General Manager. The new carrier's base remained in Calcutta and an operating license was obtained in May 1947.

Four Douglas DC-3s were purchased from Tempo of Texas in February 1947 and operations commenced on 4th June 1947. The designated route for Orient Airways was Calcutta-Akyab-Rangoon, which also happened to be the first post-war international sector to be flown by an airline registered in India. Within two months of Orient Airways' operational beginnings, Pakistan was born. The birth of a new nation generated one of the largest transfers of population in the history of mankind.

Orient Airways with a skeleton fleet of just two DC-3s, three crew members, and twelve mechanics, launched its scheduled operations in a fairy-tale manner. The initial routes were Karachi-Lahore-Peshawar, Karachi-Quetta-Lahore and Karachi-Delhi Calcutta-Dacca. By the end of 1949, Orient Airways had acquired 10 DC-3s and 3 Convair 240s which were operated on these routes. In 1950, it had become increasingly apparent that additional capacity would have to be inducted to cater to the growing needs of the sub-continent.

Orient Airways was a privately owned company, with limited capital and resources. It could not be expected to grow and expand independently. It was then that the Government of Pakistan decided to form a state-owned airline and invited Orient Airways to merge with it. The outcome of the merger was the birth of a new airline, named Pakistan International Airlines (PIA) on 11 March, 1955.

1.2 Overview of the airline business of the World

World Airline Outlook

The commercial aviation industry is in a dynamic period. Impacted by the worst recession in six decades, air travel, like the economy, is rebounding in 2010. Commercial aviation also discovered many downturns in the past. Yet recovery has followed quickly as the industry reliably returned to its long-term growth rate of approximately 5 percent per year.



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Air travel and economic growth are directly related

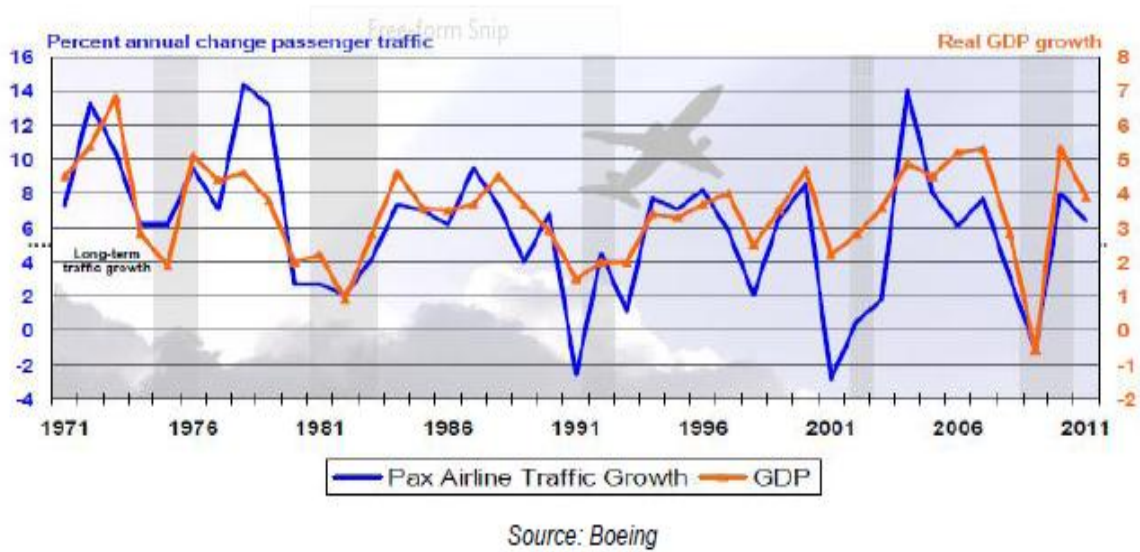


Figure 1: Direct relation between Air travel and Economic Growth

Despite uncertainties, 2011 passenger traffic rose 6 percent above 2010 levels which is expected this trend to continue over the next 20 years, with world passenger traffic growing 5 percent annually.

World air travel has grown 5% per year since 1980

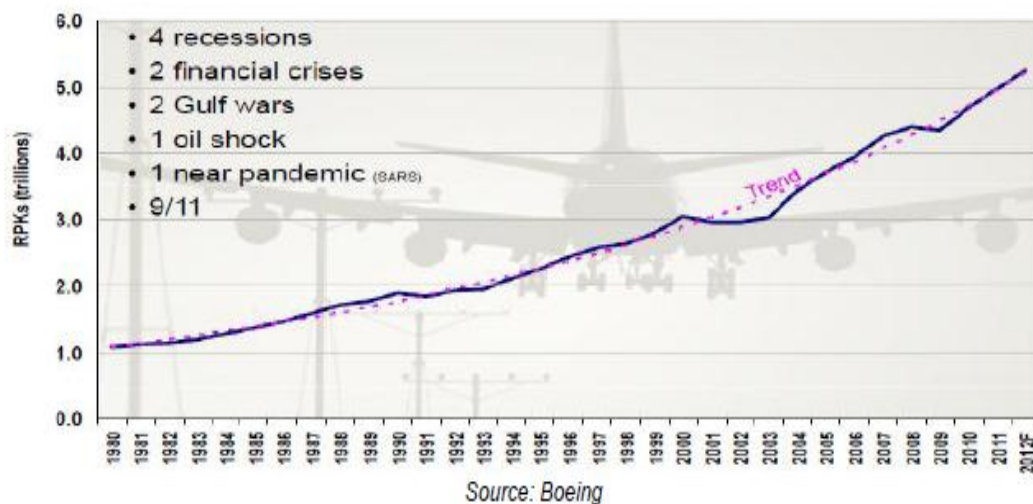


Figure 2: Growth of World air travel

There is significant variation in recovery between world regions – with the emerging markets of Asia Pacific, Latin America and Middle East leading the way, as illustrated in the following chart.



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The seasonally adjusted growth trend in international travel had flattened throughout 2012, but due to robust growth toward the end of 2011 and start of 2012, levels throughout the year remained high. There was a solid increase in the trend in

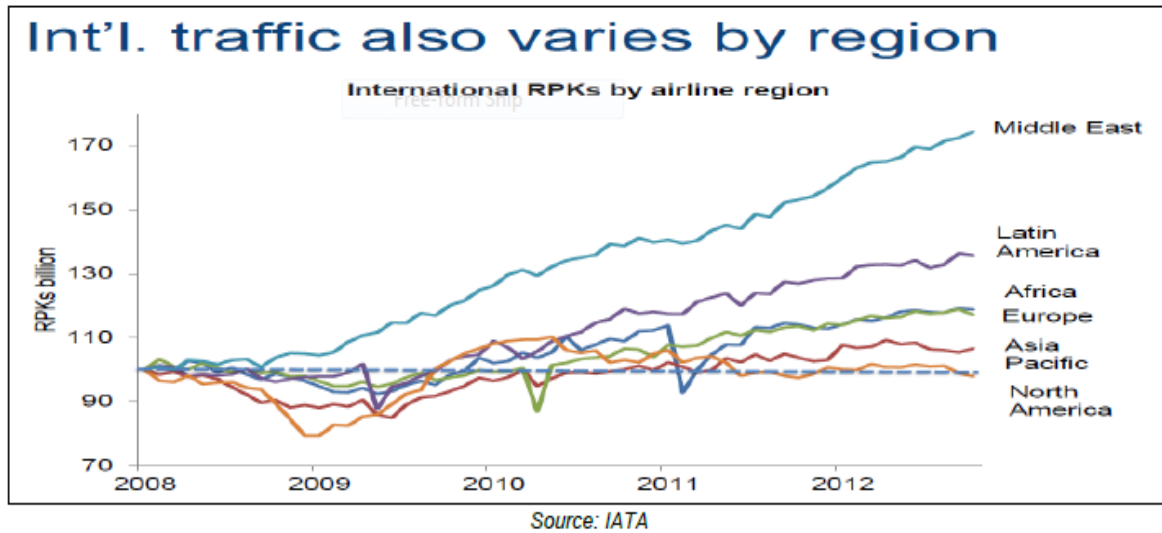


Figure 3: Variation of International traffic by region

December. Compared to 2011, international air travel has experienced strong growth of 6% with emerging regions driving a majority of that growth. Middle Eastern airlines contributed huge to the growth in international travel in 2012.

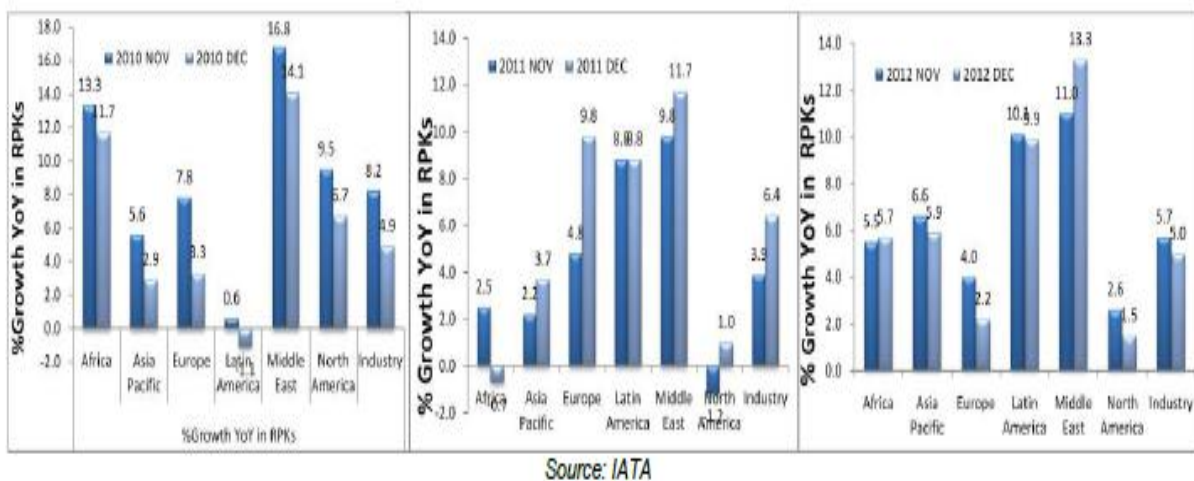


Figure 4: Contribution to the growth of International travel by different region

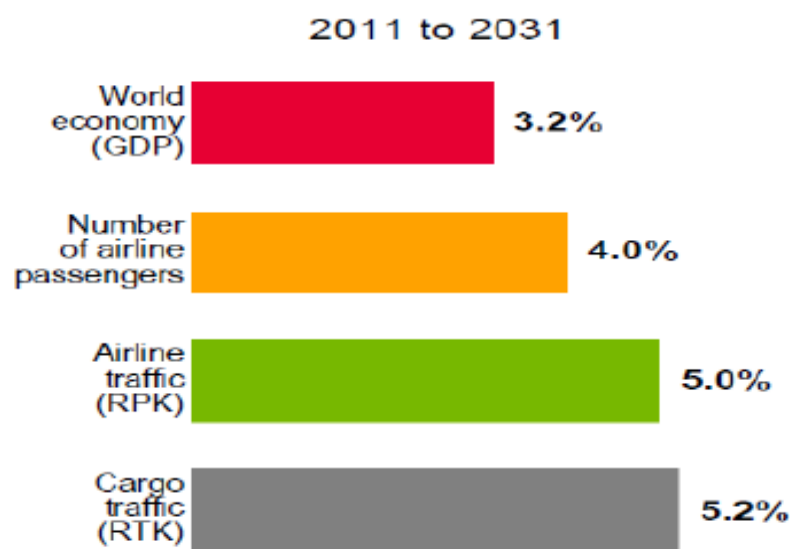
International air travel on Asia-Pacific airlines also contributed to the growth in overall international travel. Airlines in the region saw a 5.2% increase in international air travel in 2012, up on 2011 when the expansion was 4%. The region had seen a



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slowing growth trend in the middle months of the year, but over the last quarter there was acceleration in growth, contributing to the solid overall performance. Recent months have shown signs of a revival in the Chinese economy, with business confidence moving further into expansionary territory. Furthermore, growth momentum in both Asian imports and exports picked up in Q4 2012, also providing a boost to air transport demand in the region.

Air cargo traffic has been moderating after a high period in 2010. Air freight capacity was reduced throughout 2012, but the decline in traffic demand was greater leading to a slight fall in load factors in 2012 compared to 2011. Airline cargo businesses continue to face difficult conditions with demand for air freight falling in 2012, yields



Source: Boeing 2012 Current Market Outlook

Figure 5: Global Air traffic growth rate

continuing to trend downward, and oil prices remaining high. Although world trade volumes continue to expand, growth has slowed as the European economy contracts overall in 2012.

Global economic growth for 2012 remains weak at just over 2%. Emerging economies continue to outpace developed countries. Air freight volumes fell in 2012 as weakness in developed country economies dampened demand for air-freighted goods. Sea freight rates and volumes are growing solidly. Emerging regions are generating most of the growth in container shipping, while weaker developed country economies are offering no support to air freight markets. Asia-Pacific airlines, which



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have the largest share of the air freight market (39.1%), experienced the steepest decline in freight load factors in 2012, hurting cargo profitability. Middle Eastern airlines expanded capacity more than any other region, but also managed to improve load factors.

Cargo traffic, down sharply in 2009, is rebounding strongly, with 25 percent growth year over year in the first half of 2010, led primarily by Asian export markets. Expansion of emerging-market economies will, however, promote the growth of air cargo 5.2 percent annually through 2031.

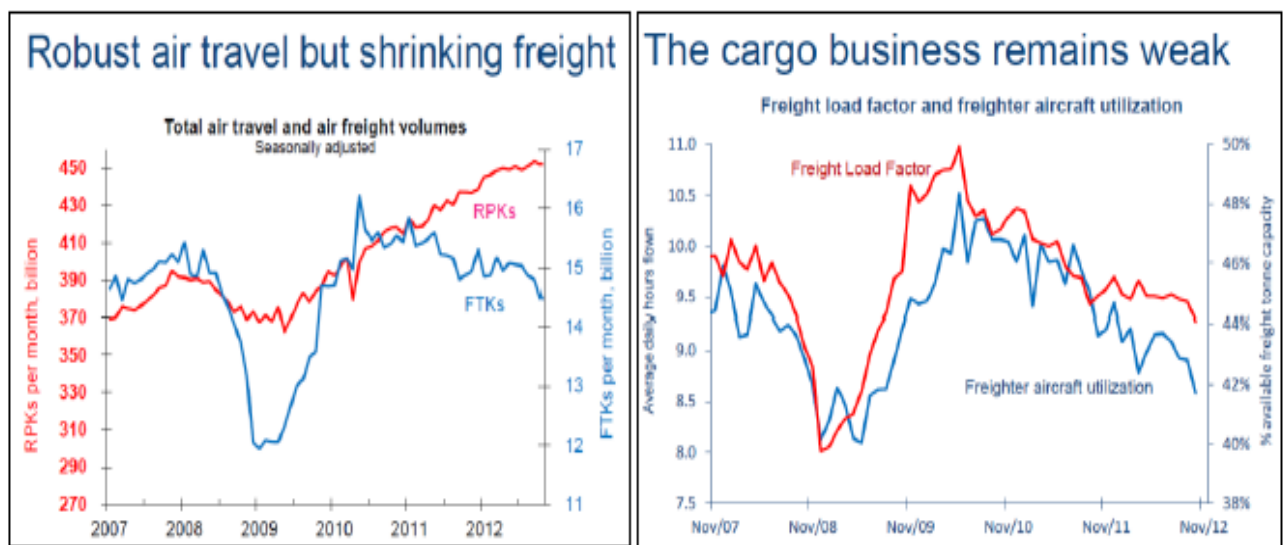


Figure 6: Total air travel and air freight volumes

Figure 7: Freight load factor and aircraft utilization

Despite the near-term issues, the long-term factors that drive air travel growth remain strong. Worldwide economic activity, reflected in the global gross domestic product (GDP), is the most powerful driver of growth in commercial air services. The global GDP is projected to grow at an average of 3.2 percent per year for the next 20 years. Reflecting the economic growth, worldwide passenger traffic will average 5.0 percent growth and cargo traffic will average 5.2 percent growth over the forecast period.

Asia Pacific Outlook

Most economies in the Asia Pacific region weathered the economic downturn well and are growing rapidly again. Emerging regions continue to grow at a much faster



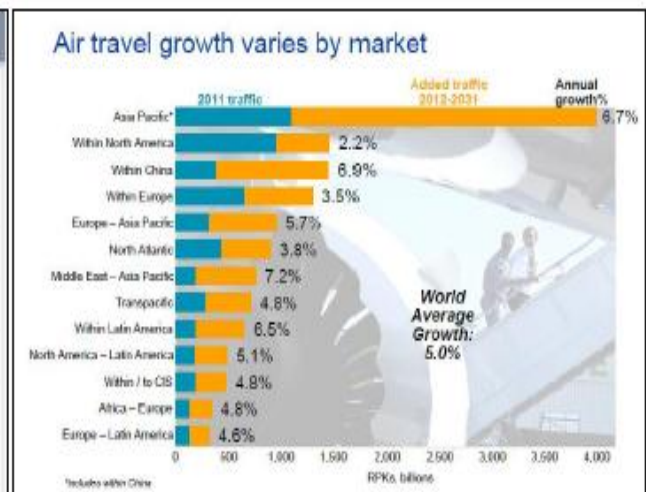
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pace than Western economies, with governments of Russia, India and China maintaining relatively looser fiscal positions. And despite softer economic growth in 2012 compared to 2011, Asia Pacific economies are expected to see stronger growth in the next years. With China and India leading the growth among emerging markets, the region's economy will grow at a rate of 4.6 percent per year for the next 20 years, significantly outpacing the world's average growth rate. The region will see its share of the world GDP expand from 26 percent today to 34 percent by 2029. Air traffic growth in the region has proven to be resilient. The demand outlook for Asia Pacific aviation is strong as reflected in the forecast of both the giant aircraft manufacturers Airbus and Boeing.



Source: Airbus

Figure 8: World Traffic by airline domicile



Source: Boeing

Figure 9: Air travel growth by market

Travel volumes in Asia Pacific overall are both relatively large and rapidly growing. Asia Pacific will account for 41 percent of travel in 20 years' time, up from around 32 percent today. In fact, in less than 10 years, Asia Pacific will easily be the largest air travel market in the world. China is leading the way; with 8.6 percent growth per year over the next 20 years. Half of the world's new traffic added during the next 20 years will be to, from, or within the Asia Pacific region. Total traffic for the region will grow 6.8 percent per year during the period. Driven by economic development and the increasing accessibility of air transport services, traffic within the region will grow faster than traffic to and from other regions. Shorter-haul flying, including domestic travel and international travel within the region, will grow 7.1 percent per year.



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The region depends heavily on air cargo to transport goods over difficult terrain and vast stretches of ocean. Some of the world's largest and most efficient cargo operators compete to transport high-value and time-sensitive exports to markets outside the region. Air cargo growth will total 6.8 percent per year during the next 20 years. Across Asia, there is huge growth in disposable income, ramped-up access to credit cards and the Internet, and increased cross-border trade. South-east Asia, in particular, with its combined population of over 500 million, myriad islands and under-developed road and rail infrastructure, is well-placed for aviation growth. Indeed, the expectation of ASEAN passenger demand to be doubled by 2020. This is fairly an exciting market for all participants in the aviation industry.

This strong demand outlook is however clouded by both possible near-term shocks and certain long-term trends. Irrational excitement in aircraft orders by Asian airlines is engendering a situation of capacity over-supply and excessive price competition. Increasing liberalization also makes it easier for airlines to compete outside of their home markets. In the US and Europe, this combination of overcapacity and liberalization has invariably yielded market consolidation, with only the strongest airlines surviving in their original form.

South Asia Outlook

South Asian air travel is expected to grow 8.4 percent per year over the next 20 years, outpacing all other regions in our long-term forecast. Traffic will remain focused on the Asian continent, with the largest flows comprising domestic travel and travel within South Asia and flights to and from the Middle East and Southeast Asia.

Economic development and socioeconomic shifts are leading to rapid economic growth and expansion of air travel. A growing share of South Asia's large population (totaling 1.65 billion in 2011) is entering the workforce for the first time, boosting economic activity and incomes. Real gross domestic product (GDP) grew 7.3 percent per year from 2001 to 2011. Emerging markets averaged only 6 percent growth during the same period. Incomes increased even faster, with GDP per capita growing by about 10 percent per year. With continued government support of economic policy liberalization, market reform, and investment, India could become the world's fourth-largest economy within 20 years.



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Table 1: Key indicators of South Asia Growth measures

South Asia Key Indicators		
Growth Measures	Economy (GDP)	7.1%
	Traffic (RPK)	8.4%
	Cargo (RTK)	5.9%
	Airplane Fleet	7.2%

Source: Boeing

South Asia's airlines have been helped by liberalization in key markets, including the domestic Indian market, and flights between India and the Middle East. Liberalization allows airlines to open routes, add frequencies, and try new business models. As a result, air transport has become more convenient and less expensive throughout South Asia.



Source: Boeing

Figure 10: South Asia traffic, current market outlook

Bangladesh Outlook

Bangladesh air traffic has recovered from the 2009 recession. Historically, this traffic has been dominated by non-Bangladeshi carriers, with local operators flying between 33 and 38 percent of all ASKs.



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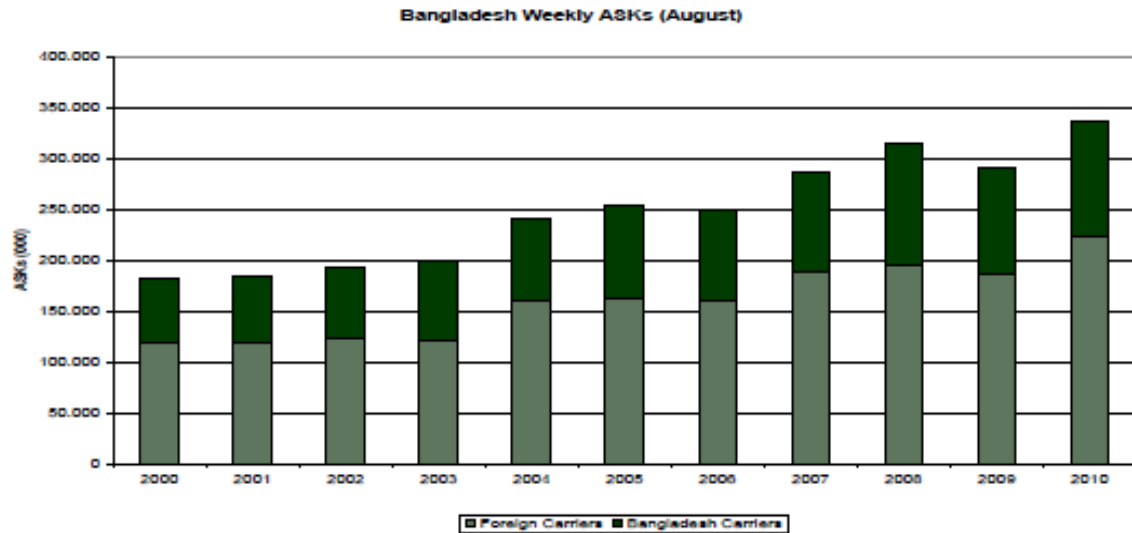


Figure 11: Weekly (August 2000-2010) Available Seat Kilometers (ASKs) of Bangladesh (Source: OAG Aug 2000 – 2010)

The air traffic outlook for Bangladesh, while not forecast to be as robust as the overall region, still shows strong growth in the near term. The IATA 2009 forecast projects that passenger volume to/from Bangladesh will grow at an average rate of 4.6 percent per year between 2009 and 2013.

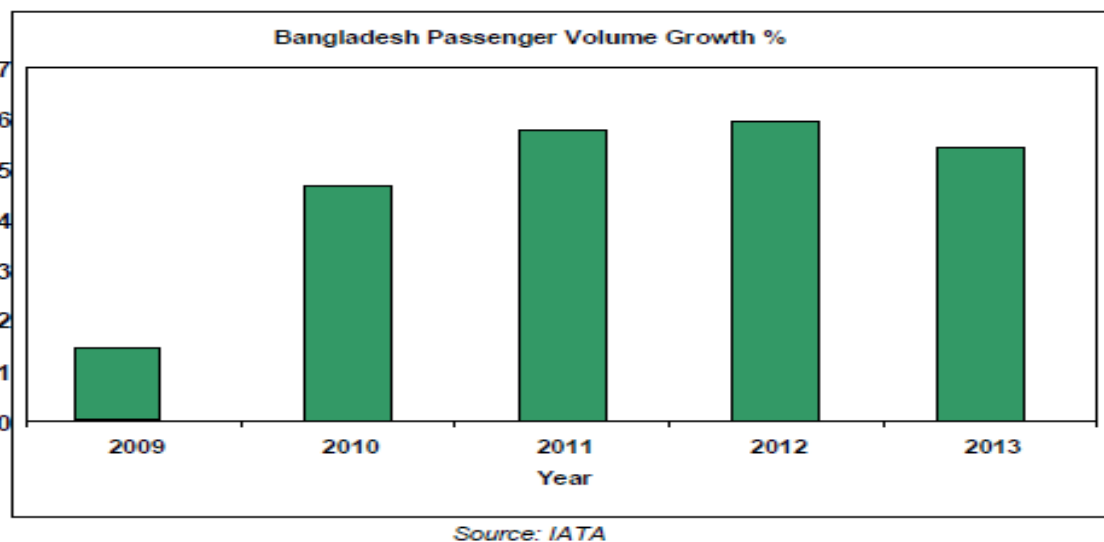


Figure 12: Growth rate of Bangladesh passenger

1.3 Pattern of business of airline industry

Few inventions have changed how people live and experience the world as much as the invention of the airplane. During both World Wars, government subsidies and



Accounting and Reporting System of Airlines Industry

demands for new airplanes vastly improved techniques for their design and construction. Following the World War II, the first commercial airplane routes were set up in Europe. Over time, air travel has become so commonplace that it would be hard to imagine life without it. The airline industry, therefore, certainly has progressed. It has also altered the way in which people live and conduct business by shortening travel time and altering our concept of distance, making it possible for us to visit and conduct business in places once considered remote.

The airline industry exists in an intensely competitive market. In recent years, there has been an industry-wide shakedown, which will have far-reaching effects on the industry's trend towards expanding domestic and international services. In the past, the airline industry was at least partly government owned. This is still true in many countries, but in the U.S. all major airlines have come to be privately held.

The airline industry can be separated into four categories by the U.S. Department of Transportation (DOT):

- **International** - 130+ seat planes that have the ability to take passengers just about anywhere in the world. Companies in this category typically have annual revenue of \$1 billion or more.
- **National** - Usually these airlines seat 100-150 people and have revenues between \$100 million and \$1 billion.
- **Regional** - Companies with revenues less than \$100 million that focus on short-haul flights.
- **Cargo** - These are airlines generally transport goods.

Airport capacity, route structures, technology and costs to lease or buy the physical aircraft are significant in the airline industry. Other large issues are:

- **Weather** - Weather is variable and unpredictable. Extreme heat, cold, fog and snow can shut down airports and cancel flights, which costs an airline money.
- **Fuel Cost** - According to the Air Transportation Association (ATA), fuel is an airline's second largest expense. Fuel makes up a significant portion of an airline's total costs, although efficiency among different carriers can vary widely. Short haul airlines typically get lower fuel efficiency because take-offs and landings consume high amounts of jet fuel.



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- **Labor** - According to the ATA, labor is the an airline's No.1 cost; airlines must pay pilots, flight attendants, baggage handlers, dispatchers, customer service and others.

Key Ratios/Terms:

Available Seat Mile = (total # of seats available for transporting passengers) X (# of miles flown during the period)

Revenue Passenger Mile = (# of revenue-paying passengers) X (# of mile flown during the period)

Revenue Per Available Seat Mile = (Revenue) X (# of seats available)

Air Traffic Liability (ATL): An estimate of the amount of money already received for passenger ticket sales and cargo transportation that is yet to be provided. It is important to find out this figure so you can remove it from quoted revenue figures (unless they specially state that ATL was excluded).

Load Factor: This indicator, compiled monthly by the Air Transport Association (ATA), measures the percentage of available seating capacity that is filled with passengers. Analysts state that once the airline load factor exceeds its break-even point, then more and more revenue will trickle down to the bottom line. Keep in mind that during holidays and summer vacations load factor can be significantly higher, therefore, it is important to compare the figures against the same period from the previous.

Analyst Insight

Airlines also earn revenue from transporting cargo, selling frequent flier miles to other companies and up-selling in-flight services. But the largest proportion of revenue is derived from regular and business passengers. For this reason, it is important that you take consumer and business confidence into account on top of the regular factors that one should consider like earnings growth and debt load. Business travelers are important to airlines because they are more likely to travel several times throughout the year and they tend to purchase the upgraded services that have higher margins for the airline. On the other hand, leisure travelers are less likely to purchase these premium services and are typically very price sensitive. In



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times of economic uncertainty or sharp decline in consumer confidence, you can expect the number of leisure travelers to decline.

It is also important to look at the geographic areas that an airline targets. Obviously, more market share is better for a particular market, but it is also important to stay diversified. Try to find out the destination to which the majority of an airline's flights are traveling. For example, an airline that sends a high number of flights to the Caribbean might see a dramatic drop in profits if the outlooks for leisure traveler look poor.

A final key area to keep a close eye on is costs. The airline industry is extremely sensitive to costs such as fuel, labor and borrowing costs. If you notice a trend of rising fuel costs, you should factor that into your analysis of a company. Fuel prices tend to fluctuate on a monthly basis, so paying close attention to these costs is crucial.

Porter's 5 Forces Analysis

1. Threat of New Entrants. At first glance, you might think that the airline industry is pretty tough to break into, but don't be fooled. You'll need to look at whether there are substantial costs to access bank loans and credit. If borrowing is cheap, then the likelihood of more airliners entering the industry is higher. The more new airlines that enter the market, the more saturated it becomes for everyone. Brand name recognition and frequent fliers point also play a role in the airline industry. An airline with a strong brand name and incentives can often lure a customer even if its prices are higher.

2. Power of Suppliers. The airline supply business is mainly dominated by Boeing and Airbus. For this reason, there isn't a lot of cutthroat competition among suppliers. Also, the likelihood of a supplier integrating vertically isn't very likely. In other words, you probably won't see suppliers starting to offer flight service on top of building airlines.

3. Power of Buyers. The bargaining power of buyers in the airline industry is quite low. Obviously, there are high costs involved with switching airplanes, but also take a look at the ability to compete on service. Is the seat in one airline more comfortable



Accounting and Reporting System of Airlines Industry

than another? Probably not, unless you are analyzing a luxury liner like the Concorde Jet.

4. Availability of Substitutes. What is the likelihood that someone will drive or take a train to his or her destination? For regional airlines, the threat might be a little higher than international carriers. When determining this you should consider time, money, personal preference and convenience in the air travel industry.

5. Competitive Rivalry. Highly competitive industries generally earn low returns because the cost of competition is high. This can spell disaster when times get tough in the economy.

1.3.1 How major Airlines are structured:

There are some common factors or materials for major airlines, should follow to establish the airlines. These are:

Line Personnel: These include everyone directly involved in producing or selling an airline's services – the mechanics, who maintain the planes; the pilots, who fly them; the flight attendants, who serve passengers and perform various inflight safety functions; the reservation clerks, airport check-in and gate personnel, who book and process the passengers; ramp-service agents, security guards, etc. Line personnel generally fall into three broad categories: engineering and maintenance, flight operations, and sales and marketing. These three divisions form the heart of an airline and generally account for 85 percent of an airline's employees.

Operations: This department is responsible for operating an airline's fleet of aircraft safely and efficiently. It schedules the aircraft and flight crews and it develops and administers all policies and procedures necessary to maintain safety and meet all FAA operating requirements. It is in charge of all flight-crew training; both initial and recurrent training for pilots and flight attendants, and it establishes the procedures crews are to follow before, during and after each flight to ensure safety.

Dispatchers also are part of flight operations. Their job is to release flights for takeoff, following a review of all factors affecting a flight. These include the weather, routes the flight may follow, fuel requirements and both the amount and distribution of



Accounting and Reporting System of Airlines Industry

weight onboard the aircraft. Weight must be distributed evenly aboard an aircraft for it to fly safely.

Maintenance: Maintenance accounts for approximately 11 percent of an airline's employees and 10-15 percent of its operating expenses. Maintenance programs keep aircraft in safe, working order; ensure passenger comfort; preserve the airline's valuable physical assets that mean its aircraft; and ensure maximum utilization of those assets, by keeping planes in excellent condition. An airplane costs its owner money every minute of every day, but makes money only when it is flying with freight and/or passengers aboard. Therefore, it is vital to an airline's financial success that aircraft are properly maintained.

Airlines typically have one facility for major maintenance work and aircraft modifications, called the maintenance base; larger airlines sometimes have more than one maintenance base. Smaller maintenance facilities are maintained at an airline's hubs or primary airports, where aircraft are likely to be parked overnight. Called major maintenance stations, these facilities perform routine maintenance and stock a large supply of spare parts. A third level of inspection and repair capability is maintained at airports, where a carrier has extensive operations, although less than at its hubs. These maintenance facilities generally are called maintenance stations.

Sales and Marketing: This division encompasses such activities as pricing, scheduling, advertising, ticket and cargo sales, reservations and customer service, including food service. While all of them are important, pricing and scheduling in particular can make or break an airline, and both have become more complicated since deregulation. Airline prices change frequently in response to supply and demand and to changes in the prices of competitors' fares. Schedules change less often, but far more often than when the government regulated the industry. Airlines use sophisticated computer reservation systems to advertise their own fares and schedules to travel agents and to keep track of the fares and schedules of competitors. Travel agents, who sell approximately 80 percent of all airline tickets, use the same systems to book reservations and print tickets for travelers.

Reservations and Ticketing: There are major changes in air transportation, which simplify the process for airline passengers to make a reservation and to purchase a ticket. Electronic commerce is playing a significant part in the airline industry. In



Accounting and Reporting System of Airlines Industry

In addition to the paper tickets issued in the past, all of the major airlines are now offering electronic ticketing for domestic and international air travel. Electronic ticketing allows an airline to document the sale and track the usage of transportation. Passengers no longer worry about carrying flight coupons or losing their tickets. Passengers have the ability to shop for the lowest priced transportation, make or change a reservation, request refunds etc., not only from their travel agent but from their own personal home computer or from a telephone, on the way to the airport. A boarding pass is issued at the airport in exchange for proof of a reservation, an airline confirmation number and payment, cash or a major credit card. The number of air travelers shopping, making reservations and purchasing electronic tickets using the Internet is increasing daily. Self-service automated ticketing machines are also widely available at major airports around the country.

The next step for airlines will be to automate the check-in procedure. Electronic self-service check-in computer kiosks at major airports will soon be available for most passengers using electronic tickets. Self-service machines will enable passengers to verify their itinerary, obtain class of service upgrades, select specific seat assignments, check baggage with bar-coded baggage tags and obtain their own boarding passes.

Staff Personnel: These include specialists in such fields as law, accounting, finance, employee relations and public relations. Their function is to support the work of the line personnel, so that the airline runs efficiently and earns a profit. For the most part, staff personnel work out of corporate headquarters and fall into seven broad job categories typical of major corporations: finance & property, information services, personnel, medical, legal, public relations and planning.

Finance & property handles company revenues and finances. In addition, it oversees all company property and the purchase of food, fuel, aircraft parts and other supplies needed to run an airline. Information services designs and maintains the company's internal computer systems, used to store and analyze data needed for operations and planning. At an airline, this includes the important function of fleet planning.

Subcontractors: While major airlines typically do most of their own work, it is common for them to farm out certain tasks to other companies. These tasks could include aircraft cleaning, fueling, airport security, food service and in some instances,



Accounting and Reporting System of Airlines Industry

maintenance work. Airlines might contract out for all of this work or just a portion of it, keeping the jobs in house at their hubs and other key stations. However, whether an airline does the work itself or relies on outside vendors, the carrier remains responsible for meeting all applicable federal safety standards.

For safe and secure transportation of airlines industry, need follow airlines rules and regulations; IATA and ICAO defined all. Now we will take greater understanding about International Air Transport Association (IATA) and International Civil Aviation Organization (ICAO).

1.4 International Air Transport Association (IATA)

The International Air Transport Association (IATA) is an international industry trade group of airlines headquartered in Montreal, Quebec, Canada, where the International Civil Aviation Organization is also headquartered. The executive offices are at the Geneva Airport in Switzerland.

IATA's mission is to represent, lead, and serve the airline industry. IATA represents some 240 airlines comprising 84 percent of scheduled international air traffic. The Director General and Chief Executive Officer is Tony Tyler. Currently, IATA is present in over 150 countries covered through 101 offices around the globe.

History: IATA was formed on 19 April 1945, in Havana, Cuba. It is the successor to the International Air Traffic Association, founded in The Hague in 1919, the year of the world's first international scheduled services. At its founding, IATA had 57 members from 31 nations, mostly in Europe and North America. Today it has about 243 members (as of April 2012) from more than 126 nations in every part of the world.

Mission: IATA's stated mission is to represent, lead and serve the airline industry. All the Airline rules and regulations are defined by IATA. The main aim of IATA is to provide safe and secure transportation to its passengers.

Activities: IATA is doing a great job for all IATA members' airlines of the world. All significant activities of IATA are discussing below:

A. Price setting



Accounting and Reporting System of Airlines Industry

One of its core functions was to act as a price setting body for international airfare. In an arrangement going back to 1944, international fare prices have been set through bilateral governmental agreements rather than through market mechanisms. Airlines had been granted a special exemption by each of the main regulatory authorities in the world to consult prices with each other through this body.

Originally both domestic and international aviation were highly regulated by IATA. Since 1978 in US and later in Europe, domestic deregulation highlighted the benefits of open markets to consumers in terms of lower fares and companies in terms of more efficient networks. This led to the formation of bilateral "open skies" agreements that weakened IATA's price fixing role. Negotiations are underway since 2003 to create a completely deregulated aviation market covering European and US airspace.

In recent years the organization has been accused of acting as a cartel, and many low cost carriers are not full IATA members. The European Union's competition authorities are currently investigating the IATA. In 2005, Neelie Kroes, the European Commissioner for Competition, made a proposal to lift the exception to consult prices. In July 2006, the United States Department of Transportation also proposed to withdraw antitrust immunity. IATA teamed with SITA for an electronic ticketing solution.

The effect of the antitrust investigations has been that 'IATA fares' have been withdrawn-

1. Within EU at the end of 2006
2. Between EU-USA and between EU-Australia at the end of June 2007
3. Between EU and the rest of the world ended the end of October 2007
4. Australian competition authority ACCC ended immunity in June 2008 for markets to/from Australia

IATA has responded to the demise of the IATA fares by introducing a new fare class - Flex fares. However, these new fares are not replacement of the earlier full IATA fare, and a number of airlines (including Lufthansa) are not participating in this.



Accounting and Reporting System of Airlines Industry

For fare calculations IATA has divided the world in three regions:

1. South, Central and North America.
2. Europe, Middle East and Africa. IATA Europe includes the geographical Europe and Turkey, Israel, Morocco, Algeria and Tunisia.
3. Asia, Australia, New Zealand and the islands of the Pacific Ocean.

B. Other activities:

- a. IATA assigns three-letter and two-letter codes to airports and airlines, respectively, which are commonly used worldwide. ICAO also assigns airport and airline codes. For Rail & Fly systems, IATA also assigns IATA train station codes. For delay codes, IATA assigns IATA Delay Codes.
- b. IATA is pivotal in the worldwide accreditation of travel agents. In the U.S., agents who wish to sell airline tickets must also achieve accreditation with the Airlines Reporting Corporation. Over 80% of airlines' sales come from IATA accredited agents. The IATA / IATAN ID Card are a globally recognized industry credential for travel professionals.
- c. IATA administrates worldwide the Billing and Settlement Plan (BSP) and Cargo Accounts Settlement Systems (CASS) that serve as a facilitator of the sales, reporting and remittance of accredited travel and cargo agencies. Both settlement programmers are ruled by standards and resolutions.
- d. IATA regulates the shipping of dangerous goods and publishes the IATA Dangerous Goods Regulations manual (DGR) yearly, a globally accepted (de facto) field source reference for airlines' shipping of hazardous materials.
- e. IATA coordinates the Scheduling process which governs the allocation and exchange of slots at congested airports worldwide, applying fair, transparent and non-discriminatory principles. In consultation with the airline and airport coordinator communities, IATA manages and publishes the industry standards in the Worldwide Scheduling Guidelines (WSG) intended to provide guidance on managing the allocation of slots at airports.
- f. IATA maintains the Timatic database containing cross border passenger documentation requirements. It is used by airlines to determine whether a



Accounting and Reporting System of Airlines Industry

passenger can be carried, as well as by airlines and travel agents to provide this information to travelers at the time of booking.

- g. IATA publishes standards for use in the airline industry. The Bar Coded Boarding Pass (BCBP) standard defines the 2-dimensional (2D) bar code printed on paper boarding passes or sent to mobiles phones as electronic boarding passes. The Electronic Miscellaneous Document (EMD) defines a standard document to account airlines sales and track usage of charges.
- h. IATA publishes the IATA Rates of Exchange (IROE) four times per year, used with the Neutral Unit of Construction (NUC) fare currency-neutral construction system that superseded the older Fare Construction Unit (FCU) system in 1989.
- i. In 2004, IATA launched Simplifying the Business - a set of five initiatives which it says will save the industry US\$6.5 billion every year. These projects are BCBP, IATA e-freight, CUSS (common use self-service), Baggage Improvement Program (BIP) and the Fast Travel Program.
- j. In 2003, the IATA Operational Safety Audit (IOSA) was launched with the aim to serve as a standard and worldwide recognized certification of airlines' operational management. The IOSA certification has now become a mandatory requisite for all IATA member airlines.
- k. IATA is a member of the Air Transport Action Group (ATAG).

In 2011, the election of James Hogan, the serving CEO of Etihad, to IATA's board was criticized by CEOs of regional carriers Qatar Airways and Emirates. The election was considered indicative of IATA's prevailing image as "an entity run by the very few" without due consultation from participants.

1.5 International Civil Aviation Organization (ICAO)

International civil Aviation Organization is another helpful organization for airlines industry of the world. This is also working for its members' states about all aviation facilities.

History: The forerunner to the ICAO was the International Commission for Air Navigation (ICAN). It held its first convention in 1903 in Berlin, Germany but no agreements were reached among the eight countries that attended. At the second



Accounting and Reporting System of Airlines Industry

convention in 1906, also held in Berlin, 27 countries attended. The third convention, held in London in 1912 allocated the first radio call signs for use by aircraft. ICAN continued to operate until 1945.

Fifty-two countries signed the Convention on International Civil Aviation, also known as the Chicago Convention, in Chicago, Illinois, on 7 December 1944. Under its terms, a Provisional International Civil Aviation Organization (PICAO) was to be established, to be replaced in turn by a permanent organization when 26 countries ratified the convention. Accordingly, PICAO began operating on 6 June 1945, replacing ICAN. The 26th country ratified the Convention on 5 March 1947 and, consequently PICAO was disestablished on 4 April 1947 and replaced by the ICAO, which began operations the same day. In October 1947, the ICAO became an agency of the United Nations linked to the United Nations Economic and Social Council (ECOSOC).

About ICAO: A specialized agency of the United Nations, the International Civil Aviation Organization (ICAO) was created in 1944 to promote the safe and orderly development of international civil aviation throughout the world. Constantly seeking to foster and support the sustainable growth of air transport, the International Civil Aviation Organization serves as the global forum for its 191 Member States. It sets standards and regulations necessary for aviation safety, security, efficiency and regularity, as well as for aviation environmental protection.

Vision & Mission: The ICAO or International Civil Aviation Organization is the global forum for civil aviation. ICAO works to achieve its vision of safe, secure and sustainable development of civil aviation through the cooperation of its Member States.

Strategic Objectives of ICAO: There are so many strategic objectives of ICAO, established by ICAO, to serve its member states airlines business and for better understanding about aviation. Strategic objectives are given below (details in appendix 13):

ICAO Strategic Objectives of ICAO for 2011-2012-2013:

As the global forum for cooperation among its Member States and with the world aviation community, the International Civil Aviation Organization (ICAO) sets standards and



Accounting and Reporting System of Airlines Industry

recommended practices for the safe and orderly development of international civil aviation. In its ongoing mission to foster a global civil aviation system that consistently and uniformly operates at peak efficiency and provides optimum safety, security and sustainability, ICAO has established three Strategic Objectives:

- A. Safety – Enhance global civil aviation safety**
- B. Security – Enhance global civil aviation security**
- C. Environmental Protection and Sustainable Development of Air Transport – *Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment.*** The aforementioned Strategic Objectives form the basis for the Organization’s activities for the period 2011- 2012-2013 as outlined in the attached ICAO Framework. The Framework consists of 37 Programs under the three Strategic Objectives as well as 14 programs under the Supporting Implementation Strategies which are divided into “Program Support”, “Management and Administration” and “Management and Administration – Governing Bodies”.

Strategic Objectives of ICAO for 2005-2010:

The International Civil Aviation Organization, a UN Specialized Agency, is the global forum for civil aviation.

ICAO works to achieve its vision of safe, secure and sustainable development of civil aviation through cooperation amongst its member States.

To implement this vision, the Organization has established the following Strategic Objectives for the period 2005-2010:

- A: Safety - Enhance global civil aviation safety**
- B: Security - Enhance global civil aviation security**
- C: Environmental Protection - Minimize the adverse effect of global civil aviation on the environment**
- D: Efficiency - Enhance the efficiency of aviation operations**
- E: Continuity - Maintain the continuity of aviation operations**
- F: Rule of Law - Strengthen law governing international civil aviation**

Supporting Implementation Strategies

To implement its Strategic Objectives, the Organization will take the necessary steps to:

- 1. Operate in a transparent manner and communicate effectively both externally and**



Accounting and Reporting System of Airlines Industry

internally;

2. Maintain the effectiveness and relevance of all documents and materials;
3. Identify risk management and risk mitigation strategies as required;
4. Continuously improve the effective use of its resources;
5. Enhance the use of information and communication technology integrating it into its work processes at the earliest possible opportunity;
6. Take into account the potential impacts on the environment of its practices and operations;
7. Improve its use of diverse human resources in line with the best practices in the UN system; and
8. Operate effectively with the highest standard of legal propriety.

1.6 Airline financial statements

The statements that are covered are the Profit and Loss or Income Statement, the balance sheet, and the cash flow statement. The value added statement is also explained in financial statement, although it is not widely used by airlines.

The accounts describe the financial position of the airline at a particular moment or between two points in time. They are thus central to evaluating the performance of the management of the airline's finances. They enable the management and owners of an airline to answer two main questions:

- Is the airline operating at a profit or loss?
- Will the airline be able to meet its financial commitments as they fall due, and so not have to close down because of lack of funds?

The system of accounts is not, however, ideally suited for management tasks such as pricing or product costing and planning, or for deriving economists' measures such as value added. The record making part of accounting is usually called book-keeping, performed by means of a double entry system. This analysis and interpretation of the published accounts of airlines could be the aim of the following interested parties:

- | | |
|--|--------------------------------------|
| <p>A. Shareholders.</p> <p>B. Banks, and other debt holders and creditors.</p> | <p>D. Industry regulators</p> |
|--|--------------------------------------|



Accounting and Reporting System of Airlines Industry

C. Financial analysts.

E. Employees

.Many airline managements are extremely secretive about their financial data, and only release the minimum required by company law or stock exchange rules. Government owned airlines are usually run as legally constituted corporations, and generally do publish annual accounts in some form, even though they may only be available a considerable time after the end of the financial year. Airlines with stock market quotations are usually required to release financial information which is timely, in sufficient detail, and available to all at the same time. Publicly quoted airlines generally control the release of information through an investor relations department.

The directors of an airline contract with a firm of auditors to examine the books and annual financial statements of the company on behalf of the shareholders. Then they issue a report which will conclude with their opinion as to whether the accounts give a true and fair view of the state of affairs of the company or group on a certain date, and whether they comply with company legislation. The way the auditors are hired, by management rather than directly by shareholders, have led to criticism of the objectivity of their opinions in certain cases.

Individual accounts also available from the airlines (with an increasing number now available on the internet), as well as through civil aviation authorities, and from inspection of copies filed with governments as a result of company legislation. Sources giving the financial results and balance sheets of a number of different airlines in broadly comparable format are:

- International Civil Aviation Organization (ICAO), Financial Statistics, Series F.
- Stockbroker and finance house airline industry reports (distribution tends to be restricted to their clients).
- DataStream and other on-line databases.

The last two cover only airlines with publicly quoted shares, which have sufficiently large daily trading turnover (and thus interest from institutional investors). The first is not consistent in coverage from year to year, and is only available more than a year after the end of the financial year.



Accounting and Reporting System of Airlines Industry

The financial year of an airline usually runs from January to December (all US and many other world airlines) or April to March (British Airways and many airlines based in British Commonwealth countries).Some airlines have recently changed their year- end to bring them into line at least with others in the region. For example, Delta Airlines changed from end June to end December; Air France moved away from a calendar year basis to a financial year ending at the end of March from 1994-95.

Profit and Loss account (Income Statement)

The profit and Loss Account or statement of Earnings summaries the revenues and expenses of the airline for the accounting period:

Revenue: - Conversion of real assets into cash. Under the accrual basis of accounting, cash receipts are allocated to the period in which the related service took place.

Expenditure: - Conversion of cash into real assets. Expenses are charged to Profit and Loss Account in the same accounting period as the one in which the related revenue is recognized. Certain large expenses will need to be charged over a number of years, since these assets will provide the potential to generate revenue over a longer period of time:

- | | |
|---|--|
| <p>a. Aircraft and other fixed assets.</p> <p>b. Goodwill, route or airport slot rights</p> | <p>c. New route start-up costs.</p> <p>.d. Non-recurring training costs.</p> |
|---|--|

This process of allocation is called depreciation for tangible assets such as aircraft, and amortization for intangible assets such as pilot training costs, goodwill or the rights to routes or slots.

The Profit and Loss Account or Income Statement can be divided into:

- A.** Trading or operating account. **B.** Profit and loss account or income statement
- C.** Appropriation account or statement of earned surplus.
- D.** Treatment of ordinary or exceptional items as extraordinary (or vice versa) can make a very significant difference to earnings per share and other financial ratios.



Accounting and Reporting System of Airlines Industry

E. They may signal important changes in the nature of the business.

F. They may give clues to the quality of management, and the future profitability of the airline.

There are two major traditions of accounting practice:

One represented by the US, UK and the Netherlands whose emphasis is on providing information for investors and the capital markets, and the other, represented by Germany, France and Japan, which is driven by tax assessment requirements, and where banks rather than equity investors have tended to be more important in financing.

The first group produces one conditional set of accounts for the tax authorities and publishes another for investors. The emphasis is thus on showing a good profit performance to investors. The other groups are more concerned with minimizing tax payments, and thus try to minimize declared profits. This group does not need to provide detailed information to investors, since they are likely to be large banks with seats on their board and access to detailed management accounts. Indeed, they see the provision of too much detail in published accounts as possibly conferring some advantages on competitors

Balance Sheet (Statement of Financial Position)

The Balance Sheet, also called Statement of Financial Position, provides a classified summary at a particular date. Particular date means, end of the financial year of where an airline has acquired its funds (liabilities) and how it has deployed those funds (assets). It also shows whether the funds have been borrowed on a long term basis (for periods of greater than one year), or short term basis (less than one year). The Balance Sheet shows the position at a particular date, while the Profit and Loss Account shows the results of transactions occurring between two dates.

The Balance Sheet can be presented in Account format or Net Asset format. For example, KLM, Air France, Lufthansa, US airlines etc. use account format balance sheet and British Airways, Singapore Airlines, Qantas etc. use asset format balance sheet. Account format generally shows assets and liabilities on separate pages each



Accounting and Reporting System of Airlines Industry

with their own total, while the Net Asset format shows them on the same page with a total of assets less current liabilities.

The balance Sheet shows what the airline owes as liabilities, and what the airline owns as assets. These must balance, or in other words total assets must always equal total liabilities:

Net Asset Format Balance Sheet

- A. Fixed (Property & Equipment) and other non-current assets
- B. Current assets
- C. Current liabilities
- D. Net current liabilities (B – C)
- E. Total assets less current liabilities (A + D)
- F. Long-term (fixed) debt and other long-term liabilities
- G. Total assets less fixed & current liabilities (E – F)
- H. Capital & reserves or shareholders' fund (= G)

Account Format Balance Sheet

Assets	Liabilities and Shareholders' Equity
Current assets	Current liabilities
Fixed assets	Long-term debt
(Property & equipment)	Other liabilities
Other non-current assets	Shareholders' equity (funds)
Total assets	Total liabilities



Accounting and Reporting System of Airlines Industry

Airlines such as BA, Cathay Pacific and Singapore Airlines adopt the first format, while the account format is used by all US and most European carriers. Assets and liabilities are described in more detail in next.

Assets

Fixed Assets: There are the physical and financial items that are intended to be used for the longer term operation and business of the airline. They should not therefore vary much from day to day. They can be converted into cash, but not always easily or at short notice. They can be divided into:

Tangible assets: Physical property, plant and equipment (e.g. aircraft)

Intangible assets: Long-term financial investments, goodwill, patents,
Rout rights, slots etc.

Spare parts, which are shorter life items and generally included in current assets, fixed assets will include aircraft and spares, including repairable items, but not expendable stocks. They are generally valued at historical cost less depreciation accumulated up to the date of the balance sheet.

It should be noted that the values stated in the accounts at a particular date are not intended to reflect the market or realizable value of the assets at that date. They will also not reflect the replacement cost of those assets. Some airlines do re-value the balance sheet cost of their assets.

Depreciation is deducted from all tangible assets except land to account for the decline in the useful value of the asset due to wear and tear and economic obsolescence. The historical cost is spread over its expected useful life, at the end of which it is often given a residual value of between 10% and 40% of its cost. The life of depreciation period and the residual value together define the rate of depreciation of the asset.

The depreciation for the year will also be included as an operating expense in the trading (Profit and loss) account. The cost of intangible assets is also spread over its expected future life, from anything between 5 to 40 years, and is called amortization.



Accounting and Reporting System of Airlines Industry

Straight line is the most common method of depreciation. Alternatives are the progressive or regressive methods, and depreciation according to the number of hours or cycles (take-offs and landings) of aircraft usage. The regressive (or declining balance) approach is similar to that taken by some tax authorities in calculating capital allowances, where a given percentage is applied to the depreciated value. This would result in a net book value that corresponds more closely to actual aircraft values, particularly in the early years of its life. However, it produces higher charges, and lower profits, in the earlier years of aircraft operation, whereas management may prefer the reserve.

It should be noted that for airlines in some countries such as Switzerland, extra or supplementary depreciation is charged in good years, but only normal depreciation in years when losses are reported. This is driven by tax considerations, and results in a distortion of profitability over time or comparisons with other airlines.

Investments in other companies are not depreciated, but included at cost, market value or a value estimated by the directors.

Current assets: Current assets generally include cash, marketable securities and those assets that can in the normal course of business be turned into cash in the near future, at least within one year of the balance sheet date. Cash includes petty cash and bank deposits of less than one year term. Marketable securities may be short-term government securities or other secure short-term investments for which there is a good secondary market to allow sale at short notice. These are both valued for balance sheet purposes at cost or current market value, whichever is the lower.

Accounts receivable or Debtors: The amounts due from customers to whom goods were already shipped, or services provided. For an airline, these would consist largely of credit card companies, travel agents and tour operators, since passengers are usually asked to pay in full before travel. Travel agents are generally allowed one month's grace after which they are expected to pay the airline, but this could be increased to twice monthly. From experience there will be some customers who will fail to settle their invoice, due to bankruptcy, and an allowance will be deducted from accounts receivable to allow for these bad debts.



Accounting and Reporting System of Airlines Industry

Inventories or Stocks: These will consist of raw materials, expendable or consumable spares, other supplies, work-in-progress (semi-finished products) and finished products. Since an airline's final output (seat-kilometers) cannot be stored, the last item is not relevant to the airline industry. Work-in-progress could, however, relate to aircraft or spare parts which are overhauled by the maintenance department. Raw materials and other supplies will consist of maintenance, operations, office and other items of limited life. They will be valued at cost or market value, whichever is the lower. Some airlines deduct an allowance for expendable spares obsolescence, writing down parts that have not been used for two or three years by anything between 10% and 33%.

Quick Assets are likely to be convertible into cash within a very short period of time, probably within one month. Stock are not so easily sold, and debtors cannot be realized much faster than the credit terms allowed without damaging commercial relationships.

Deferred charges are similar to prepaid expenses, in that the payment is made in advance of receipt of related benefits, for example for office relocation costs. Deferred charges would thus normally be included under fixed or long-term assets.

Liabilities

Current liabilities: This item generally includes all debts that due in the twelve months after the balance sheet date. They are what the airline owes to other parties within this period, and are settled by drawing on the liquid resources that the airline owns or is likely to own in this period, namely the current assets. Thus a comparison of current assets and current liabilities is an important step in balance sheet analysis.

Loans, leases and hire purchase commitments: Those parts of the longer-term financial arrangements that falls due in the coming year. Overdrafts are short-term loans from banks, which can usually be drawn upon, as and when necessary, up to a maximum figure.

Trade creditors: The largest category of supplier is likely to be an oil company which has delivered aviation fuel, and grants the airline a given number of days' credit. Airports and air navigation authorities are also likely to be major creditors.



Accounting and Reporting System of Airlines Industry

Other Creditors: These will include the government which owed corporation and other taxes, duties and social security payments. Shareholders are also creditors, awaiting payment of their dividends, which may be paid in one or more tranche over the coming year.

Accruals or Accrued expenses: Amounts owing to parties who have provided services, such as employees, but who have not yet been paid, they are likely to be paid by the end of the month. For outside services such as legal advice or consultancy, while the work has been completed, no invoice has been submitted; otherwise this would be recorded as trade creditors.

Sales in advanced of carriage: these unearned transport revenues are a significant source of short-term finance for many airlines, and are included under current liabilities. This is where a ticket has been issued and payment either received or expected, but the service is only deliverable at some time in the future. The ticket validity is unlikely to exceed a period of twelve months.

Long-term Liabilities: Under current liabilities, an item was described as the current part of long-term loans, leases and hire purchase commitments. All the remaining sums owed by the airline under this heading will be placed under long-term or fixed liabilities.

Treatment of aircraft leases: Short term operating leases are treated as an annual operating expense, since the airline does not own the aircraft, nor does it have a long-term contractual commitment. Long term financial leases, although similar in terms of ownership, are a long term commitment and are often required to be included in the balance sheet.

Provisions: These are defined as any amounts which are retained to provide for any liability or loss which is either likely to be incurred, or certain to be incurred but uncertain as to the amount or the date on which it will arise. While Provisions are outside liabilities, the nature of their amount and timing is such that they cannot be included in long-term or current liabilities.

Shareholders' equity or funds: The total equity interest that all the shareholders have in the airline is called the shareholders' equity or funds, and is equal to the



Accounting and Reporting System of Airlines Industry

airline's net worth that means total assets less short and long-term liabilities. This is separated for legal and accounting reasons into three categories:

Capital stock or called up share capital. # Capital surplus or capital reserve

Accumulated retained earnings, revenue reserves, or profit and loss account.

Capital surplus consists of any adjustments which do not arise as a result of trading activities. These include the revaluation of fixed assets, currency gains or losses, premiums on the issue of shares and the capitalization of goodwill. In some countries a part of retained by law to be transferred into capital reserves, which cannot be distributed to shareholders in the form of dividends.

Capital stock, or Called up share capital: This represents the nominal value of the share capital or issued share certificates, and is the proprietary interest in the company. There may be more than one class of shares issued. For example: Air New Zealand has class A share for nationals, class B shares for foreign nationals, and one Kiwi share owned by the government with special rights. The share capital may be divided into ordinary and preferred, the latter having priority over the former in the distribution of dividends, and assets in the case of liquidation following bankruptcy, but only up to fixed maximum amount.

Capital surplus or Capital reserves: This include the amount paid by shareholders over the par or nominal value of the shares (share premium account), re-valuation of fixed assets, currency gains or losses and capitalized goodwill (revaluation reserves).

Accumulated retained earnings or Revenue reserves: These are the net profits or losses, after payments of dividends to shareholders, accumulated from previous years' operations.

Cash flow Statement

The cash flow statement explains major changes in the balance sheet which occurred over the financial year in terms of cash flowing in and out of a company. Both the UK and USA, and many other countries now use the term cash flow statement to describe these changes. It is usually shown in the annual report and accounts of airlines.



Accounting and Reporting System of Airlines Industry

Neither the profit and loss accounts nor the balance sheet provide information directly on the cash position of the airline, and how the cash was generated for payments for aircraft and repayments of loans. This is shown in the cash flow statement. While an airline might be operating profitably over the year as a whole, it would still be possible for it to be forced to cease trading if it did not have sufficient cash to meet its invoices from suppliers and repayments on loans. This possibility is all the more likely in an industry such as air transport which is highly seasonal and is characterized by relatively high operational and financial gearing. The statement shows cash movements under three main headings:

- Operations or Operating activities:
 - # Dividends received from associates. # Tax
 - # Net return on investments and servicing of finance (interest charges)
- Investing activities:
 - # Purchase and sale of tangible fixed assets. # Purchase of trade investments
- Financing or Financing activities:
 - # Change in borrowings. # Change in short-term bank deposits.
 - # Issue of shares or other securities.

Cash flow statements can be confusing where net amounts are shown, for example 'net cash inflow from acquisitions and disposals'. It is thus important to remember that a positive amount indicates an inflow of cash, and negative amount an outflow.

Cash flow statements are similar to funds flow or sources and application of funds statements in that they use balance sheet differences between two points in time, e.g. between the beginning and end of the financial year. But they differ in adjusting these differences to eliminate all credit and accrued items.

In theory, all items found in this statement can be derived from the profit and loss statement and the balance sheet, but in practice there is often not enough detail shown to be able to do this. Cash flow statement may be examined over a period of a number of years to see how an airline has financed its capital expenditure. One airline could also be compared with another, but this may be difficult due to different ways of presenting the information in different countries.



Accounting and Reporting System of Airlines Industry

Value Added Statement

The statement views the company from an economist's standpoint, and relates output to inputs of labor, capital and materials. In this way it is possible to see how much additional value has been created by the firm, after deducting all the goods and services bought in from other firms. This has special relevance in today's climate of the contracting out of an increasing part of the firm's activities. For example, British Airways do not include a value added statement in their annual report and accounts, although they do give the essential ingredients to allow such a statement to be constructed.

Cash value Added:

Cash Value Added (CVA) is designed to measure the shareholder value that the airline is adding, after providing for an economic return to long term capital investors. It is similar to Economic Value Added (EVA), originally developed by the US firm Stern Stewart & co, and is increasingly being used by firms. The starting point for CVA is cash flow, or EBITDAR, earnings before interest, tax, depreciation, amortization and rentals. This is essentially operating revenues less cash expenses, plus income from associates, dividends and interest received. EVA takes as a starting point Net Operating Profit after Tax (NOPAT), which is similar to EBITDAR but after deducting tax. From EBITDAR, tax is deducted, and an asset replacement charge designed to reflect the economic cost of replacing assets.

The asset replacement charge is where CVA departs from many of the ratios. This is essentially the economic depreciation charge for assets that are owned, or on finance or operating leases. Its starting point is total depreciating assets: gross fixed assets from the balance sheet are adjusted for inflation and combined with the present value of leased assets. This is similar to replacement cost. For property and aircraft under operating leases, the annual rentals are multiplied by seven to give an estimate of present capital value.

The difficult part is inflating the historic costs of aircraft to current replacement values on a like-for-like basis. The annual asset replacement charge is calculated by finding the annual amount, which, if discounted over the asset's economic life using the



Accounting and Reporting System of Airlines Industry

weighted average cost of capital (WACC) as discount rate, would equal the total of depreciating assets.

The need for greater standardization

The increasingly global nature of the airline business, together with a growth in airline privatization, alliances and cross-shareholdings, is focusing attention on the wide variety of accounting principles used, and the differences in quality and quantity of financial data reported.

The first authoritative survey of airline accounting policies was carried out by the accounting firm, KPMG, in association with IATA. Questionnaires were sent out to 25 airline finance directors between May and July 1992. The sample covered 6 airlines in Australasia, 11 airlines in Europe, 3 airlines in North America and 5 in other world regions. The survey's findings fell into four main areas:

1. Accounting for fleet assets and related financing transactions.
2. General accounting issues and disclosures.
3. Treasury and foreign currency.
4. Trends and developments.

The survey concluded with a recommendation that a single body be created to research and recommend policies for the international airline industry. This body would encourage airlines to adopt recommended accounting policies, and lobby international accounting standards bodies to take into account airline interests. Following this proposal, IATA established a sub-committee of its finance committee to produce accounting guidelines in a number of areas. So far, the following have been examined:

- | | |
|--------------------------------|-----------------------------------|
| 1. Foreign currency accounting | 5. Maintenance cost |
| 2. Frequent flyer schemes | 6. Accounting for aircraft leases |
| 3. Depreciation | 7. Segmental reporting |
| 4. Recognition of revenue | |

The first guideline focused on the translation of long-term foreign currency borrowings. This identified two markedly different accounting treatments of such borrowings, but did not recommend one in preference to the other. They did,



Accounting and Reporting System of Airlines Industry

however, say that whichever method were used, a comprehensive explanation should be included of the accounting policy used, and its effect on the profit and loss statement.

The second guideline issued on frequent flyer program recommended that the incremental cost approach was the most appropriate technique, provided that 'an airline can establish quantitatively that passengers flying as a result of awards under the FFP are incidental to the passenger revenue processes.

The third guideline described what should be taken into account when determining the cost of an airline's fleet, the useful life of aircraft and the residual value. It did not, however, recommend on aircraft lives or residual values, but did endorse the suitability of the straight-line method of depreciation 'in most circumstances'.

The fourth guideline examined the recognition of revenue and recommended that unearned revenue should be carried forward and included in current liabilities, agent commissions should be included as a cost of sales and recognized at the same time as the associated revenues, but that revenues should be recorded net of discounts. Unredeemed coupons should be recognized as revenue in the light of airline experience, with perhaps a write-back period of 18-24 months from the date of sale.

The fifth guideline on accounting for a maintenance cost was original published in 1996, but was revised in 1999. It suggested that routine maintenance costs are treated as expenses as and when they are incurred, but that heavy maintenance and overhauls are accounted for on an accruals basis, rather than deferred and amortized. For a large airline, they might be expensed as incurred if this resulted in a fairly even reporting over a number of years.

The guideline on accounting for leases endorsed the concept of economic ownership in accounting for leases, and suggested that the existence of options required careful consideration. It also argued that any lease structure under which the lessor is in substance merely a provider of finance and is not compensated for the risk of ownership should be treated by the airline as a finance lease.

The guideline on segmental reporting considered that the segmentation of an airline's business should be viewed as a function of product or service rather than



Accounting and Reporting System of Airlines Industry

geography, which should be secondary. A more extensive allocation of costs and assets could, however, be made if the segmentation were by geographical region.

It could be concluded, however, that these IATA initiatives do not bring any real benefits, regardless of whether they succeed in persuading airlines to standardize their accounts. The real test is whether airlines can more easily access the world's capital markets, especially the huge US market. To do this, it could be argued that they need to comply with the US generally Accepted Accounting Principles (US GAAP). Even the International Accounting Standards (IAS) do not yet meet US requirements, although they have moved much closer, and had a target date in 1998 to satisfy all outstanding US points.

1.7 Airline financial ratios

Earlier we explained in some detail the individual items in an airline's profit and loss account, balance sheet and cash flow statement and can be gained of some idea of the airline's size, capital structure, profitability and the financing of its investments. Performance ratios will need to be calculated in order to be able to assess past trends of a particular airline or to compare different airlines. These could be helpful in evaluating a shareholder's investment in an airline, or in an assessment by banks or lessors before entering into a loan or lease agreement. The ratios can be categorized under the following headings:

- Performance/earnings – This group of ratios are designed to evaluate how the airline is trading, whether in relation to turnover, assets or equity.
- Risk or solvency – The second group deal with the risk of the firm being unable to meet its financial commitments overall, and continue trading.
- Liquidity – The third provides a measure of the airline's ability to meet its short-term financial commitments.
- Market valuation or investment – The last group is based on the market price of the airline's shares or bonds and can thus only be calculated for companies that are traded on a stock market.



Accounting and Reporting System of Airlines Industry

Some ratios use only profit and loss account data, some use only balance sheet data and some combine data from each of these statements. The last of these need to take into account the fact that balance sheet items are measured on a particular date, whereas profit and loss account items are summed over a particular period, perhaps one year. The balance sheet items need therefore to be averaged over the same period. In next, we will explain how the more important and widely used ratios are calculated.

Performance/earnings ratios:

Operating ratio – The operating ratio is defined as operating revenue expressed as a percentage of operating expenditure, and similar to margin on sales.

The operating ratio gives an indication of management efficiency in controlling costs and increasing revenues. However, it can be distorted by changes in depreciation policy, or a switch from ownership of aircraft to operating leases. An alternative formulation of this ratio is operating profit, after interest charges, expressed as a percentage of operating revenues.

It is difficult to define a satisfactory target for this ratio since it will depend on the airline's tax rate, financial gearing and other non-operating factors. A past IATA study on industry capital needs suggested a minimum ratio of between 7.5% and 10.0% for an airline with a zero rate of tax.

Net profit margin – The net profit margin is after tax profit expressed as a percentage of operating revenue or turn over.

This ratio has the advantage over the operating ratio or margin in that it is free of the operating lease distortion. However, the margin for a particular year may be increased or reduced by large asset sales, restructuring costs or asset write-downs.

Return on investment (capital employed) – Return on investment is the pre-tax profit before interest paid as a percentage of average total long-term capital employed. For some airline accounts, the figure for interest paid or payable is not given and sometimes the ratio could be calculated before net interest. Some writers show this ratio as operating profit as a percentage of capital in their textbooks, but it is more logical to include any income from asset sales and investment to show the



Accounting and Reporting System of Airlines Industry

profit available to provide a return for the two classes of long-term capital providers, debt holders and shareholders.

The ratio can be calculated with or without minority interests but if they are included, they should be included in both numerator and denominator of the ratio. Capitalized interest subtracts from interest payable, so as to reflect interest on lending for current, rather than future operations. The percentage, result of Return on investment in %, gives an indication of how successful the airline or group is in its investment of all the long-term capital under its management. It can move up and down significantly from year to year, so that more valid comparisons between airlines or industries might be better made using averages over a number of years. Comparisons are also distorted by greater use of aircraft and other assets on short term operating leases.

Taking total liabilities may be too broad a definition, since it includes such items as accounts payable, which do not demand a return in any strictly financial sense. Averaging gives a better ratio, ideally a weighted average should be used, but the yearend position is easier to calculate, and provides a similar ratio unless there have been major changes in assets over the year.

Return on equity – Return on equity is the net profit after interest and tax expressed as a percentage of shareholder's fund. The numerator is before deducting minority interests and the denominator includes the capital belonging to these interests. This percentage gives an idea of how successful the airline's management is in using the capital entrusted to it by the owners of the company, or equity shareholders. It is very sensitive to method of financing. Similar comments apply as for the return on capital employed, in terms of marked year to year fluctuations.

Target rate of return on equity are generally around 15% and is currently used by a major German bank. A French utility uses a range of 10-15%.

Operating cash flow multiples – operating cash flow multiple is the ratio of the market value of debt and equity to EBDRIT (earnings before depreciation, rentals, interest and tax); an alternative formulation is based on the market value of equity alone. These multiples are currently used by investment banks to try to avoid the accounting biases that can distort the conventional ratios described above. They



Accounting and Reporting System of Airlines Industry

also use the market, rather than book value of shareholders' equity, which is an improvement, but only applicable to airlines with a market quotation for their equity. The main disadvantage of these ratios is that by avoiding accounting bias they are also removing the effect of efficiency in the use of capital. Airlines that operate very new high cost aircraft have these aircraft related costs removed from cash flow, which gives them an unfair advantage over those that have traded low capital costs for high fuel and maintenance costs.

Risk or solvency ratios:

Interest cover – Interest cover is the profit before net interest payable and tax divided by net interest expenses.

This ratio is one of the more important ones, showing the ability of the airline to meet the interest payment on its debt. Without a clear margin of cover (well over 1.00), there will be little profit remaining for distribution to shareholders or ploughing back into the company. Banks and investors generally look for interest cover of at least 2.5:1; while the IATA industry capital needs study suggested that it should be not less than 1.5. An alternative formulation of this ratio, only possible where separate figures of interest paid and interest received are reported, uses interest paid in both numerator and denominator.

Debt/equity ratio – The debt/equity ratio, or gearing, is the long-term debt or borrowings divided by shareholders' funds. It is also common to find gearing expressed by the long-term debt as a percentage of total capital employed.

A better measure of debt equity, however, should include all outside liabilities, rather than only long-term ones, and debts should be net of any cash and deposits shown as current assets. In this form it can also be called the solvency ratio. For example, British airlines define this ratio as net debt to total capital, with net debt being the sum of all loans, financial leases, hire purchase arrangements and capital bonds, net of short-term deposits and cash less bank overdrafts. Total capital is capital and reserves plus net debt. Another definition of net debt is interest bearing debts minus interest bearing assets; this would be difficult to calculate using published data, but would in any case be very close to the British Airways definition.



Accounting and Reporting System of Airlines Industry

The lower the debt/equity or solvency ratio the greater the firm's capacity for borrowing more outside finance, due to the lower risk to potential lenders. Banks sometimes include a covenant or condition on loans requiring the debt/equity ratio to be kept below a certain ratio otherwise the borrower would be in default.

An airline which is more highly geared will display a larger variation in return on equity. Thus in good years the rate of return will be higher than that of the lower geared airline, other things such as profit and total capital employed being equal. In bad years, however, the return will be worse than the lower geared airline. Conversely, the lower geared airline will produce smaller variations in return on equity.

Liquidity ratios:

Current ratio – The current ratio is the ratio of current assets to current liabilities. A ratio of 1.00 is normally considered for industry in general to be broadly sound. Any ratio falling substantially below this level indicates that the business may not be generating adequate cash to meet short-term obligations as they become due. Airlines' current liabilities often include significant amounts relating to sales in advance of carriage. These might be excluded when calculating the current ratio, since they are mostly not refundable cash claims on the airline.

If the current ratio is too high (well above 1.00), it suggests that the business is generating more cash than can be profitably re-invested for longer term expansion. The airline may, however, be building up a war chest for acquisition of other companies, or be expecting a period ahead of bunching of aircraft deliveries.

A small number of airlines include ratable items, or those spare parts that can be repaired and reused, as current rather than fixed assets. Other airlines would do the same with repairable items, which can only be repaired and reused a limit number of times, for example, tires. These airlines would thus have inflated stock levels, and current ratios which would not be strictly comparable with the majority of airlines.

Acid test/Quick ratio – The ratio of liquid assets to current liabilities. The purpose of this ratio is to identify current assets that can be easily and readily converted into cash. There are no rules or targets on the desirable level of this ratio.



Accounting and Reporting System of Airlines Industry

Stock market ratios:

Performance

Dividend cover – Net profit attributable to shareholders dividend by dividend payable. There are no rules as to how high the level of dividend cover should be. Some investors, such as pension fund managers, required an adequate and continuing income stream, but others perhaps driven by rates of taxation look for capital gains. In a capital intensive industry, or one that requires the frequent application of new technology, it is prudent to keep the dividend cover high. In general, cover should exceed 1.00 by an adequate margin, and the IATA study (IATA, 1982) adopted a target of 2.00.

Dividend yield – Dividend per share expressed as a percentage of the cost or market value of one share. This is a useful ratio for investors to evaluate their investment. In this ratio, ordinary shares compared to other investment opportunities. But it only takes account of dividends returns, and not of expected future capital gains.

Yields on firms in the services sector tended to be lower than those in the general industrial sector. Higher yields tend to compensate for slow or variable growth in earnings per share.

Market capitalization – Market share price per share multiplied by the number of shares outstanding. Market capitalization will change in line with changes in share price, and also the number of shares issued. Normally the share price would be depressed by any large new issue of shares.

Earnings per share – Net profit divided by the number of ordinary shares issued. The absolute value and growth in this ratio has traditionally been a key target for the management of quoted companies, and one of the most important benchmarks for investment analysts. While it is still in widespread use, increased emphasis is now being placed on cash based ratios, as well as measures of economic value added.

The ratio has the advantage over measures such as net profit by itself. This is because a company could increase net profit merely by acquiring another profitable company by issuing new shares. Earnings per share, however, would not



Accounting and Reporting System of Airlines Industry

automatically increase. Earnings per share can also be calculated on a fully diluted basis. This allows for the future issue of further shares for employee share options, and from the convertible capital bonds. This is expected to increase the number of shares issued. Profit is also increased to allow for the elimination of convertible bond interest.

Price/earnings ratio - Market price per share divided by earnings per share. The price/earnings ratio shows how many years of current earnings are necessary to cover the share price. However, the stock strongly over the next few years this will push up the share price and result in higher price/earnings ratios as measured against current or latest historical figures. That is why growth or high technology shares often have high price/earnings ratios. To take some of this effect into account, the price/earnings ratio is sometimes calculated on a prospective basis, using a forecast of earnings per share for the year ahead.

Value

Net asset value per share – Total assets less outside liabilities divided by total number of shares outstanding. This is the book value per share not market value. The book value of net assets per share gives only a very broad indication of the break-up value of the airline, depending on whether the assets were re-valued recently and the rate of inflation. For example, British Airways re-value their properties from time to time and have written down certain aircraft types.

Other ratios

Other measures which may be used, such as the average collection period, working capital. Stocks/spare parts can also be expressed as a percentage of investments in aircraft and equipment. The self-financing ratio is defined as internal sources of funds expressed as a percentage of the increase in fixed assets. Basing the ratio on the cash flow statement described above would mean cash flow from operating activities expressed as a percentage of cash required for investing activities. We can say clearly, a ratio that is substantially below 100% over a number of years would imply a deteriorating financial position.

Turnover to capital employed ratio – Turnover or operating revenue expressed as a ratio of average net assets employed that is long-term debt plus shareholders'



Accounting and Reporting System of Airlines Industry

funds. In general, the higher the ratio, better the utilization of assets. There is however dangers in comparing airlines with other industries, and between airlines where there are large differences in off-balance sheet financing of assets or in degree of outsourcing.

β value – This gives an indication of the degree of risk in investing in airline shares. It is based on the capital-asset pricing model (CAPM), and can only be calculated for airlines with stock market quotations for their shares. The approach usually taken is to examine the relationship between airline stock market returns and the return to the market relative to a risk free rate. Major stock market indices such as S&P500 are taken as a proxy for the market, and long-term government bonds for the risk free rate. Dividend income should be included in the data on total returns, and most analysis covers the previous five year period. The β value is the coefficient determined from the regression of airline versus market returns. In the early 1990s, values were generally between 1.2 and 1.6, with reasonably good correlation coefficients.

An earlier study examined the airline industry as a whole and found that airlines had a β value of 1.80, compared to retailing with 1.45, construction with 1.30, drugs and cosmetics with 1.15, banks and oil companies with 0.85 and energy utilities with 0.60. More recent studies have shown some deterioration in the degree of correlation, with β Value often close to or below one. For example, Qantas had a value of 1.51, Singapore Airlines 1.33 and Lufthansa 1.21. The corresponding values from DataStream were 0.86, 0.92 and 1.14.

This implies that some airline stocks are less volatile than the 'market', and thus less risky, and also suggests some analysts are making a significant number of adjustments to the figures. However, this may be because the market has become more volatile, following the inclusion of a greater weight of IT and telecoms companies.

B values are used in determining the cost of equity capital in Weighted Average Cost of Capital (WACC). This is in turn used as the discount rate in Cash Value Added (CVA) calculations, as well as in the appraisal of new investments. Lower betas imply lower discount rates and the acceptance of more capital investment proposals.



Accounting and Reporting System of Airlines Industry

1.8 Airline Valuation

Airline accounts are not expected to show how much the airline is worth or even the cost of its fixed assets. Generally, fixed assets are included at their original historical cost, less an allowance for depreciation. It is questionable that this book value of tangible assets at a given date would agree with the market or re-sale value of the same assets. Earlier we emphasized these differences in terms of the stock market value of an airline and its relationship to the book value of its assets and now will present the further issue of the absence of sizeable intangible assets such as route rights and slots in most airline accounts.

The valuation of intangible assets

The airlines intangible assets are included with route or traffic rights, rights to airport slots and goodwill. The valuation of intangible assets of airlines business is presented below:

Route or traffic rights

An airline's intangible assets would include mainly its route/traffic rights, and the rights to take-off and landing slots at congested airports. They might also include items such as brand value, and management and staff experience and training. Scheduled airlines operate international air services using traffic rights granted to them by governments. The majority of these rights are still negotiated bilaterally between two countries, with each country designating one or more carriers to take advantage of the traffic rights that the designating states have negotiated.

The negotiation of these rights was originally pursued according to a quid pro quo approach, with countries exchanging routes of comparable value. This was later to become the doctrine of an equal exchange of economic benefits, which dominates most bilateral negotiations today. For one country to negotiate effectively with another, it needs to evaluate a complex web of options, which would encompass fifth and even sixth freedom rights in addition to third and fourth freedoms. It would also need to consider the so-called soft rights, including such areas as transfers of foreign exchange, and the opening of sales offices, as well as increasingly code-sharing and



Accounting and Reporting System of Airlines Industry

ground handling. Most governments view these traffic rights as government property, and if an airline ceases to go into liquidation they revert to the state.

On the other hand, when one scheduled airline acquires another as a going concern, it has usually acquired its traffic rights in addition to its tangible assets, existing staff and other contractual obligations and arrangements. Any premium paid for the airline might be thought of as goodwill, but this would probably include the value of traffic rights.

A stricter definition of good will would be the amount by which the value of a business as a whole exceeds the value of its individual assets less its liabilities. Assets should include all intangible assets such as traffic rights, airport slots, concessions, patents or trademarks. But it is difficult in practice to separate the goodwill and intangible asset elements in any premium paid for an airline, since intangible assets are not valued and placed on the balance sheet.

For example, United Airlines acquired the Pacific Division of Pan American World Airways in 1985, including aircraft, route rights and valuable slots at Tokyo's Narita Airport. The transfer was opposed by the US Department of Justice, but was approved by the Transportation Secretary after an evidentiary hearing. Out of the total price of US\$750 million, it was estimated that only \$365.8 million was accounted for by aircraft and other tangible assets.

The value of traffic rights can only be realized once they are exercised by an airline. Some airlines can make more use of such rights than others, perhaps due to their greater marketing presence, or due to the fact that they complement their existing route structure and provide greater opportunities to feed traffic to other routes.

Thus the value of these rights can only be realized in conjunction with the production process, which is the carriage of passengers and cargo. In this respect they are similar to brands, which, although they can also be sold separately, only have value when applied to a particular product or service. The establishment of brand value involves considerable expenditure in improving product quality and consistency across the network, as well as communication to the market place. The successful brand should result in an airline achieving and sustaining both above average yield and load factors.



Accounting and Reporting System of Airlines Industry

In accounting terms they would both be considered as intangible assets, since no physical equipment or facilities are involved. In the US, where airlines have acquired route rights they are included in their balance sheets and amortized over 50 years. In other parts of the world, the premium arising on the take-over of another airline, including traffic rights, would either be written off against reserves, or amortized in a similar way.

Factors determining the value of traffic rights

A large number of factors may contribute to the value of traffic rights on a route, but they might be grouped in three main categories:

- a) Route characteristics.
- b) Management characteristics
- c) Transaction characteristics

Route Characteristics: The first refers to the existing and expected level of traffic on the route, the degree to which it fits an airline's existing network, as well as the mix of traffic and variation in demand by season, month, day or hour. The existing degree of economic regulation of the route will be important, and will dictate the degree to which frequency can be increased, and market-based air fares introduced. It will also indicate the number of competitors on the route, reflected in the air services agreement between the countries at each end of the route. Competition and the ability to add frequency might also be constrained by the availability of slots at airports.

Under perfect competition, with open skies and little economic regulation, the value of route rights would be expected to fall to close to zero. The more regulated the routes, the greater the potential for earnings monopoly profits, the discounted present value of which would be the value of the rights. Under the present system of licensing air carriers, these monopoly profits do not have to be paid to the state in the form of public franchise fees. Liberalization of air services agreements is seen in many countries as the preferred way to introduce competition and reduce monopoly profits. At present there seems little likelihood of a worldwide introduction of open skies, so that these traffic right values will continue, although reduced by increased competition, or the prospect of greater competition.



Accounting and Reporting System of Airlines Industry

Management characteristics: The second refers to management skills in combining routes into an effective and profitable network. Strategic issues are also relevant, as well as the efficiency of the airline in controlling costs and enhancing revenues. For example, some of Pan American's loss making international routes was turned into profit by the management of airlines that acquired them. These factors are clearly difficult to quantify, but can be captured indirectly through their effort on the first group of factors discussed above.

Transaction characteristics: The third category relates to the characteristics of the transaction. These would depend on the type and timing of the transaction; whether it was incremental to an airline's network or the acquisition of a division or airline; whether it was combined with other assets such as slots or aircraft; its timing in the economic cycle; and whether it was a distress sale.

Rights to airport slots

A growing number of capital city airports are suffering from runway congestion at peak periods. At such times, demand for take-off or landing times far exceeds the available supply. Some additional capacity can often be obtained by improved air traffic control techniques or technology. New airports are sometimes possible, but these take considerable time and money to build.

Slots are allocated by a system of ahistorical precedence. An airline that has used a slot in the previous season can use it again in the next corresponding season. Since airlines need both take-off slots at the origin airport and landing slots at the destination airport to be able to offer a viable service and this procedure needs to be coordinated internationally. This has historically been done through the Airline Trade Association, ATA. It is generally thought that it is the airports or government, rather than airlines, which own slots. The Federal Aviation Administration (FAA) does allow airlines to exchange, sell or lease the slots.

Valuation Methods

The value of an airline's intangible assets and goodwill could be indirect from a comparison of its total market capitalization and the market value of its net tangible assets. The value of the traffic rights would then need to be separated from the other items of goodwill or intangible assets. For this method of valuation, the airline would



Accounting and Reporting System of Airlines Industry

also have to be quoted on a stock market, and a market price would have to be found for all tangible assets.

The valuation of tangible assets

Tangible assets of airlines business cover both the fixed or physical assets of an airline and the long-term investments in other companies or airlines. The first consist largely of aircraft and related spares, but also buildings, land, vehicles and equipment. The second could be in shares of quoted companies, in which case valuation can be based on the market price. Now we will emphasis on tangible fixed assets, the balance sheet valuation of which was described in the earlier as historical cost less accumulated depreciation. Depreciation rates, however, can vary markedly for the same aircraft type, according to the policies adopted by the airline.

The valuation of the airline as a whole

A market price per share would be available for an airline which is quoted on a stock market. Give the total number of shares issued, this would give a market valuation for the airline as a whole, or market capitalization. The share price quotation will consist of a bid and offer price. For many of airlines which are quoted on a stock market, but whose shares are rarely traded. Where turnover is low, the stock market will not be a very efficient method of valuation. If no quotation is available, valuation method could equally be applied to the airlines as a whole. Different type of methods used at the time of valuation of airline assets; discounting expected future net profits from a portfolio of rout and traffic rights, the application of price-earnings and related ratios. There are a number of falsifications that could be introduced to the valuation, like variations in depreciation policies, off-balance sheet financing, operating lease, and tax policies might also differ. Another alternative technique that is now used by a number of financial advisors in support of valuations 'Enterprise Value', also known as 'Firm Value'. This is supposed to value both the equity and debt sources of finance. This is thus free of any gearing distortion.

1.9 Sources of Airline finance

Airline finance has generally been in the past readily available in to the majority of airlines, in spite of a worse record of profitability than many other industries, and the



Accounting and Reporting System of Airlines Industry

cyclical nature of earnings. This was because of government involvement, either directly through ownership of the national airline or through loan guarantees. However, even privately owned airlines have found little difficulty in financing aircraft, historically 80-90 percent of total capital expenditure, due to the possibility of re-possession and re-sale of the asset.

The origin of finance for the airlines, as for any other industry, has been individual and corporate savings. Money from individuals would be channeled through banks as well as pension funds, insurance companies, mutual funds, investment and unit trusts. These institutions would in turn lend to banks, which would act as intermediaries in lending on to airlines, buy airline shares or bonds, or participate directly in aircraft leases. Leases might also attract wealthy individuals paying high marginal rates of tax. Airline capital expenditure can be financed internally from cash or retained earnings or externally from lenders or lessors using a variety of financial instruments.

Public equities and bonds refer to all finance, which was raised on the public capital markets, but not necessarily yarded on those markets. For example, equipment trust certificates were included under the item. Private debt covered principally long-term secured bank loans and finance leases. Export credits were all finance, which was backed by export credit agencies, while manufacturers' support covers finance where suppliers take the airline credit risk. This is especially true where the regional airline is independent of any large airline involvement.

Sources of internal finance

Internally generated funds come from the cash retained in the business, or net profits, after paying interest, tax, and dividends, but before providing for depreciation. Deferred taxes and the profits from the sale of assets will also be internal sources of finance. For many airlines, depreciation is the largest single internal source; some airlines, such as Singapore Airlines, have also in the past-generated substantial cash from aircraft sales. The identification of the cash available for investment from an airline's financial statements, the amount of retained earnings available for capital investment will depend on:

The airline's dividend policy.

The government's taxation policy.



Accounting and Reporting System of Airlines Industry

The proportion of capital expenditure financed from internal sources is often called the self-financing ratio. The ratio is subject to very wide swings from a low at the low point in the airline economic cycle, when aircraft deliveries and investment is high and cash flow low, to a high when cash flow is improved and investment lower.

Sources of external finance

Short-term

Bank overdraft: Most airlines will have a facility with one or more commercial banks to run a deficit on their current account up to an agreed limit, which will be based on the overall financial health of the company. This may be secured against certain assets. The rate of interest charged will vary with market rates.

Short-term loans: These will differ from overdrafts by being for fixed amounts to be re-paid at a fixed future date. A fixed or variable interest rate will be charged, and security or other conditions may be stipulated, such as a maximum debt/equity ratio.

Trade creditors: Goods and services purchased by airlines do not generally have to be paid for in cash, such that some short-term finance will be available. Either this will be free credit, or there will be an implicit cost in terms of cash discount foregone. This should be offset against trade debtors, where the airline is providing short-term finance to others.

Long-term

Shareholders' equity capital: It means, finance from owners of the airline. These owners or shareholders have the right to vote at meeting of the company; the right to a dividend, if one is paid: and the right to a capital distribution on liquidation, if sufficient cash is available after selling all other claims. For example, outside the USA and many European countries, the majority of the world's scheduled airlines are still more than 50% owned by their governments. Other categories of shareholder might be:

- | | |
|---------------------------|----------------------|
| a. Other airlines | c. Employees |
| b. Financial institutions | d. Other individuals |



Accounting and Reporting System of Airlines Industry

Employees or other individuals do not generally hold share unless they can be traded either on a stock market, or through a special company arrangement. For example, in the US, United Airlines is 55% owned by three labor unions that hold shares on behalf of their members.

A new issue of shares can either be offered to the public or placed with financial institutions. A prospectus will be issued, showing past financial performance and short term prospects. The issue will need to be underwritten to ensure success, and this is done by obtaining commitments from a number of financial institutions to subscribe for a given number of shares at a discount in return for a fee.

Capital can be raised from existing shareholders through a right issue, where the owner of each share has the right to subscribe to a given number of new share in proportion to their existing holdings, on the basis of a given ratio, say, one new share for every five shares held. A rights issue will need to be priced at a discount to the current share price of up to 15 percent, which is why the rights have a value in themselves even before they are fully paid up. New shares can also be issued in the form of a free distribution of the company's reserves by a scrip or bonus issue, but this will not raise any new capital.

Any issue of equity capital will be more attractive if the shares offered are subsequently quoted on one or more stock exchanges. For example, London, New York and Tokyo are the largest of these, but others such as Frankfurt are gaining ground. Having a quotation in more than one market increases the ease of trading by potential investors, but also adds to the legal and accounting requirements, which may become expensive.

A large shareholder may wish to sell their holding by offering it to another company or the public. Care must be taken to comply with company law, which grants all owners of the same class of shares certain rights, relating to both profit distribution and share acquisition. Certain protection may also be given to minority shareholders.

Financing assets by raising additional equity has the advantage of improving the relationship between equity and both output and existing debt, and permits further borrowing. It may, however, dilute the control of existing owners and facilitate a take-



Accounting and Reporting System of Airlines Industry

over by another company. Thus, private companies to fund equipment purchases do not often use share issues.

It should be added that in some countries it is possible for a company with large cash holding to buy back its own shares from shareholders. This would have the effect of improving its earnings per share, a ratio that is given a disproportionate weight by airline share analysis, and possibly of strengthening its share price.

It is difficult to estimate the cost of equity capital, whether from new issues or from retained profits. While the cost of dividends is identifiable, the key consideration is the long-term ability of the airline to attract capital and the price that must be paid to do this successfully. If the airline's shares are traded, the price-earnings ratio means a low cost of new capital.

Preference share capital: This is similar to equity capital but there is a maximum return or fixed dividend payable. It ranks before equity shares for the payment of dividend and distribution in the event of bankruptcy, and is therefore less risky. Preference shares can either be redeemable, where by the company can buy them back from shareholders at a future date or perpetual. Other features are:

- Cumulative, where any unpaid dividends are carried forward to the next financial year, or non-cumulative.
- Participating, where a basic dividend is paid, and an additional variable amount depending on how much is left for distribution after paying a dividend to ordinary shareholders.

Convertible shares/bonds: These allow finance to be raised, often at a time when the share prices weak, on a fixed interest basis, but with rights attached to convert to ordinary shares at a future date, and at a given conversion rate. They can also usually be traded on a stock market. The coupon or interest rate is lower than would be the case for loan stock without the conversion rights.

Bonds/debentures/unsecured loan stock: These are securities or long-term promissory notes, which carry a fixed rate of interest and a fixed term. They are negotiable which means that the public can hold, buy, or sell them in the same way as shares. Bonds are re-paid or redeemed at par on the due date. In the case of



Accounting and Reporting System of Airlines Industry

debentures, they can be secured by a fixed or floating charge on the airline's assets. A mortgage debenture is secured on specific land or buildings. A fixed charge is on specific assets, a floating charge is a general charge on all assets owned.

Equipment Trust Certificates (ETCs): These are similar to a secured bond, but arranged in the form of a lease. The airline sells the certificates to investors to pay for aircraft, which is then owned by Trust on behalf of the investors. This can be done for single aircraft or multiple aircraft, and certificates issued to finance new craft can be secured against aircraft already in the fleet. Lease payments are made to the investors through the trustee. On maturity, title to the aircraft passes to the airline.

Term loans: These are generally negotiated from banks or insurance companies, and are easier and cheaper to arrange than bonds. They could be arranged on a bilateral basis for smaller amounts, or on a syndicated basis for larger loans. For the latter, a lead bank will organize a number of banks to participate in the loan, with fees distributed according to the bank's share of total funds and depending whether or not it is the lead bank. For this type of borrowing, there will be a closer relationship between the lead financial institution and airline borrower. This will allow closer monitoring of the airline's performance than in the case of bonds or other sources of finance.

Loans will often be secured against assets. Banks will only lend for up to about five years on an unsecured basis, except to large airlines, and have the usual debt advantage of the tax deductibility of interest payments. If an aircraft is to be exported to a foreign country, the loan could be offered or guaranteed by a government backed Export Credit Agency (ECA).

Export credit bank loans are usually relatively expensive for larger creditworthy airlines, and, in addition to interest rates at levels considerably higher than could be obtained by many good name airlines. The following fees are likely to be charged by banks for an Eximbank type credit to a small airline:

- Commitment fees, say $\frac{1}{4}\%$ to $\frac{1}{2}\%$.
- Management/arrangement fees on the total loan, say $\frac{3}{4}\%$.
- Agency fees to cover the administration costs of the agent or lead bank.



Accounting and Reporting System of Airlines Industry

There would also be a guarantee fee payable to Exim Bank for the part of the loan for which they provided a 100% guarantee. This was increased from 2% to 4% in 1994, but was subsequently reduced to 3%.

However, agencies can offer a fixed rate alternative, whereby airlines have the option of locking into a low fixed interest rate at least three months in advance. When interest rates are rising, this is extremely attractive and amounts to a one-way option. If interest rates fall, the option does not have to be exercised, at no cost to the borrower. The airline also benefits in that the loan has no impact on its borrowing capacity from the bank making the loan, since the bank will book the loan against the government of the Export Credit Agency country.

Leases: These are contracts between airlines and banks or leasing companies where the airline obtains use of the aircraft without ownership. These other parties therefore arrange financing, although the aircraft specification may be determined by the airline, and the aircraft may be delivered directly to the airline and be operated by one airline throughout its life.

Manufacturer's support: This is usually provided in the form of deficiency payments or buy-back guarantees on the aircraft. It could also be in the form of a loan to the airline or equity investment in the airline.

Institutions involved in aircraft finance:

Banks: Banks act as intermediaries between savers and users of funds. Bank loans to the airline industry might be from money deposited with them or their own capital. They would appear on their balance sheet and be subject to lending limits and liquidity ratios. Banks will have limits up to which they can lend to a particular company, a particular country, or a particular industry. They might also underwrite debt or equity issues, but this would be off-balance sheet. Some observers see banks focusing more on off-balance sheet activities in the future, such as underwriting and fee earning services. This has traditionally been the preserve of the smaller merchant banks, which did not have a large balance sheet.

Many of the larger international banks have traditionally been involved in aerospace and aircraft financing, and have often had specialist departments dealing with this industry. Airlines invite banks to compete for the mandate, which would give the



Accounting and Reporting System of Airlines Industry

winner the authorization to be the lead bank in any subsequent financing. For larger airlines, there may be 15-20 banks competing for the lead mandate, with a further 100 or so banks happy to accept the smaller level of risk implicit in a secondary role in syndicate financing.

Export credit agencies: Most of the major exporting countries will have export credit agencies, which are either a part of government-supported organization. Their purpose is to encourage exports of goods from their countries, generally by guarantees or insurance rather than direct loans. Thus, they are there to provide support or complement bank lending, especially in cases where banks would be reluctant to assume 100% of the risk. This could be where the country is high risk or low credit standing, or the purchaser of the goods is high risk, or a combination of the two. The export credit volume varies significantly from year to year.

There are some agencies in the countries, which have some aircraft or aircraft component manufacturing capability, and could therefore be involved in aircraft financing:

- | | |
|---|---|
| 1. Coracle (France) | 7. Export-Import Bank (Republic of Korea) |
| 2. Exim Bank (USA) | 8. Hermes (Germany). |
| 3. Exim Bank (Japan) | |
| 4. Export Credit Guarantee Department (UK) | |
| 5. Export Development Corporation (Canada) | |
| 6. Export Credit Reinsurance Agency (The Netherlands) | |

The above institutions generally provide only guarantees, although the Exim Bank and ECGD have also lent money directly, with the actual finance being provided by banks under syndicated loans. This is a way of spreading the risk between a numbers of commercial banks, with a lead bank inviting others to participate jointly in the financing.

These agencies have recently been restructured and a dedicated aviation department established, as opposed to supporting all sectors through geographic regional divisions. This was necessary because of the increasingly complex asset-based financing, which now comprise around two-thirds of total bank transactions.



Accounting and Reporting System of Airlines Industry

Operating lessors: The operating lease business has until recently been dominated by two firms: (i) International Lease finance Corporation (ILFC) and (ii) General Electric Capital Asset Services (GECAS), which took over the failing GPA in the mid-1990s. ILFC started in 1973 with the lease of a DC8 to Aeromexico. The founders originally owned ILFC.

GPA was founded in 1976, principally as an aircraft management services company. GPA was involved with wet leasing aircraft and some operating leases of used aircraft. It was not until 1984 that they made their first order for new aircraft. They then switched emphasis from aircraft trading and acquiring aircraft for known customers to ordering aircraft purely based on expected industry growth.

The Annett/Murdoch group originally owned the next largest operating lessor after GECAS and ILFC, which was number three in the mid-1990s.

Many of the lessors are owned by banks. Operating lessors have occasionally acquired equity capital of customer airlines as part of a lease deal. For example, ILFC had small stakes in Air Liberte, Air New Zealand, and American Trans Air.

Others: These are the others sources of finance and financial institutions of airlines business explaining below:

European Investment Bank (EIB): One source of funds for airlines is the European Investment Bank. The Treaty of Rome establishing the European Economic Community (EEC), in January 1958, creates this. The Bank's mission is to contribute to the European Union's balanced development. It is an autonomous public institution and operates on a non-profit-making basis.

The EIB grants long-term loans or guarantees to the public and private sectors for investments, which help the economic development of structurally weak regions. These are either directly or through financial institutions. Loans normally cover up to 50% of the gross investment cost of a project, supplementing the borrower's own funds and credits from other sources.

The EIB lending is on a project rather than asset basis, and is generally for aircraft acquisition. The cost of loans tends to be low, and the term relatively long. The shortest loan term for aircraft has been 7 years and the longest 18 years, with the



Accounting and Reporting System of Airlines Industry

majority running for 10-12 years, significantly longer than commercial bank borrowing. Their airport lending is even longer term.

The European Bank for Reconstruction and Development (EBRD): The governments of Europe and North America established the EBRD after the breakup of the Soviet Union to help with economic restructuring in the former eastern bloc countries. Its role is similar to the World Bank (IBRD), but specializing in the CIS and Eastern European Countries. The European Commission also significantly increased its lending to these countries, through its PHARE and TACIS programs for Eastern Europe and the CIS countries respectively. The EBRD tends to focus on project lending to airports, privatization studies, and technical assistance and institutional support to air transport in general.

International bank for Reconstruction and Development (IBRD): The IBRD or World Bank has financed both airport and airline projects in the past. More recent funding has gone towards privatization studies, but it has also sponsored a study into the feasibility of establishing a multinational airline in Southern Africa, as well as a study of the West African airline, TAGB Air Bissau. A large part of the air transport lending went to Latin America and the Caribbean and Africa. Much of the lending in Latin America, however, was for airport projects, including a study on the privatization of Argentina's airports.

International Civil Aviation Organization (ICAO): ICAO plays a major role in air transport training programs and technical assistance, but does not have the funding capability to lend or give grants for capital investment. In fact, its programs are largely financed from the United Nations Development Program (UNDP) resources. Furthermore, ICAO tends to support projects for aviation authorities or airports, rather than airlines. Airline training and some technical assistance is provided through the airlines' own trade association, the International Air Transport Association (IATA).

Other development banks: Development banks such as the, the Asian Development Bank and the African Development bank have usually only financed airport projects. However, they have, sometimes funded airline studies or transport sector studies that have included airlines. The Caribbean Development Bank, which is a



Accounting and Reporting System of Airlines Industry

shareholder in the regional airline, LIAT, and has played a major role in that airline's finances.

Venture capital firms: Smaller or start-up airlines with no access to more conventional sources of capital often turn to venture capital companies. These firms are looking for a large potential capital gain commensurate with the high risk. A typical scenario might be the venture capital firm taking an equity stake at the outset or after an initial proving period. If the airline were successful, the firm would seek to sell its shares a few years after launch, through acquisition either by a larger airline, or by way of a public share issue. This would give the venture capitalist an exit route to realize their capital gain. Examples of venture capital firms are the US west coast specialists, Hambrecht and Quist, and New Court securities, an offshoot of Rothschild's, which lent to Federal express.

According to KPMG, venture capitalists generally required:

- A return of around 30% a year over three years.
- An exit route for their investment in around three years' time, through an IPO or placing.
- Confidence in management and business plan.
- 65%-80% of the equity, preferably with management having the rest.

The very high rate of return required is to compensate for the investments made by venture capitalists that fail. Management are left to run the business, in spite of having a minority of shares. The level of profits required to satisfy the high rate of return demanded can be reduced if a significant amount of debt capital can be raised.

1.10 Airline Deregulation

Airline deregulation is the process of removing governmental imposed entry and price restrictions on airlines affecting, in particular, the carriers permitted to serve specific routes. In the United States, the term usually applies to the Airline Deregulation Act of 1978. A new form of regulation has been developed to some extent to deal with problems such as the allocation of the limited number of slots available at airports.



Accounting and Reporting System of Airlines Industry

The Airline Deregulation Act

Today's airline industry is radically different from what it was prior to 1978. At that time, the industry resembled a public utility, with a government agency, the Civil Aeronautics Board (CAB), determining the routes each airline flew and overseeing the prices they charged. Today, it is a market-driven industry, with customer demand determining the levels of service and price.

The turning point was the Airline Deregulation Act, approved by Congress on October 24, 1978 and signed into law four days later by President Jimmy Carter. Pressure for airline deregulation had been building for many years, particularly among economists who pointed out, in numerous studies, that unregulated intrastate airfares were substantially lower than fares for interstate flights of comparable distances. However, it was a series of developments in the mid-1970s that intensified the pressure and brought the issue to a head.

Air Cargo Deregulation

Congress took the first legislative steps toward airline economic deregulation in November of 1977, when it gave cargo carriers freedom to operate on any domestic route and charge whatever the market would bear. Congress also declared that one year following enactment of the bill, the CAB could certify new domestic cargo carriers as long as they were found "fit, willing, and able." No longer would there have to be the more demanding, and therefore restrictive, finding of public convenience and necessity, as there had been in the past.

Express Package Delivery

There was another important development following cargo deregulation - the rapid expansion of overnight delivery of documents and small packages. Deregulations produced dramatic results for all aspects of the cargo business, but particularly express package delivery. Overnight delivery of high-value and time-sensitive packages and documents began in the early 1970s. However, it was deregulation that really opened the door to success for such services. Deregulation gave express carriers the operating freedom such high-quality services demand, and the result was outstanding growth for that segment of the aviation industry over the next decade. In 1994, Congress further encouraged the development of this part of the



Accounting and Reporting System of Airlines Industry

airline industry by preempting state efforts to regulate intrastate air/truck freight and air express package shipments.

Passenger Deregulation

The same principle of free-market competition was next applied to the passenger side of the business in the Airline Deregulation Act of 1978. Restrictions on domestic routes and schedules were eliminated along with government controls over domestic rates. Eventually, the CAB itself was disbanded. Congress mandated that domestic route and rate restrictions be phased out over four years. It provided for complete elimination of restrictions on routes and new services by December 31, 1981, and the end of all rate regulation by January 1, 1983.

The CAB actually moved much more quickly than that. It began granting new route authority so readily that within a year of the law's passage carriers were able to launch virtually any domestic service they wanted. The CAB ceased to exist on January 1, 1985, although several board functions shifted to other government agencies, primarily the Department of Transportation.

What Remains Regulated

International: Among the CAB function shifted to other parts of the government were the responsibility for awarding landing rights and other privileges in foreign countries to U.S. carriers. International air services are usually governed by air-transport service agreements, referred to as bilateral, between two nations. These agreements specify such things as the cities each nation's airlines may serve, the number of flights they may operate, and how much regulatory authority the governments will exercise over fares. Bilateral negotiations involving the United States are led by the State Department, with active DOT policy input and participation.

In the 1990s, the United States made a concerted effort to liberalize its international aviation markets, in view of strong airline traffic growth, more liberal trade policies by many partners and the increasing importance of global airline alliances. This effort has been very successful, and as of April 2000, the U.S. had concluded 45 "Open Skies" agreements, which exchange traffic rights, without any limitation on routes, the number of carriers or capacity; and provide liberal regimes for pricing, charters, cooperative marketing agreements and other commercial opportunities. In cases



Accounting and Reporting System of Airlines Industry

where the agreements are less liberal and some restrictions exist, it is the task of the DOT to decide which U.S. airlines get those rights through traditional administrative processes.

Antitrust Exemption: The CAB, because of its comprehensive regulatory jurisdiction over the airline industry, had the authority to approve agreements between airlines and to grant antitrust immunity to those transactions that it approved. With the sunset of the CAB, DOT received authority to approve and immunize agreements affecting international air transportation; however, the authority over domestic transactions lapsed.

Essential Air service: Another function assigned to DOT with the demise of the CAB was the responsibility for maintaining air service to small communities. With carriers free to go wherever they want, Congress anticipated that some of the lightly traveled routes would lose service. To assure appropriate service, it established the Essential Air Service program, which provides subsidies to carriers willing to serve domestic locations that otherwise would be economically infeasible to serve. DOT administers the program, determining subsidy levels and soliciting bids from carriers.

Safety: The government continues to regulate the airlines on all matters affecting safety. The government has performed this regulatory role since 1926, and continues to do so through the Federal Aviation Administration. The Airline Deregulation Act ended government economic regulation of airline routes and rates, but not airline safety.

Effects of Deregulation

Hub and Spoke: A major development that followed deregulation was the widespread development of hub-and-spoke networks, which existed on a more limited basis prior to 1978. Hubs are strategically located airports used as transfer points for passengers and cargo traveling from one community to another. They are also collection points for passengers and cargo traveling to and from the immediate region to other parts of the country or points overseas. Airlines schedule banks of flights into and out of their hubs several times a day. Each bank includes dozens of planes arriving within minutes of each other. Once on the ground, the arriving



Accounting and Reporting System of Airlines Industry

passengers and cargo from those flights are transferred conveniently to other planes that will take them to their final destinations.

Airlines developed hub-and-spoke systems because they enable them to serve far more markets than they could with the same size fleet, if they offered only direct, point-to-point service. At a hub, travelers can connect to dozens, sometime hundreds, of flights to different cities, and often can do so several times of day. An airline with a hub-and-spoke system, thus, has a better chance of keeping its passengers all the way to their final destination, rather than handing them off to other carriers. Travelers enjoy the advantage of staying with a single airline.

The carriers also found that with hub-and-spoke systems they could achieve higher load factors, percentage of seats filled, on flights to and from small cities, which in turn lowered unit operating costs and enabled them to offer lower fares. A city of 100,000 residents, for example, is unlikely to generate enough passengers to any single destination to fill more than a handful of seats aboard a commercial jet. However, it may very well generate passengers going to a number of different destinations. Operating a jet into a hub, where passengers can connect to dozens of different cities, therefore, makes economic sense for small-city markets.

Most of the major airlines maintain hub-and-spoke systems, with hubs in several locations across the United States. Geographic location is a prime consideration in deciding where to put a hub. Another is the size of the local market. Airlines prefer to locate their hub airports at cities where there already is significant "origin and destination" traffic to help support their flights.

New Carriers: Deregulation did more than prompt a major reshuffling of service by existing carriers. It opened the airline business to newcomers just as Congress intended. In 1978, there were 43 carriers certified for scheduled service with large aircraft. Today, the number of carriers has doubled.

The number has fluctuated over the years, with changing market conditions. By 1998, however, the number again was on the rise as new airlines offering direct, low-cost, no-frills service began to emerge. The new airlines were a result of several factors, most notably low prices for used aircraft and the availability of pilots, mechanics and other airline professionals.



Accounting and Reporting System of Airlines Industry

Increased Competition: The appearance of new airlines, combined with the rapid expansion into new markets by many of the established airlines, resulted in unprecedented competition in the airline industry. Today, 85 percent of airline passengers have a choice of two or more carriers, compared with only two-thirds in 1978. The airlines compete intensely with one another in virtually all major markets. The growth of hub-and-spoke systems resulted in increasing competition in small markets that would not normally support competitive service with a linear route system. Proportionately, the biggest increase in competition occurred in the small- and medium-sized markets.

Discount Fares: Increased competition spawned discount fares, and from the traveler's perspective, the discounts are the most important result of airline deregulation. Fares have declined more than 35 percent in real terms since deregulation in 1978. They have become so low, in fact, that interstate bus and rail service has been hard pressed to compete with the airlines, which today provide the primary means of public transportation between cities in the United States.

The Brookings Institute, in 1999, estimated that the traveling public was saving in excess of \$20 billion a year as a result of deregulation. Fifty-five percent of the savings resulted from lower fares; 45 percent from increased service frequency, which helps reduce the number of night's travelers, must spend on the road. More than 90 percent of air travel today involves a discount, with discounts averaging two-thirds off full fare.

Growth in Air Travel: With greater competition on the vast majority of routes, extensive discounting, and more available flights, air travel has grown rapidly since deregulation. In 1977, the last full year of government regulation of the airline industry, U.S. airlines carried 240 million passengers. By 1999 they were carrying nearly 640 million. A recent Gallup survey revealed that 80 percent of the U.S. adult population had flown at least once, more than one-third of them in the previous 12 months.

Frequent Flyer Program: Deregulation also sparked marketing innovations, the most noteworthy being frequent flyer programs, which reward repeat customers with free tickets and other benefits. Most major airlines have such a program, and many small carriers have their own programs, as well as tie-ins to larger programs. While the



Accounting and Reporting System of Airlines Industry

programs vary, the essential elements are the same. Once a customer enrolls, he or she is credited with points for every mile flown with the sponsoring carrier or with other airlines tied into the sponsor's program. The rewards, free tickets and upgrades that convert coach tickets to first class or business class tickets, are pegged to certain point totals.

A more recent development has been the marriage of frequent flyer programs with promotions in other industries in general, and the credit card industry in particular. It is now possible to build up frequent flyer points by purchasing things other than airline tickets, and in some cases to exchange miles for other goods and services.

Programs

Computer Reservation System (CRS): Another important development following deregulation was the advent of computer reservation systems. These systems help airlines and travel agents keep track of fare and service changes, which occur very rapidly today. The systems also enable airlines and travel agents to efficiently process the millions of passengers who fly each day.

Several major airlines developed their own systems and later sold partnerships in their systems to other airlines. The systems list not only the schedules and fares of their airline owners, but also those of any other airline willing to pay a fee to have their flights listed. Travel agents using the systems to check schedules and fares for clients, as well as to print tickets, also pay various fees for those conveniences.

Code sharing: Another innovation has been the development of code sharing agreements. These agreements enable a ticketing airline to issue tickets on the operating airline and to use that operating airline's two-letter code when doing so. Code sharing agreements can be between a larger airline and a regional airline or between a U.S. airline and a foreign airline. Code sharing agreements allow two different airlines to offer better coordinated services to their customers. The code sharing agreements also usually tie each airline's marketing and frequent flyer programs, provide for schedule coordination for convenient connections between carriers, and in most cases, permit smaller airlines to paint their planes with markings similar to those used by their larger partners.



Accounting and Reporting System of Airlines Industry

All the major airlines have code sharing agreements with regional carriers; in most cases with several regionals and also with other nationals and majors. Some also own regional carriers outright, giving them greater control over these important services that feed traffic from outlying areas into the major hubs. Code sharing also applies to international routes. Many U.S. and foreign airlines now have code sharing agreements that essentially enable those airlines to expand their global reach through the services operated by their partners.

Code sharing differs from interlining, a much older industry practice in which a carrier simply hands off a passenger to another carrier to get the passenger to a destination the first carrier does not serve directly. In such situations, the passenger buys a single ticket, and the airline issuing the ticket makes the arrangements for the traveler on the second carrier. However, schedules are not necessarily coordinated, there are no frequent flyer tie-ins, and there is no sharing of codes in computer reservation systems. The flights of each carrier appear independently in the CRSs.

1.11 Airline Privatization

The pattern of the privatization of government owned assets congregated speed during the 1980s, as part of overall economic programs introduced by more capitalist governments. Aid agencies such as the World Bank, the Asian Development Bank and the European bank for Reconstruction and Development encouraged for privatization. There are some strategic and financial justifications for privatization.

Strategic reasons are:

- Reducing the involvement of the state in the provision of goods and services.
- The promotion of economic efficiency.
- The promotion of an enterprise culture.
- The achievement of wider share ownership.

Financial reasons are:

- Governments welcome these sources of cash with which to reduce their budget deficits, allow opportunity for reducing taxes, or shift the financial burden to the private sector. But, it is not obvious that an airline would be a financial burden, once it had been prepared for privatization.



Accounting and Reporting System of Airlines Industry

Privatization can involve the sale of a minority government stake to the private sector, the sale of a majority in a number of stages or in one stage, or an outright sale of a hundred percent government shareholding.

Methods of privatization: Different methods of privatization of airline are mentioned in below:

- a) Floating (public subscription).
- b) Employee or management buy-out.
- c) Private placement (a number of different private investors).
- d) Trade sale (one large investor which also operate in the same or related industry).

A flotation is only possible where there is a strong domestic equity market, and the local stock market regulations can be complied with by the airline. Success will depend on the airline having a good track record, i.e. at least two or three years' of profitable trading, and an appropriate capital and issue structure.

1.12 Aircraft Leasing

A lease is a contract whereby the owner of an asset (the lessor) grants to another party (the lessee) the exclusive right to the use of the asset for an agreed period of time, in return for the periodic payment of rent. Lease may be for houses, offices, telephones, cars, trucks or computers. Now the focus will be on aircraft, although there is no difference in principle with the arrangements for aircraft and any other assets. An aircraft lease is a contract between a lessor and a lessee such that the lessee:

- Select the aircraft specifications.
- Makes specified payments to the lessor for an obligatory period.
- Is granted exclusive use of the aircraft for that period.
- Does not own the aircraft at any time during the lease term.

The lessor could be a bank or specialist leasing company, or it could be a company set up by high tax-paying investors seeking capital allowances to offset against their income, thereby reducing their tax payments. The lessee will normally be an airline. The airline may or may not have an option to acquire the leased aircraft, or share in



Accounting and Reporting System of Airlines Industry

the proceeds from the sale of the aircraft at the end of the lease term. Certain characteristics of a lease follow from these broad definitions:

- The lessor cannot terminate the lease meets the conditions specified.
- The lessor is not responsible for the suitability of the aircraft to the lessee's business.
- The lease may be extended at the end of the obligatory period for a future period.

Different types of Aircraft lease:

Explanations about the different type of aircraft leasing methods are given below in details.

Finance lease: A finance lease is normally for a period of at least 10-12 years, but more likely for the major part of the asset's economic life. It is not – cancellable, or cancellable only with a major penalty. The lessor expects to gain a normal profit on the asset from one airline through a combination of rentals, tax benefits and conservative residual value assumptions, without being involved in, or necessarily having an understanding of, the lessee's business.

The normal risks and benefits of ownership are the responsibility of the lessee, although they are not the legal owner of the aircraft at any time during the lease period, because the lease period is for the major part of the aircraft's life, finance leases are often called 'full pay-out' leases. It follows that the lessee is responsible for repairs, maintenance and insurance of the aircraft, and that the risk of obsolescence lies with the lessee. The lessor does not consider the residual value of the aircraft at the end of the lease period important, and does not need to be technically knowledgeable about the aircraft or airline business.

The lessor may demand that the lessee pay a specified number of rentals on the first day of the lease payment, with a corresponding rental holiday at the end of the lease term.

Operating lease: The key features of an operating lease are:

- It allows airlines to respond rapidly to changes in market conditions.



Accounting and Reporting System of Airlines Industry

- It is of shorter term, usually between one and seven years, or an average of five years, and can be returned to the lessor at relatively short notice and without major penalty.
- The lessee cannot choose the aircraft specification.
- An airline gains the use of an aircraft without the obligation to pay off its full cost.
- The lessor expects to profit from either selling or re-leasing the aircraft.
- The lessee is usually responsible for the maintenance of the aircraft but often has to pay to the lessor a maintenance reserve.

The aircraft's residual value is important to the lessor, and is a key factor in determining the lease rentals that can be offered. The cost of re-marketing or placing the aircraft with another lessor also needs to be considered in rate negotiations, given that aircraft may be placed with at least three different operators over their lifetime. Operating lease rentals vary quite significantly over the economic cycle, with lessors often accepting a short-term drop in monthly rentals to avoid re-marketing or even parking aircraft. Many operating leases have a purchase option for the lessee to buy the aircraft at the end of the lease term, sometimes at a fair market value and sometimes at a stated price. There will also be an option for the lessee to extend the lease for a further 2-4 year period.

The lessor assumes the risk of aircraft obsolescence and needs to know the aircraft and airline business and ensure that maintenance and overhaul is carried out to high standards. There are specialist asset management firms that take care of the technical management of operating lease for the aircraft owners. They can also deal with the commercial side of the business, i.e. rent collection, contracts etc., as well as re-marketing, repossession, placing and sales. The return condition of the aircraft is very important to an operating lessor, since they will wish to place it with another operator with the minimum of delay.

The lessee will have to comply with any airworthiness directives and service bulletins that are issued by the regulatory authorities or manufacturers. These will usually require a hanger inspection and sometimes modification of airframe or components.



Accounting and Reporting System of Airlines Industry

Since such work adds value to the aircraft, the cost is often shared between the two parties, sometimes once a certain threshold has been reached.

Other contract condition required by the lessor will be security deposit, which will depend on the creditworthiness of the lessee, and could amount to 1-2 months' worth of rentals. If the lease terms are complied with, then this money will be returned in full. Interest on the deposit and also the maintenance reserve is subject to negotiation and may be applied as part of the rental payment. Approval would be required for sub-leasing the aircraft, and the use and installation of other equipment on the aircraft. The terms of the aircraft hull insurance would also be reviewed by the lessor.

Operating lessors have usually signed contracts for most of the aircraft that they will take delivery of over the next two years, but after that the orders are more speculative.

Wet lease: A wet lease is the leasing of an aircraft complete with cockpit and cabin crew, and other technical support. The lessor is usually responsible for maintenance and hull insurance. This type of lease is generally for a very short period, say for operations over a number of months or summer season. Hajj pilgrimage flights are often operated on this basis. The aircraft retains the paint scheme and logo of the lessor, although a temporary sticker can be used to show the lessee's name on the fuselage. A wet lease is often described as an ACMI lease, i.e. an aircraft, crew, maintenance and the aircraft insurance, although in this case the aircraft is generally considered to be an integral part of the lessee's fleet.

Quite often the lessor will provide only the aircraft and some of the operational support services. For example, the lessee may wish to use their own cabin crew because of language requirements. A wet lease has many similarities with the chartering of an aircraft, the key difference being the fact that the lessee would have the necessary operating licenses and permits, and operate flights with the wet leased aircraft under its own flight designator. A chartered aircraft would operate under the designator of the owner or operator or the aircraft.

Sale and leaseback: Sale and leaseback occurs when airline which own aircraft often decide to realize the capital value of the aircraft, but at the same time continue



Accounting and Reporting System of Airlines Industry

to operate them. This may be because they have cash flow problems, but it may also be for the following reasons:

- To meet capital requirements for new aircraft or investments.
- To realize the current value of an aircraft that is likely to be retired in a few years' time, especially when the market price of the aircraft will probably decline significantly over that period.

The typical duration for such deals is 3-5 years. The other party involved i.e. lessor, is likely to be a bank, which will structure the lease so as to gain tax benefits. The risk to the bank is relatively low, first because the term is short and second because the lessee will probably be a good credit risk airline, perhaps one that is already well known to the bank.

1.13 Accounting and reporting system of private airlines of the world

The trend towards the privatization of government owned assets gathered pace during the 1980s, as part of overall economic programs introduced by more capitalist governments. This was encouraged by aid agencies such as the World Bank, the Asian development Bank and the European Bank for Reconstruction and development. The justification for privatization was both strategic and financial. Strategic reasons encompassed:


- Reducing the involvement of the state in the provision of goods and services.
- The promotion of economic efficiency.
- The generation of benefits for consumers.
- The promotion of an enterprise culture.
- The achievement of wider share ownership.

Private airlines are doing better than government own airlines of every service sector of airlines operations, like safety and security, customer service, on time flight, in flight service etc. So the every year, private airlines are placing the best position among other airlines of the world. There is a table for showing the world's best airlines from the year 2001 to 2013:



Accounting and Reporting System of Airlines Industry

Table 2: World's best Airlines of the year

Year	1st	2nd	3rd
2001	 Emirates	 Singapore Airlines	 Cathay Pacific
2002	 Emirates	 Cathay Pacific	 Singapore Airlines
2003	 Cathay Pacific	 Emirates	 Singapore Airlines
2004	 Singapore Airlines	 Emirates	 Cathay Pacific
2005	 Cathay Pacific	 Qantas	 Emirates
2006	 British Airways	 Qantas	 Cathay Pacific
2007	 Singapore Airlines	 Thai Airways	 Cathay Pacific
2008	 Singapore Airlines	 Cathay Pacific	 Qantas
2009	 Cathay Pacific	 Singapore Airlines	 Asiana Airlines
2010	 Asiana Airlines	 Singapore Airlines	 Qatar Airways
2011	 Qatar Airways	 Singapore Airlines	 Asiana Airlines
2012	 Qatar Airways	 Asiana Airlines	 Singapore Airlines
2013	 Emirates	 Qatar Airways	 Singapore Airlines

Source: Wikipedia (Skytrax-UK)

World's top 10 best airlines in 2013: The top 10 best airlines worldwide in 2013 by Skytrax are:

1.  Emirates
2.  Qatar Airways (One world)
3.  Singapore Airlines (Star Alliance)
4.  All Nippon Airways (Star Alliance)
5.  Asiana Airlines (Star Alliance)
6.  Cathay Pacific (One world)
7.  Etihad Airways
8.  Garuda Indonesia (Sky Team)
9.  Turkish Airlines (Star Alliance)
10.  Qantas (One world)

AirlineRatings.com the world's foremost safety and product rating website has announced the selection of *Air New Zealand* as its Airline of the Year for 2014. Winners also include; Emirates; Cathay Pacific Airways, Qantas, Silk Air, JetBlue, fly Dubai, Jet star, Norwegian, Singapore Airlines, Air Canada and Swiss.

Accounting and reporting system of some profitable and successful private airlines of the world are given below:



Accounting and Reporting System of Airlines Industry

1.13.1 Singapore Airlines Limited

Singapore Airlines Limited is a famous and well performed and best private airlines in the world. In 2013, this airline has taken third position.

Company Overview: Singapore Airlines Limited provides passenger and cargo air transportation services. It also provides engineering services, air charters, and tour wholesaling and related services, as well as engages in the training of pilots. In addition, the company offers aircraft maintenance services, including technical and non-technical handling at the airport; component overhaul services; repair and overhaul of hydro-mechanical equipment; and aviation insurance and pilot recruitment services. Further, it manufactures aircraft cabin equipment and refurbishes aircraft galleys; provides and markets cargo community systems; markets and supports portal services for the air cargo industry; and markets abacus computer reservations systems. As of March 31, 2012, the company's fleet consisted of 133 aircraft, including 120 passenger aircraft and 13 freighters. It operates in East Asia, Europe, south west Pacific, Americas, west Asia, and Africa. The company was founded in 1947 and is based in Singapore.

Accounting and Reporting system of SAL:

Basis of accounting: The consolidated financial statements of the Group and the statement of financial position and statement of changes in equity of the Company have been prepared in accordance with Singapore Financial Reporting Standards ("FRS"). The financial statements have been prepared on the historical cost basis except as disclosed in the accounting policies below. The financial statements are presented in Singapore Dollars (SGD or \$) and all values in the tables are rounded to the nearest million as indicated.

Basis of consolidation: The consolidated financial statements comprise the separate financial statements of the Company and its subsidiary companies as at the end of the reporting period. The financial statements of the subsidiary companies used in the preparation of the consolidated financial statements are prepared for the same reporting data as the company.

Consistent accounting policies are applied to like transactions and events in similar circumstances. All intra-group balances, transactions, income and expenses and



Accounting and Reporting System of Airlines Industry

unrealized profits and losses resulting from intragroup transactions are eliminated in full.

Business combinations are accounted for by applying the acquisition method. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. Acquisition-related costs are recognized as expenses in the periods in which the costs are incurred and the services are received.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts by the acquiree. Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date.

Subsequent changes to the fair value of the contingent consideration which is deemed to be an asset or liability will be recognized in accordance with FRS 39 either in the profit and loss account or as change to other comprehensive income. If the contingent consideration is classified as equity, it is not premeasured until it is finally settled within equity. In business combinations achieved in stages, previously held equity interest in the acquiree are premeasured to fair value at the acquisition date and any corresponding gain or loss is recognized in the profit and loss account.

The Group elects for each individual business combination, whether non-controlling interest in the acquiree (if any) is recognized on the acquisition date at fair value, or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets.

Any excess of the sum of the fair value of the consideration transferred in the business combination, the amount of non-controlling interest in the acquiree (if any), and the fair value of the Group's previously held equity interest in the acquiree (if any), over the net fair value of the acquiree's identifiable assets and liabilities is recorded as goodwill. In instances where the latter amount exceeds the former, the excess is recognized as gain on bargain purchase in the profit and loss account on the acquisition date.



Accounting and Reporting System of Airlines Industry

Transactions with non-controlling interests

Non-controlling interests' represents the equity in subsidiary companies not attributable, directly or indirectly, to owners of the Parent, and are presented separately in the consolidated statement of comprehensive income and within equity the consolidated financial statements comprise the separate financial statements of the Company and its subsidiary companies as at the end of the reporting period. The financial statements of the subsidiary companies used in the preparation of the consolidated financial statements are prepared for the same reporting date as the Company.

Consistent accounting policies are applied to like transactions and events in similar circumstances. All intra-group balances, transactions, income and expenses and unrealized profits and losses resulting from intragroup transactions are eliminated in full.

Business combinations are accounted for by applying the acquisition method. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. Acquisition-related costs are recognized as expenses in the periods in which the costs are incurred and the services are received.

When the Group acquires a business, it assesses the financial assets and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts by the acquiree. Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date.

Subsequent changes to the fair value of the contingent consideration which is deemed to be an asset or liability will be recognized in accordance with FRS 39 either in the profit and loss account or as change to other comprehensive income. If the contingent consideration is classified as equity, it is not premeasured until it is finally settled within equity.

In business combinations achieved in stages, previously held equity interest in the acquiree are re-measured to fair value at the acquisition date and any corresponding



Accounting and Reporting System of Airlines Industry

gain or loss is recognized in the profit and loss account. The Group elects for each individual business combination, whether non-controlling interest in the acquiree (if any) is recognized on the acquisition date at fair value, or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets.

Any excess of the sum of the fair value of the consideration transferred in the business combination, the amount of non-controlling interest in the acquiree (if any), and the fair value of the Group's previously held equity interest in the acquiree (if any), over the net fair value of the acquiree's identifiable assets and liabilities is recorded as goodwill.

In instances where the latter amount exceeds the former, the excess is recognized as gain on bargain purchase in the profit and loss account on the acquisition date.

Transactions with non-controlling interests:

Non-controlling interests' represents the equity in subsidiary companies not attributable, directly or indirectly, to owners of the Parent, and are presented separately in the consolidated statement of comprehensive income and within equity in the consolidated statement of financial position, separately from equity attributable to owners of the Parent.

Changes in the Company's ownership interest in a subsidiary company that do not result in a loss of control are accounted for as equity transactions. In such circumstances, the carrying amounts of the controlling and non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiary company. Any difference between the amount by which the non-controlling interest is adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to owners of the Parent.

1.13.2 Cathay Pacific airways Limited

Cathay Pacific airways Limited are another world's best private airlines. In 2013, this airline was in sixth position.

Company Overview: Cathay Pacific is an international airline registered and, based in Hong Kong, offering scheduled passenger and cargo services to 172 destinations in 39 countries and territories.



Accounting and Reporting System of Airlines Industry

The Company was founded in Hong Kong in 1946 and remains deeply committed to its home base, making substantial investments to develop Hong Kong as one of the world's leading international aviation centers. In addition to its fleet of 138 aircraft, these investments include catering and ground-handling companies and the corporate headquarters at Hong Kong International Airport. Cathay Pacific continues to invest heavily in its home city and at 31st December 2012 had another 92 new aircraft due for delivery up to 2020. The airline recently completed construction of its own cargo terminal in Hong Kong, which commenced a staged transition of operations in February 2013.

Hong Kong Dragon Airlines Limited ("Dragon air") is a regional airline registered and based in Hong Kong. It is a wholly owned subsidiary of Cathay Pacific and operates 38 aircraft on scheduled services to 44 destinations in Mainland China and elsewhere in Asia. Cathay Pacific owns 19.28% of Air China Limited ("Air China"), the national flag carrier and a leading provider of passenger, cargo and other airline-related services in Mainland China.

Cathay Pacific is also the majority shareholder in AHK Air Hong Kong Limited ("Air Hong Kong"), an all-cargo carrier offering scheduled services in Asia. Cathay Pacific and its subsidiaries employ some 29,900 people worldwide (more than 22,800 of them in Hong Kong). Cathay Pacific is listed on The Stock Exchange of Hong Kong Limited, as are its substantial shareholders Swire Pacific Limited ("Swire Pacific") and Air China. Cathay Pacific is a founding member of the one world global alliance, whose combined network serves more than 800 destinations worldwide. Dragon air is an affiliate member of one world.

Accounting and reporting System of CPAL:

Basis of accounting: The accounts have been prepared in accordance with all applicable Hong Kong Financial Reporting Standards ("HKFRS") (which include all applicable Hong Kong Accounting Standards ("HKAS"), Hong Kong Financial Reporting Standards and Interpretations) issued by the Hong Kong Institute of Certified Public Accountants ("HKICPA"). These accounts also comply with the requirements of the Hong Kong Companies Ordinance and the applicable disclosure provisions of the Rules Governing the Listing of Securities (the "Listing Rules") on The Stock Exchange of Hong Kong Limited (the "Stock Exchange").



Accounting and Reporting System of Airlines Industry

The measurement basis used is historical cost modified by the use of fair value for certain financial assets and liabilities.

The preparation of the accounts in conformity with HKFRS requires management to make certain estimates and assumptions which affect the amounts of fixed assets, intangible assets, long-term investments, retirement benefit obligations and taxation included in the accounts. These estimates and assumptions are continually re-evaluated and are based on management's expectations of future events which are considered to be reasonable.

Basis of consolidation: The consolidated accounts incorporate the accounts of the Company and its subsidiaries made up to 31st December together with the Group's share of the results and net assets of its associates. Subsidiaries are entities controlled by the Group. Subsidiaries are considered to be controlled if the Company has the power, directly or indirectly, to govern the financial and operating policies, so as to obtain benefits from their activities.

The results of subsidiaries are included in the consolidated statement of comprehensive income. Where interests have been bought or sold during the year, only those results relating to the period of control are included in the accounts.

Goodwill represents the excess of the cost of subsidiaries and associates over the fair value of the Group's share of the net assets at the date of acquisition. Goodwill is recognized at cost less accumulated impairment losses. Goodwill arising from the acquisition of subsidiaries is allocated to cash generating units and is tested annually for impairment. On disposal of a subsidiary or associate, goodwill is included in the calculation of any gain or loss.

Non-controlling interests in the consolidated statement of financial position comprise the outside shareholders' proportion of the net assets of subsidiaries and are treated as a part of equity. In the statement of comprehensive income, non-controlling interests are disclosed as an allocation of the profit or loss and total comprehensive income for the year.

In the Company's statement of financial position, investments in subsidiaries are stated at cost less any impairment loss recognized. The results of subsidiaries are accounted for by the Company on the basis of dividends received and receivable.

1.13.3 British Airways



Accounting and Reporting System of Airlines Industry

British Airways is an old, famous, large profitable airline in the world as well as UK.

Company Overview: British Airways ('BA' or 'the Group') is the UK's largest international scheduled airline and one of the world's leading global premium airlines. The Group's principal place of business is London with significant presence and at Heathrow, Gatwick and London City airports. BA also operates a worldwide air cargo business, largely in conjunction with its scheduled passenger services. Operating one of the most extensive international scheduled airline route networks, together with its joint business agreements, code share and franchise partners, BA flies to more than 400 destinations worldwide. BA's vision is to be the most admired airline across the world's key cities.

Accounting and reporting system of BA:

Basis of Accounting: The basis of preparation and accounting policies set out in this Report and Accounts have been prepared in accordance with the recognition and measurement criteria of IFRS, which also include IASs, as issued by the IASB and with those of the Standing Interpretations issued by the International Financial Reporting Interpretations Committee ('IFRIC') of the IASB. These financial statements have been prepared on a historical cost convention except for certain financial assets and liabilities, including derivative financial instruments and available-for-sale financial assets that are measured at fair value. The Group's and Company's financial statements are presented in pounds sterling and all values are rounded to the nearest million pounds (£ million), except where indicated otherwise.

Basis of consolidation: The Group accounts include the accounts of the Company and its subsidiaries, each made up to 31 December, together with the attributable share of results and reserves of associates, adjusted where appropriate to conform to the Group's accounting policies.

Subsidiaries are entities controlled by the Group. Control exists when the Group has the power either directly or indirectly to govern the financial and operating policies of the entity so as to obtain benefit from its activities. Subsidiaries are consolidated from the date of their acquisition, which is the date on which the Group obtains control, and continue to be consolidated until the date that such control ceases. All intra-group account balances, including intra-group profits, have been eliminated in



Accounting and Reporting System of Airlines Industry

preparing the consolidated financial statements. Minority interests represent the portion of profit or loss and net assets in subsidiaries that are not held by the Group and are presented separately within equity in the Group's balance sheet.

1.14 World Airline Financial Results

The airline industry is in the midst of a dramatic restructuring that involves even more fundamental changes than those experienced following its deregulation in 1978. Yet, nearly three decades after deregulation – and after multiple cycles of financial successes and failures – the industry remains fragile. Competitive pressure from low-cost carriers, the loss of consumer confidence in the air transportation system's reliability and operating performance, and the transparency of pricing facilitated by the internet and online travel distribution channels have all contributed to a precipitous decline in average fares and a significant impact on airline revenues.

The airline industry has experienced seven years of good profitability, enjoying the benefits of a relatively long world economic upswing between 1994 and 2000. This followed its emergence from four to five years of large financial losses, following the Gulf War and subsequent economic recession. Cumulative net losses of the world's scheduled airlines amounted to US\$ 20.3 billion in net profits between 1990 and 1993, but this was followed by almost US\$ 40 billion in net profits between 1995 and 2000. This highlights the cyclical nature of the industry, and the need to treat with caution comments after the Gulf War recession about the continued ability of the industry to finance expansion.

And since 2006, fuel has emerged as the single largest industry expense, surpassing labor costs for the first time. The industry still is recovering from its latest cycle of financial struggles, but faces substantial challenges. The belief that a few quarters of profits equate to full recovery is more wishful thinking than reality.

The next round of labor negotiations may be the most important milestone in the world airline industry since deregulation. The recent round of labor negotiations and restructuring led to significant changes in labor costs and productivity. With those changes, airline employees helped contribute to the short-term recovery of the industry. Finding a new model for compensation that is durable and works to address the cyclicity of the industry will be critical. Just as important will be the efforts of



Accounting and Reporting System of Airlines Industry

management to identify non-labor cost savings that can be sustained as networks and operating models are reconfigured.

While there has been much progress on issues of aviation safety and security since 9/11, with the “federalization” of airport passenger screeners and movement towards explosives screening for all checked baggage, the questions “are we doing enough?” and “are we doing the right things?” remain unanswered. Demand for air travel, particularly in short-haul markets, has been suppressed by passenger perception of the “hassle factor” of increased security and the uncertainty of passenger processing times at the airport. For the airlines, the new security procedures have increased operating costs and induced more security-related flight disruptions and delays. The Director-General of IATA, the world-wide airline industry trade association, has said “our passengers have been hassled for 6 years...that’s far too much”. Some experts, however, have expressed concern that cutbacks in existing security measures could increase the risk of future terrorist acts that could devastate the industry.

The temporary reprieve from congestion and flight delays experienced immediately after 9/11 has effectively ended at the nation's busiest airports. The number of delayed flights reached record levels in July 2007, and media reports of chronic and excessive airline passenger delays have again become commonplace. Several factors, including the lack of coordination of airline flight schedules at some of the most congested airports; an outdated air traffic control system; finely-tuned airline flight schedules with little slack to dampen delay propagation; and record-high load factors preventing timely re-accommodation of passengers who misconnect or whose flights are canceled, all combine to create passenger disruptions and lengthy passenger delays that exceed even the record-high levels of flight delays. Solutions to the problem will require a mix of improved management of airspace and airport demand, and an increase in airport capacity brought about primarily by improved management and utilization of existing capacity.

The lack of adequate infrastructure capacity – airports and airspace – and the rapidly growing costs of maintaining and expanding this infrastructure are two of the most critical problems for the future of air transportation, nationally and internationally. The prospects for substantial relief on the capacity front are not good – at least in the medium term, next 10 years. While the FAA and other air navigation service



Accounting and Reporting System of Airlines Industry

providers around the world have been working, with some success, toward increasing the capacity of the en route airspace, the real bottlenecks of the air transportation system are the runway systems of the major commercial airports in North America, Europe and Asia and the terminal airspace around them. The only clear way to increase the runway system capacity at these airports substantially, i.e., at rates similar to those at which demand is growing, is through the construction of new runways at existing airports or additional airports in the same metropolitan areas. But obtaining approval for and eventually opening additional runways and new airports is an extremely difficult and time-consuming proposition in most developed countries. Barring these, airports and national civil aviation authorities may have to resort to increasingly stringent “demand management” measures, such as slot restrictions, congestion pricing, and even the auctioning of access to major airports.

On the cost side, the enormous investments required in order to expand and maintain the capacity of existing airports or to build new ones has been one of the main reasons for the airport privatization trend that has been in evidence in much of the world (but, for statutory reasons, not in the United States) since the late 1980s. A growing tendency to tax directly airline passengers and cargo is another consequence of the rapidly increasing costs of aviation infrastructure, i.e. airports and air traffic control. Various taxes and fees for infrastructure support and security currently increase the cost of the average domestic airline ticket in the United States by about 16%. The situation in the European Union is roughly the same.

These important challenges – sustaining airline profitability, ensuring safety and security, and developing adequate air transportation infrastructure – are not limited to the United States or to US airlines. Airlines around the world are encountering a growing wave of liberalization if not outright deregulation, and as a result are facing competitive pressures, both from new entrant low-cost airlines and re-structured legacy carriers. The rapid growth of the global airline industry and the continued threat of terrorist attacks make safety and security issues critical to every airline, and every airline passenger. And, the need for expanded aviation infrastructure, both airports and air traffic control, is of particular importance to emerging economies of the world such as India, China, Africa and the Middle East, where much greater rates of demand growth are forecast for both passenger and cargo air transportation.



2. LITERATURE REVIEW OF THE STUDY

Aviation Industry Performance, A Review of the Aviation Industry, 2008–2011: U.S Department of Transport (DOT)

The aviation industry has undergone significant transformations as a result of technological developments, economic pressures, and other factors. Most recently, economic recession and recurrent high fuel costs have challenged the world airlines, specially US airlines, which have taken a number of actions to lower costs and increase revenue—including capacity reductions, fare increases, baggage fees, and mergers.

This report, the 11th in the series, focuses primarily on industry performance during the 2008–2011 periods and summarizes long-term trends since 2000. This report also highlights issues related to changes in airlines' business environment, the industry's reactions to those changes, and the impact of these actions on the traveling public. Finally, this report includes exhibits with more than 40 statistical charts (or metrics) organized in five areas: airline finances, air traffic, flight service, delays and cancellations, and customer service.

Overview:

Over the past decade, the airline industry has faced significant changes in its operating environment, including high and volatile fuel prices and an economic recession that reduced demand for travel. For example, while airlines spent only 10 percent of their operating costs on fuel in 2001, by 2011 this had risen to 35 percent—near the all-time high of 40 percent in 2008. As a result of these and other factors, the industry has experienced considerable financial strain that has led to more than 50 U.S. passenger and cargo airlines filing for bankruptcy in the last 12 years. Ultimately, these changes to the operating climate have fundamentally challenged the industry's ability to sustain itself using its old business models.

The trends presented in this report portray an industry that has been in flux since Yr.2008—one that is transforming to restore profitability and adapting to survive the challenges of a sustained economic downturn. For instance, airlines have responded to the changing economic landscape by introducing new passenger fees (e.g., baggage fees), reducing the number of scheduled flights, and filling vacant seats.



Accounting and Reporting System of Airlines Industry

Moreover, the recent series of significant airline mergers has reduced the number of airlines serving the bulk of the domestic passenger market from 10 in Yr. 2000 to 5 in Yr. 2012, which has dramatically consolidated control of the industry.

These and other airline actions have had a significant impact on the industry as a whole, as well as the traveling public. Specifically, airlines have become more aggressive in adjusting fares and flights to respond to fluctuations in fuel prices and demand and have become more profitable as a result. At the same time, the travel experience for the flying public has changed both positively and negatively. For example, there has been a significant reduction in flight delays and cancellations in recent years. Yet there has also been a significant reduction in service at some hub airports and in short-haul flights (i.e., less than 500 miles), which in turn is limiting the choices of many air travelers.

Further details of these changes in business conditions, airline actions, and their impacts are described below. Ultimately, the trends presented in this report suggest that the changes in the number of airlines controlling the industry, fare increases, and capacity reductions that began in 2008 are not a brief phase, but rather are signs of a greater shift in the industry that will remain for years to come. and cancellations in recent years. Yet there has also been a significant reduction in service at some hub airports and in short-haul flights (i.e., less than 500 miles), which in turn is limiting the choices of many air travelers.

Airline Finance: Peter S. Morrell, Fourth Edition and Second Edition

Fourth edition:

Airline Finance by Peter S. Morrell is now revised and updated. This fourth edition of this internationally renowned and respected book provides the essentials to understanding all areas of airline finance. Designed to address each of the distinct areas of financial management in an air transport industry context, it also shows how these fit together.

Supported at each stage by practical airline examples, it examines the financial trends and prospects for the airline industry as a whole, contrasting the developments for the major regions and airlines. Important techniques in financial analysis are applied to the airline industry, together with critical discussion of key



Accounting and Reporting System of Airlines Industry

issues. The fourth edition reflects the many developments that have affected the industry, with a particular emphasis on the full impact of the global banking and sovereign debt crises. This edition also features new material discussing the increased airline mergers and acquisitions (M&A) activity of recent years, and considers the likelihood of further consolidation in the future.

Air transport industry finance, with its complexity and special needs such as route rights, airport slots, aircraft leasing options and frequent flyer programs, requires specific knowledge. While there are numerous financial management and corporate finance texts available, few of these provide explanations for the singularities of the airline industry with worked examples drawn directly from the industry itself.

Overview:

'Airline Finance' is required for any analyst, financier, airline executive, regulator or student looking to understand the financial complexities of aviation and how to measure and compare airline financial performance, raise finance to buy aircraft, manage financial risk, and more. The use of real-world examples, taken from airlines' annual reports, renders the work interesting, insightful and relevant, and explanation of what everything means and how it all fits together is world-class. Look no further for real expertise in aviation finance.

Second Edition:

Overview:

Peter Morrell has cleverly dissected the key aspects of airline finances and provided an excellent guide to both the routine financial requirements, such as financial statements and ratios, and also to the specific issues facing airline finance executives, such as airline risk management, valuations and privatizations. This is an essential compendium to airline finance executives, their financiers and investors and anyone with a passion for this fascinating industry.

Airline Finance is a handy resource guide for either the security analyst assigned to follow the airline industry or for aviation executive who needs to implement financial strategies intended to increase shareholder wealth.



Accounting and Reporting System of Airlines Industry

Flying Off Course, The economics of International Airlines: Rigas Doganis, Fourth edition

The airline industry presents an enigma. In recent decades, high growth rates have produced only marginal profitability. 'Flying Off Course' provides a unique insight into the economics and marketing of international airlines. It is an indispensable guide to the inner workings of this exciting airline industry. This fourth edition, takes into account the sweeping changes which have affected airlines in recent years. It contains much new material on many key topics such as airline costs, 'open skies', air cargo economics, charters and new trends in airline pricing. It also contains exciting information on the economics of the low-cost no frills carriers and on the future prospects of the industry. The book provides a practical insight into key aspects of airline operations, planning and marketing within the conceptual framework of economics.

Overview

The methodical and brief approach of this book is appropriate for learning the above of airline economics, as well as developing a deeper understanding of this vibrant industry. Flying Off Course is a thought provoking book that should be essential for anyone interested in the airline industry.

Flying off Course captures perfectly the complexity of international aviation and the state of the industry. Only an intimate knowledge of airlines could have produced a book of this range and depth, covering everything to do with the economics of flying – from the cyclical nature of the business to the role of technology, from the regulatory environment to product planning, and from demand forecasting to fare pricing.

Foundations of airline finance methodology and practice: Vasigh B.

This book mainly discussed about the theoretical aspects of airline finance, airline accounting and finance, airline capital budgeting, practical application of airline finance.

It covers the role of finance in the airline industry; airline cost classifications; time value of money; and risk and return; the role of accounting in airlines; airline financial statements; and financial statement analysis; airline capital budgeting; airline capital



Accounting and Reporting System of Airlines Industry

structure and cost of capital; and working capital and current asset management; fuel hedging and risk management; buy versus lease decision-making; and aviation industry valuation.

Overview:

"Foundations of Airline Finance: Methodology and Practice" is a textbook that comprehensively covers, at a basic level, all aspects of the subject, bringing together many of the numerous and informative articles and institutional developments that have characterized the field of airline finance in the previous two decades. In the early chapters, the reader is introduced to the elementary theoretical foundations that underpin the role of finance in the airline industry. Critical topics, such as the time value of money, the notion of risk and return, and the complex nature of costs (fixed, semi-fixed, variable, and marginal) are discussed and illustrated with concrete examples. This is followed by an in-depth presentation of the role of accounting in airlines. Ratio analysis is used to further analyze airline financial statements. Airline industry specific metrics, such as cost per available seat mile (CASM) and revenue per revenue passenger mile (RRPM), are covered. The role of capital and asset management is then explained in the following chapters. The final chapters of the text present some important practical applications of the theoretical ideas presented earlier; these applications include hedging, the buy versus lease decision for aircraft and the question of the valuation of assets (mainly aircraft). Moreover, specific methods for actually calculating internal valuation are presented and evaluated.

The text is serving as an accessible and comprehensive reference for industry professionals.

Bridging the GAAP 5; international airline accounting policies and financial analysis: MILNE I.R.

This book has been written for the benefit of a wide range of potential users. Primarily it is directed at airline financial directors, controllers, managers and their professional advisers, together with those responsible for possible airline investment appraisal and those concerned with giving financial consultancy advice on airline investments. It will also assist those user groups of airline accounts who wish to gain a further insight into the way airlines report their results. It covers the accounting



Accounting and Reporting System of Airlines Industry

policies and disclosures of 57 airlines and provides a short introduction to efforts toward harmonizing the financial reporting of international airlines.

It provides an analysis of airline accounting policies by airline, in the following areas: property, equipment and depreciation; capitalized interest; leasing; deferred gains on sale and leaseback transactions; maintenance and repair costs; revenue recognition; frequent flyer schemes; route acquisition costs; deferred charges; manufacturers credits; basis of presentation; consolidation policies and goodwill; foreign currency exchange; investments; inventories and supplies; cash and cash equivalents; income and deferred taxes; post-retirement benefits; earnings per share; financial instruments; segmental reporting; provisions for bad debts; severance pay; extraordinary items; and accounting charges.

This book contains key ratios of performance: profitability analysis, including ten year trends, operating results, and profit/loss before taxation; asset, capital and equity analysis, including property and equipment as a percentage of total assets, asset values and depreciation, borrowings as a percentage of tangible fixed assets, years of asset life remaining, gearing ratios, and net debt/total capital ratio; cash flow analysis, including breakdowns; full profit and loss account analysis from 1998/99 to 2002/03; and full balance sheet analysis from 1998/99 to 2002/03; and detailed financial results for numerous specific airlines, grouped into regions by North America, Europe/UK, and Asia/Rest of the world.

Empires of the sky: determinants of global airlines' accounting policy choices, TAN C.W. (International Journal of Accounting, Vol.37, No.3, 2002. pp.277-299)

This study quantifies the current level of diversity observed in airline accounting and examines possible determinants that explain accounting-policy choices by the global airline industry. Airlines' accounting-measurement policy for unrealized foreign-exchange differences and their disclosure of frequent-flyer information remains diverse. Inferential statistics shows that larger airlines tend to take unrealized foreign-exchange differences directly to equity and tend to disclose frequent-flyer accounting policy, while airlines with lower leverage tend to disclose frequent-flyer accounting.



Accounting and Reporting System of Airlines Industry

Airline accounting recommendations, GODFREY A. (Accounting and Business, Vol.2, No.5, May 1999, pp. 26-27).

Airlines have particular accounting problems in classical accounting areas such as revenue recognition, fleet depreciation and leasing. They also have a special problem in the form of frequent-flier programs. The International Air Transport Association (IATA) has developed its own guidance for dealing with these issues. In this article, the author looked at this unusual phenomenon in standard setting: accounting recommendations from the international employers' association and they discuss in detail the Airline Accounting Guidelines (AAG).

Air Transport: Horizon 2020: Key Factors and Future Prospects, Jacques Pavaux (Editor)

This comprehensive study, written by IATA's experts, analyzes the main trends vital to civil aviation decision-makers in the fast-changing international commercial air transport industry between now and 2020. The book investigates into the geopolitical, socio-economic, and regulatory conditions commercial aviation will have to contend with; the effects of deregulation; the markets of the future; and the benefits new technologies will bring.

Global Airlines - Competition in a Transnational Industry, Pat Hanlon, Third Edition

Global Airlines presents an overview of the changing scene in the airline industry discussing current issues of de-regulation, privatization and the emergence of transnational airlines. One of the leading academic authorities on the industry interprets the effects of mergers and alliances; code-sharing, franchising and block spacing; increasing concentration; and changing patterns in the configuration of route networks.

Global Airlines reviews airline companies around the world and the services they operate. Recent trends such as the change from linear to hub-and-spoke systems and the resulting problems posed by traffic congestion are examined. Also debated are the pro- competitive and anti-competitive consequences of recent developments such as liberalized markets, refined computer reservations systems, and loyalty marketing schemes.



Accounting and Reporting System of Airlines Industry

The author examines the serious implications for the present bilateral system of negotiating traffic rights, as the 'flag carrier' concept becomes outmoded in favor of airlines as global entities.

Overview:

'Global Airlines: Competition in a Transnational Industry' presents an overview of the changing scene in air transport covering current issues such as security, no frills airlines, 'open skies' agreements, the outcome of the recent downturn in economic activity and the emergence of transnational airlines, and take a forward looking view of these challenges for the industry.

At the time of second edition in 1999, major changes have occurred in the industry. The 'rules of the game' in air transport are now beginning to change; and it is time to take the story forward. This third edition (2007) of this book contains some new chapters and tackles the following issues amongst others:

Security: The tragic events of 11 September 2001, followed by the war in Iraq, and the resultant heightened tensions over security and passenger safety.

Financial instability: the cyclical downturn in economic activity has led some airlines to the verge of bankruptcy. Even some large well-established carriers are not immune from this. How can the industry look to survive?

Attaining global reach: implications of trans border mergers, open skies agreements and the transatlantic Common Aviation area. Can full globalization ever be reached?

Low-cost carriers and e-commerce: as both increase, how much the industry re-structure and deal with issues associated with increased passenger traffic and decreased labor requirements?

Airport capacity: Air traffic is estimated to grow at a long-term average annual rate of 5 percent per annum. But many airports in many parts of the world are already reaching their capacity limits. How can this be overcome and are the environmental implications?

Using up to date data and case studies from major international airlines such as United Airlines, British Airways, and Qantas amongst many others, this book provides a comprehensive insight into today's global airline industry and coverage of



Accounting and Reporting System of Airlines Industry

the global airline industry, focusing on how an industry traditionally served by national firms, can transform itself into one served by global firms.

Aircraft Financing, Simon A. D. Hall (Author), Fourth edition (2011)

'Aircraft Financing' the fourth edition examines a comprehensive range of commercial and legal topics which are relevant to aircraft financing in 2011 and explores current trends in the aviation and aircraft financing industries. This is the most complete book on Aircraft Finance. Some Important features like graphs, diagrams and charts and other pictorial features are supporting to facilitate a better understanding of the accompanying text. Key benefits the book will be helpful to aircraft finance lawyers because it discusses and clarifies many of the financing transactions which they advise on in their day to day business, i.e. "bread and butter" deals like operating leasing or export credit financings, or other types of deals, like Islamic financing. This is of especial benefit to junior lawyers who wish to expand their knowledge of this practice area. The book also benefits other aircraft financing industry participants, e.g. bankers, leasing companies, lessees, who want to expand their knowledge of aircraft financing beyond their area of expertise and those seeking an up-to-date summary of legal and regulatory developments. The fourth edition is divided into thematic sections, enabling the reader to locate information easily. The first section - Market Context - provides an overview of the aircraft financing market in recent years, including an examination of recent trends in funding sources. The second section - Transaction Structuring - explores the commercial and legal issues underpinning an aircraft financing transaction. The third section - Core Products and Regional Markets - examines some of the aircraft financing products currently used in the market, such as export credit financing and Islamic financing. It also examines the aviation industry and aircraft financing products on a global scale, focusing on Brazil, Russia, India, China and certain European countries. The final section - Regulatory Matters - explores recent developments and changes in regulation.

Accounting Solutions for the Airline Industry, Goss & Associates, LLC

This company provides consulting to assist travel industry clients work through complex accounting and financial decisions. Experts are dedicated to building long-term customer relationships using quality analyses, recommendations, training,



Accounting and Reporting System of Airlines Industry

customer support, project management, departmental re-engineering and model development.

Mainly they give importance about Passenger Revenue Accounting (PRA) of world airline industry. They discussed that passenger revenue accounting can be divided into three periods: Paper, Semi-Automation and Transition. In the beginning airlines issued paper documents (tickets) that included travel information. To coordinate passing information between airlines they created an organization called the International Airline Transportation Association (IATA).

Paper period: When first introduced a paper ticket was hand written. A ticket establishes a contract between an airline and a passenger. The ticket is a document that includes a receipt (passenger coupon), accounting data (auditor coupon) and passenger boarding authorizations (flights coupons). The original paper ticket used carbon to transfer information between coupons. Airline passenger revenue accounting organizations did the accounting manually using the audit coupons attached to sales reports from selling locations and flight coupons sent in lift envelopes for each flight departure from boarding cities.

Semi-automation period: The beginning of airline automation started when airlines began creating ticket records from the information that was hand written on a paper ticket using Computer Reservation Systems (CRS). Airlines put printers at selling locations connected to CRS terminals to replace the hand writing of tickets. The computer printed ticket was still a carbonized document with the same coupons. With the increase of credit cards to pay for a ticket a credit card coupon was added.

Airline passenger revenue accounting organization began developing accounting systems. These systems uploaded coupon data from airline CRS records provided through sale reports and lift envelopes. If the CRS system did not have coupon information, PRA systems included functionality to capture/input the required data to create the missing CRS record.

Transition period: Airline industry automation is always evolving. Airline CRS have evolved into Global Distribution Systems (GDS) that may or may not comply with IATA standard ticketing records. The airlines that use IATA standards to create ticket records have been labeled Legacy Airlines, while airlines that do not use IATA standard ticket records have been labeled Low Cost Carriers (LCC).



Accounting and Reporting System of Airlines Industry

There are some problems about Passenger Revenue Accounting and Airline Pricing Model discussed by the associates:

- Third party passenger revenue accounting system suppliers include some of the GDS's providers and they may offer some or all of the PRA system choices. There are also non GDS third party suppliers. The problem is the ticketing record like IATA standard or Non-IATA standard. Most PRA system suppliers cannot handle both types of ticketing records. GDS PRA system suppliers are limited to the ticketing record type their GDS creates: IATA standard or Non IATA standard. Although there are some non GDS third party provides that can handle both ticket record types.
- Most Passenger Revenue Accounting systems are based on IATA standard ticket records. However, the passenger revenue accounting principles apply to ticket records that are not IATA standard. The problem for non-standard passenger revenue accounting systems is industry sales distribution systems are based on the IATA standard ticket records: IATA Billing Settlement Plans, Airline Reporting Corporation and ACH/IATA Interline Settlement. If an airline GDS does not use the IATA Standard GDS ticketing record, the industry sales distribution systems cannot receive/use these ticketing records.
- Airlines and DOT revenue statistics are a problem, as each airline has their own "pricing" and "reporting" rules. A free market model does not properly address the airline industry which is "unique", but the airline industry is both capital intense like manufacturing and price elastic like the service industry.
- For accounting, the IATA Ticketing Standards makes Interline possible. Without it we would be back to unilateral airline billings – A nightmare of the first order.
- There is more to consider than direct cost of third parties. The current unbundled fare has created a complex audit trail. Audits identify lost revenue. The ability to identify lost revenue is both a system cost (system enhancements) and real revenue (rules are not followed, prices are wrong, etc.). And, this does not even address the strategic issues other than the "Garbage-In, Garbage-Out" which the accountant is responsible to explain.



Accounting and Reporting System of Airlines Industry

Airline Revenue Accounting system, MAZRO

Overview:

This is an outline of general passenger revenue accounting processes as used by many airline revenue accounting systems. It is intended only as a guideline to the principal processes, and does not represent any particular system; however it may be useful when considering possible revenue accounting system choices. Equally, out-sourced revenue accounting service providers are likely to have or need a similar system as the basis of their services. The modular structure of individual revenue accounting systems will differ, as will their coverage of the various processes within them.

Principal Processes in an Airline Revenue Accounting System:

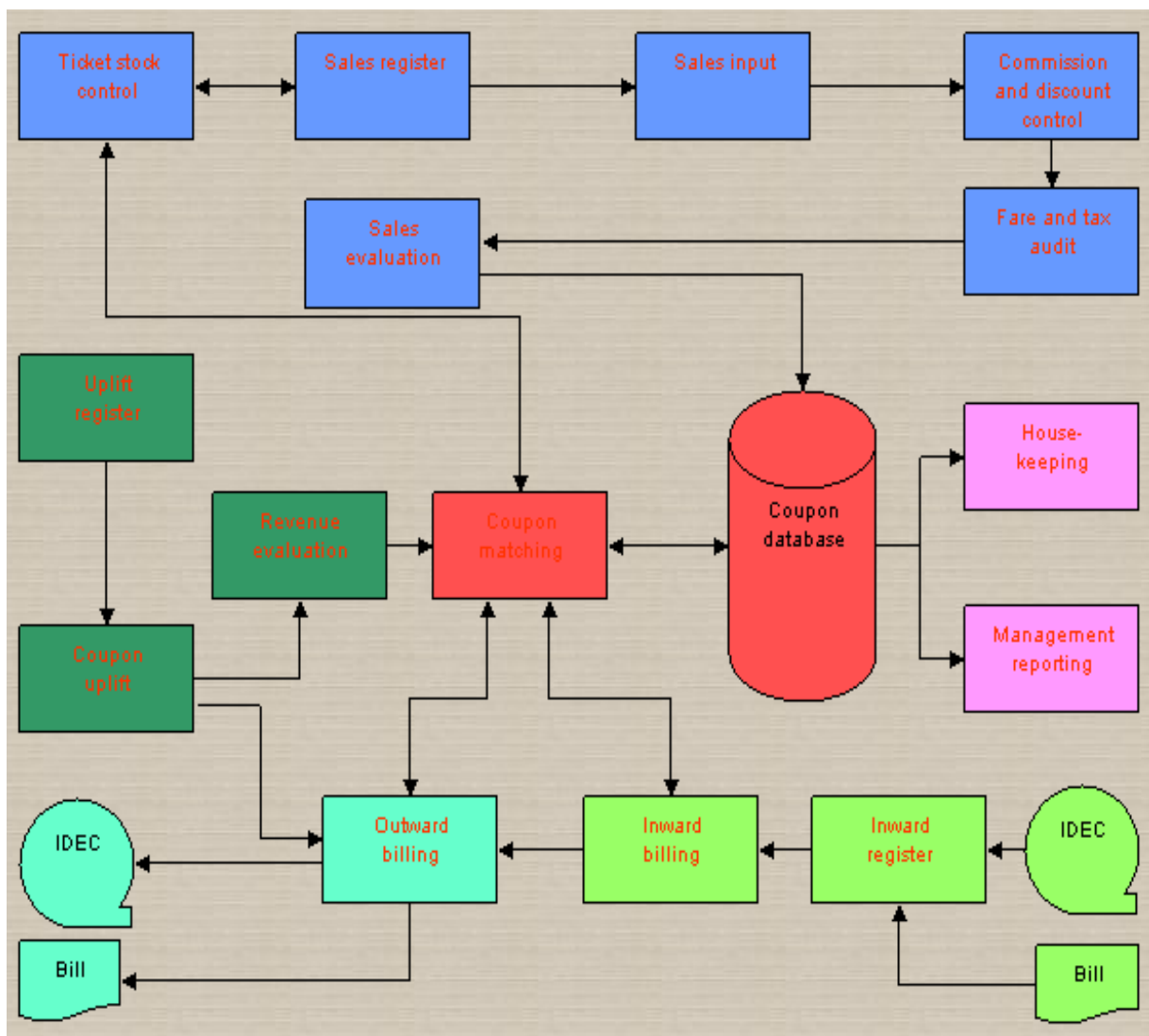


Figure 13: Principal Process in an Airline Revenue Accounting System



Accounting and Reporting System of Airlines Industry

The basic purpose of an airline revenue accounting system is to manage the control, reporting, use and accounting of tickets, MCOs, excess baggage tickets and other 'accountable' documents. In doing so, it should be accurate and flexible, and provide maximum efficiency in processing ticket data, and posting and billing accurate values. It should validate all transactions, and initiate recoveries where under-collections or errors have occurred. It should minimize opportunities for fraud, and identify circumstances in which a fraud may have taken place. It must deliver fast, accurate passenger revenue and segment data to management and management information systems.

After discussing the above books and articles about the accounting system of airlines industry, we can better understand all areas of airline finances, financial statements and ratios, airline risk management, valuations and privatizations, flight and customer services, airline economics. airline revenue accounting system, airline accounting guideline, aircraft financing, aircraft leasing, different accounting solutions for airlines, etc. There is no direct article about the accounting and reporting system of airlines industry, but we get significant discussion about airlines accounting system. They discussed the development of the industry by technological development, the financial complexities of aviation and how to measure and compare airline financial performance, raise finance to buy aircraft, airline capital structure and cost of capital, time value of money, accounting policies and disclosures and the financial reporting of airlines, key factors for future success, how to compete with other competitors (airlines), development of safety and security of airlines passengers and aircraft also etc.

There are so many airlines in the world, which are making loss frequently. But, how these airlines will minimize the loss and to be a part of profit making airlines is very important to discuss. Loss making airlines need to take so many important steps, gather and implement the necessary knowledge from successful profitable airlines and should follow the accounting and reporting system, strategies, rules and regulations of all international organizations related with aviation and airlines industry, like – IATA, ICAO, and IASB etc.



3. METHODOLOGY OF THE STUDY AND

AIRLINES' DESCRIPTION AND OPERATIONAL PROFILE

Methodology of the study

The purpose of the study is to provide an understanding of airline accounting and reporting system and airline financial statements. Airline financial results are highly sensitive to small changes in either costs or revenues; because of the historically high level of financial gearing that has prevailed. The study is also covering analyzing the effectiveness and understanding of airline accounting and reporting system in providing financial performance and qualitative management information. The study would also be helpful to find out the strength and weakness of the revenue accounting system and bring out a number of suggestions and solutions to enhance its effectiveness in the field of aviation industry in Bangladesh.

In order to fulfill the purpose of the study and to make more rich and informative both primary and secondary data are used. Primary data are collected from face to face interviews of airline executives, people from electronic distribution company and travel agents. Besides the primary data, secondary data or information have been collected from airlines related books, airlines journals and magazines, Annual reports of Biman and some other specific airlines, different periodicals and published materials of Electronic Distribution Companies, agreement between Biman and Distribution Companies, and different web sites of internet etc. Data and information have been collected mostly from different secondary sources like websites of IATA, PaxIS, Boeing, Airbus etc. Bangladesh aviation market data has been collected from historical data preserved in Market Research section.

3.1 History and Company Background of Biman Bangladesh Airlines

The history of Biman parallels the history of Bangladesh itself. Biman was launched from the remains of Pakistan International Airlines in newly independent Bangladesh in early 1972. Although it inherited 2,500 employees from the former airlines, Biman, like its newly independent country, was forced to build an institution from the most meager of resources. The new airline had no aircraft, barely functional hanger



Accounting and Reporting System of Airlines Industry

facilities, and a home airport designed primarily for domestic traffic to then West Pakistan. Showing the determination and loyalty that are hallmarks of the carrier today, within ten years Biman established itself as a truly international airline.

Prior History

Biman Bangladesh Airlines was established on 4 January 1972 as Bangladesh's national airline under the Bangladesh Biman Ordinance (Presidential Order No. 126). The initiative to launch the flag carrier was taken former employees, including ten Boeing 707 commanders and seven other pilots of Pakistan International Airlines, who submitted a proposal to the government on 31 December 1971 following the independence of Bangladesh. The airline was initially called Air Bangladesh but was soon changed to its current name.

Bangladesh Biman, established under Bangladesh Biman (Temporary Order 1972) (APO No. 2 of 1972 as amended by President's Order No. 31 of 1972), started functioning by taking over the assets and liabilities of the former Pakistan International Airlines (PIA) within the territories constituting Bangladesh. Thereafter on 27 October 1972, a Corporation was established Bangladesh Biman by Bangladesh Biman Order 1972 (President's Order No. 126 of 1972) and 26 May 1977, this order was repealed by Bangladesh Biman Corporation Ordinance 1977 which established the corporation called Bangladesh Biman Corporation.

History of services of Biman: From its service launch with just two F-27s in 1972, Biman boasted a fleet of 13 aircraft by the end of its first decade – six F-27s, two F-28s and five B 707s. It serves 6 domestic and 21 international destinations, providing world-standard service to major ethnic Bangladeshi communities worldwide.

On 4 February 1972, Biman started its domestic services, initially linking Dhaka with Chittagong, Jessore and Sylhet, using a single Douglas DC-3 acquired from India. Following the crash of this DC-3 on 10 February 1972, near Dhaka, during a test flight, two Fokker F-27s belonging to Indian Airlines and supplied by the Indian government entered the fleet as a replacement. Shortly afterwards, additional capacity was provided with the incorporation of a Douglas DC-6, loaned by the World Council of Churches, which was in turn replaced with another Douglas DC-6, a DC-6B model leased from Troll-Air, to operate the Dhaka-Calcutta route. On 4 March



Accounting and Reporting System of Airlines Industry

1972, Biman started its international operations with a weekly flight to London using a Boeing 707 chartered from British Caledonian. The short haul fleet was supplemented by a Fokker F-27 from India on 3 March 1972; the aircraft was employed on a daily scheduled flight between Kolkata and Dhaka on 28 April 1972. Three additional Fokker F27s were acquired during March and September of that year. In the first year of operation, Biman operated 1,079 flights carrying just over 380,000 passengers.

Four Fokker F-27s joined the fleet in 1973, enabling Biman to double the frequency of the Kolkata flight to a twice daily service. A Boeing 707 was added to the fleet in September and the flight to London became twice-weekly, while a Chittagong–Kolkata flight also began operating. In 1974, operations were extended to Kathmandu (February), Bangkok (November) and Dubai (December). In 1976, Biman sold two of its Fokker F-27s and bought another Boeing 707 to extend international services to Abu Dhabi, Karachi and Mumbai. Singapore was added to Biman's list of international destinations, when a third Boeing 707 was purchased in February 1977, followed by Jeddah, Doha and Amsterdam the following year, which also saw the purchase of its fourth Boeing 707. In 1977, Biman was converted into a public sector corporation to be governed by a board of directors appointed by the government. The airline broke even for the first time in 1977–78, and made a profit the following year. International destinations expanded to include Kuala Lumpur, Athens, Muscat and Tripoli in 1979, followed by Yangon, Tokyo and Dhahran in 1980. In 1983, three Douglas DC-10s joined the fleet and the airline started to phase out the Boeing 707s. The flight network expanded further to include Baghdad (1983), Paris (1984) and Bahrain (1986). On 5 August 1984, Biman faced its worst accident ever when a Fokker F-27 flying in from Chittagong crashed near Dhaka, killing all 49 on board. The long haul fleet was then supplemented by the purchase of two new Airbus A310s in 1996, followed by the addition of two more in 2000, from Singapore Airlines and Air Jamaica, and another in 2003.

Until the late 1980s, this arrangement was sufficient for Biman to serve national transportation goals with a minimum of operating subsidies – in many years, Biman showed an operating profit. However, as foreign airlines have continued to increase their competitiveness within the marketplace, Biman has been increasingly left behind. From 40 percent five years ago, foreign airlines have increased their share



Accounting and Reporting System of Airlines Industry

of the Dhaka international market to about 60 percent today. Biman has been unable to take advantage of the additional fleet, market focus, information technology, and streamlined management structure that its competitors have used to such advantage. In the past three years, it has become increasingly evident to senior Biman managers and its board that the airline needs to break free from its government reins if it is to profitably respond to competition. Biman managers and employees express their readiness to embrace the next phase of the young carrier's history.

3.2 Characteristics of Biman Bangladesh Airlines

The overall world airlines industry has some common features. All Airlines have main two characteristics – Huge capital intensive and Thin profit margin. These are some principal characteristics of Biman Bangladesh Airlines like world other airlines are given below:

Service Industry: Because of all of the equipment and facilities involved in air transportation, it is easy to lose sight of the fact that this is, fundamentally, a service industry. Biman Bangladesh Airlines perform a service for their customers - transporting them and their belongings or their products, in the case of cargo customers, from one point to another for an agreed price. In that sense, the airline business is similar to other service businesses like banks, insurance companies or even barbershops. There is no physical product given in return for the money paid by the customer, nor inventory created and stored for sale at some later date.

Capital Intensive: Unlike many service businesses, airlines need more than storefronts and telephones to get started. They need an enormous range of expensive equipment and facilities, from airplanes to flight simulators to maintenance hangars. As a result, the airline industry is a capital-intensive business, requiring large sums of money to operate effectively. Most equipment is financed through loans or the issuance of stock. Increasingly, airlines are also leasing equipment, including equipment they owned previously but sold to someone else and leased back. Whatever arrangements an airline chooses to pursue, its capital needs require consistent profitability.



Accounting and Reporting System of Airlines Industry

High Cash Flow: Because airlines own large fleets of expensive aircraft which depreciate in value over time, they typically generate a substantial positive cash flow (profits plus depreciation). Most airlines like Biman use their cash flow to repay debt or acquire new aircraft. When profits and cash flow decline, an airline's ability to repay debt and acquire new aircraft is jeopardized.

Labor Intensive: Airlines also are labor intensive, Biman also. Each major airline employs a virtual army of pilots, flight attendants, mechanics, baggage handlers, reservation agents, gate agents, security personnel, cooks, cleaners, managers, accountants, lawyers, etc. Computers have enabled airlines to automate many tasks, but there is no changing the fact that they are a service business, where customers require personal attention. More than one-third of the revenue generated each day by the airlines goes to pay its workforce. Labor costs per employee are among the highest of any industry.

Highly Unionized: In part because of its long history as a regulated industry, the airline industry is highly unionized. Biman Bangladesh Airlines is also highly unionized.

Thin Profit Margins: The bottom line result of all of this is thin profit margins, even in the best of times. Airlines, through the years, have earned a net profit between one and two percent, compared to an average of above five percent for U.S. industry as a whole.

Seasonal: The airline business historically has been very seasonal. The summer months were extremely busy, as many people took vacations at that time of the year. Winter, on the other hand, was slower, with the exception of the holidays. The result of such peaks and valleys in travel patterns was that airline revenues also rose and fell significantly through the course of the year. This pattern continues today, although it is less pronounced than in the past. The growth in the demand for air transportation since deregulation has substantially lessened the valleys.

Airline Revenue - Where the Money Comes From:

About 75.14% (77.50% in 2011-12) of the Biman Bangladesh airlines industry's revenue comes from passengers; Cargo and Excess-Baggage contributed 6.61% and 1.42% (6.13% and 1.51% in 2011-12) respectively of the company's total



Accounting and Reporting System of Airlines Industry

revenue in the financial year 2012-13. It may be mentioned here that due to capacity constraints, Biman could not fully exploit the cargo market opportunity. Biman has brought cargo under automation, and other modern marketing mechanism has also been set to optimize revenue with the planned fleet enhancement. Cargo is the sole source of transportation revenue. The remaining 16.83% (14.86% in 2011-12) comes from other non-core activities of Biman; like, BFCC, BPC, Ground Handling services, Cargo Handling services etc. Biman- since its inception has been providing this very important and specialized service to all the airlines operating from Dhaka and Chittagong, both for Passengers and Cargo. In addition to handling its own flights, this strategic unit has been a source of substantial revenue.

Travel agencies play an important role in airline ticket sales. Eighty percent of the industry's tickets are sold by agents, most of whom use airline-owned computer reservation systems to keep track of schedules and fares, to book reservations, and to print tickets for customers. Airlines pay travel agents a commission for each ticket sold. Similarly, freight forwarders book the majority of air-cargo space. Like travel agents, freight forwarders are an independent sales force for airline services, in their case working for shippers.

Airline Costs - Where the Money Goes:

Airline costs are as follows:

- Flying Operations - essentially any cost associated with the operation of aircraft, such as fuel and pilot salaries;
- Maintenance - both parts and labor;
- Aircraft and Traffic Service - basically the cost of handling passengers, cargo and aircraft on the ground and including such things as the salaries of baggage handlers, dispatchers and airline gate agents;
- Promotion/Sales - including advertising, reservations and travel agent commissions;
- Passenger Service - mostly in-flight service and including such things as food and flight attendant salaries; Transport related - delivery trucks and in-flight sales;
- Administrative;



Accounting and Reporting System of Airlines Industry

- Depreciation/Amortization - equipment and plants.
- Labor costs are common to nearly all of those categories.
- Fuel is the airlines' second largest cost.
- Another rapidly rising cost has been airport landing fees and terminal rents.
- Cargo warehouse demurrage charges are other costs of Biman.
- Travel-agent commissions are third. Commission costs, as a percent of total costs, have recently been declining, as more sales are now made directly to the customer through electronic commerce.

Break-Even Load Factors: Every airline has 'what is called a break-even load factor'. That is the percentage of the seats the airline has in service that it must sell at a given yield, or price level, to cover its costs. Since revenue and costs vary from one airline to another, so does the break-even load factor. Escalating costs push up the break-even load factor, while increasing prices for airline services have just the opposite effect, pushing it lower. Overall, the break-even load factor for the industry in recent years has been approximately 66 percent.

Biman Bangladesh Airlines typically operate very close to their break-even load factor. The sale of just one or two more seats on each flight can mean the difference between profit and loss for an airline.

Seat Configurations: Adding seats to an aircraft increases its revenue-generating power, without adding proportionately to its costs. However, the total number of seats aboard an aircraft depends on the operator's marketing strategy. If low prices are what an airline's customer's favor, it will seek to maximize the number of seats to keep prices as low as possible. On the other hand, a carrier with a strong following in the business community may select for a large business-class section, with fewer, larger seats, because it knows that its business customers are willing to pay premium prices for the added comfort and workspace. The key for most airlines like Biman is to strike the right balance to satisfy its mix of customers and thereby maintain profitability.

Overbooking: Airlines occasionally overbook flights, meaning that they book more passengers for a flight than they have seats on the same flight. The practice is rooted in careful analysis of historic demand for a flight, economics and human



Accounting and Reporting System of Airlines Industry

behavior. Historically, many travelers, especially business travelers buying unrestricted, full-fare tickets, have not traveled on the flights for which they have a reservation. Changes in their own schedules may have made it necessary for them to take a different flight, maybe with a different airline, or to cancel their travel plans altogether, often with little or no notice to the airline. Some travelers, unfortunately, reserve seats on more than one flight.

Both airlines and customers are disadvantaged when airlines sell all the seats for which they have received reservations. An airline's inventory is comprised of the seats that it has on each flight. If a customer does not fly on the flight which he or she has a reservation, his or her seat is unused and cannot be returned to inventory for future use as in other industries. This undermines the productivity of an airline's operations; it is increasing productivity, of course, that contributes to lower airfares and expanded service. Consequently, airlines sometimes overbook flights.

Importantly for travelers, airlines do not overbook randomly. They examine the history of particular flights, in the process determining how many no-shows typically occur, and then decide how much to overbook that particular flight. The goal is to have the overbooking match the number of no-shows. In most cases the practice works effectively. Occasionally, however, when more people show up for a flight than there are seats available, airlines offer incentives to get people to give up their seats. Free tickets are the usual incentive; those volunteering are booked on other flight.

Normally, there are more volunteers than the airlines need, but when there are not enough volunteers, airlines must bump passengers involuntarily. In the rare cases where this occurs, federal regulations require the airlines to compensate passengers for their trouble and help them make alternative travel arrangements. The amount of compensation is determined by government regulation.

Pricing: Since deregulation, airlines have had the same pricing freedom as companies in other industries. They set fares and freight rates in response to both customer demand and the prices of competitors. As a result, fares change much more rapidly than they used to, and passengers sitting in the same section on the same flight often are paying different prices for their seats.



Accounting and Reporting System of Airlines Industry

For the airlines like Biman, the chief objective in setting fares is to maximize the revenue from each flight, by offering the right mix of full-fare tickets and various discounted tickets. Too little discounting in the face of weak demand for the flight, and the plane will leave the ground with a large number of empty seats, and revenue-generating opportunities will be lost forever. On the other hand, too much discounting can sell out a flight far in advance and preclude the airline from booking last-minute passengers that might be willing to pay higher fares, another lost-revenue opportunity.

The process of finding the right mix of fares for each flight is called yield, inventory or revenue management. It is a complex process, requiring sophisticated computer software that helps an airline estimate the demand for seats on a particular flight, so it can price the seats accordingly. And, it is an ongoing process, requiring continual adjustments as market conditions change. Unexpected discounting in a particular market by a competitor, for instance, can leave an airline with too many unsold seats if they do not match the discounts.

Scheduling: Since deregulation, airlines have been free to serve whatever domestic markets they feel warrant their service, and they adjust their schedules often, in response to market opportunities and competitive pressures. Along with price, schedule is an important consideration for air travelers. For business travelers, schedule is often more important than price. Business travelers like to see alternative flights they may take on the same airline if, for instance, a meeting runs longer or shorter than they anticipate. A carrier that has several flights a day between two cities has a competitive advantage over carriers that serve the market less frequently, or less directly.

Biman Bangladesh Airlines or other Airlines of the world establish their schedules in accordance with demand for their services and their marketing objectives. Scheduling, however, can be extraordinarily complex and must take into account aircraft and crew availability, maintenance needs and airport operating restrictions.

Contrary to popular myth, airlines do not cancel flights because they have too few passengers for the flight. The nature of scheduled service is such that aircraft move throughout an airline's system during the course of each day. A flight cancellation at one airport, therefore, means the airline will be short an aircraft someplace else later



Accounting and Reporting System of Airlines Industry

in the day and another flight will have to be canceled. If an airline must cancel a flight because of a mechanical problem, it may choose to cancel the flight with the fewest number of passengers and utilize that aircraft for a flight with more passengers. While it may appear to be a cancellation for economic reasons, it is not. The substitution was made in order to inconvenience the fewest number of passengers.

Fleet Planning: Selecting the right aircraft for the markets an airline wants to serve is vitally important to its financial success. As a result, the selection and purchase of new aircraft is usually directed by an airline's top officials, although it involves personnel from many other divisions such as maintenance and engineering, finance, marketing and flight operations. There are numerous factors to consider when planning new aircraft purchases, beginning with the composition of an airline's existing fleet. Do existing aircraft need to be replaced, what plans does the airline have to expand service, how much fuel do they burn per mile, how much are maintenance costs, and how many people are needed to fly them. These are the type of questions that must be answered.

In general, newer aircraft are more efficient and cost less to operate than older aircraft. A Boeing 727, for example, is less fuel efficient than the 757 that Boeing designed to replace it. In addition, the larger 757 requires only a two-person flight crew, versus three for the 727. As planes get older, maintenance costs can also rise appreciably.

However, such productivity gains must be weighed against the cost of acquiring a new aircraft. Can the airline afford to take on more debt? What does that do to profits? What is the company's credit rating, and what must it pay to borrow money? What are investors willing to pay for stock in the company if additional shares are floated? A company's finances, like those of an individual considering the purchase of a house or new car, play a key role in the aircraft acquisition process.

Marketing strategies are important, too. An airline considering expansion into international markets, for example, typically cannot pursue that goal without long-range, wide-body aircraft. If it has been largely a domestic carrier, it may not have that type of aircraft in its fleet. What's more, changes in markets already served may require an airline to reconfigure its fleet. Having the right-sized aircraft for the market is vitally important. Too large an aircraft can mean that a large number of unsold



Accounting and Reporting System of Airlines Industry

seats will be moved back and forth within a market each day. Too small an aircraft can mean lost revenue opportunities.

Since aircraft purchases take time, often two or three years, if there is a production backlog, airlines also must do some economic forecasting before placing new aircraft orders. This is perhaps the most difficult part of the planning process, because no one knows for certain what economic conditions will be like many months, or even years, into the future. An economic downturn coinciding with the delivery of a large number of expensive new aircraft can cause major financial losses. Conversely, an unanticipated boom in the travel market can mean lost market share for an airline that held back on aircraft purchases while competitors were moving ahead.

Sometimes, airline planners determine their company needs an aircraft that does not yet exist. In such cases, they approach the aircraft manufacturers about developing a new model, if the manufacturers have not already anticipated their needs. Typically, new aircraft reflect the needs of several major airlines, because start-up costs for the production of a new aircraft are enormous, manufacturers must sell substantial numbers of a new model just to break even. They usually will not proceed with a new aircraft unless they have a launch customer, meaning an airline willing to step forward with a large order for the plane, plus smaller purchase commitments from several other airlines.

Important trends in aircraft acquisition:

There have been several important trends in aircraft acquisition since deregulation.

One is the increased popularity of leasing versus ownership. Leasing reduces some of the risks involved in purchasing new technology. It also can be a less expensive way to acquire aircraft, since high-income leasing companies can take advantage of tax credits. In such cases, the tax savings to a lessor can be reflected in the lessor's price. Some carriers also use the leasing option to safeguard against hostile takeovers. Leasing leaves a carrier with fewer tangible assets that a corporate raider can sell to reduce debt incurred in the takeover.

The second trend, since 1978, relates to the size of the aircraft ordered. The development of hub-and-spoke networks resulted in airlines adding flights to small cities around their hubs. In addition, deregulation has enabled airlines to respond



Accounting and Reporting System of Airlines Industry

more effectively to consumer demand. In larger markets, this often means more frequent service. These considerations, in turn, increased the demand for small- and medium-sized aircraft to feed the hubs. Larger aircraft remain important for the more heavily traveled routes, but the ordering trend is toward smaller aircraft.

The third trend is toward increased fuel efficiency. As the price of fuel rose rapidly in the 1970s and early 1980s, the airlines gave top priority to increasing the fuel efficiency of their fleets. That led to numerous design innovations on the part of the manufacturers. Airlines, today, average about 40 passenger miles per gallon - a statistic that compares favorably with even the most efficient autos.

Similarly, the fourth trend has been in response to airline and public concerns about aircraft noise and engine emissions. Technological developments have produced quieter and cleaner-burning jets, and Congress has produced timetables for the airlines to retire or update their older jets. A ban on the operation of Stage 1 jets, such as the Boeing 707 and DC-8, has been in effect since January 1, 1985. In 1989, Congress dictated that all Stage 2 jets, such as 727s and DC-9s were to be phased out by the year 2000. Today, Stage 3 jets, taking their place, include the Boeing 757 and the MD-80. Hush kits are also available for older engines, and some airlines have chosen to pursue this option rather than make the much greater financial commitment necessary to buy new airplanes. Others have chosen to re-engine, or replace their older, noisier engines with new ones that meet Stage 3 standards. While more expensive than hush kits, new engines have operating-cost advantages that make them the preferred option for some carriers.

As a part of the Fleet Modernization Plan, Biman signed two agreements with the Boeing Company, USA in April and May 2008 for purchasing 10 (ten) new generation, fuel-efficient aircraft. Under the above agreement two (2) new Boeing 777-300ER aircraft has already been included in Biman,s fleet in October and November 2011 respectively. Biman has paid USD 118.39 million equivalent to Tk.973.16 crore to the Boeing Company as pre-delivery payment for procurement of another two 777-300ER aircraft on November 15, 2012, which was funded by Sonali Bank UK Ltd. Biman is ensuring optimum utilization of its existing fleet and, as an interim measure, filling in capacity requirements through leasing of aircraft.



Accounting and Reporting System of Airlines Industry

3.3 Ownership Structure of Biman

The airline was wholly owned by the Bangladeshi government through the Bangladesh Biman Corporation since its inception. Originally established as Bangladesh Airlines Corporation by the ordinance of 4 January, 1972 (as amended on 30 March, 1972), the airlines was reconstructed as Bangladesh Biman Corporation under the Bangladesh Biman Corporation Ordinance No. XIX of 26 May, 1977 (the "Ordinance"). In 1977, Biman was converted into a public sector corporation which afforded Biman limited autonomy, led by a government-appointed board of directors. The authorized share capital was increased to BDT 2 billion in 1987, and Biman was transformed into a public limited company, the largest in Bangladesh, in 2007.

Bangladesh Biman Corporation has been converted into Public Limited Company on 23rd July 2007 by dint of the Ordinance no.13, 2007 dated 11 July 2007 and SRO NO 191/AIN/2007 dated 02 August 2007. Biman Bangladesh Airlines Limited has taken over the business, assets and liabilities of Bangladesh Biman Corporation with effect from 23rd July, 2007. It was done as per the Bangladesh Gazette notification dated August 2, 2007 and Agreement for Transfer of Undertaking between the Government of People's Republic of Bangladesh, represented by Ministry of Civil Aviation and Tourism and Biman Bangladesh Airlines Limited signed on 31st July 2007.

The authorized share capital of the Company is Taka 150,000,000,000 (Fifteen Thousand Crore only) divided into One Hundred and fifty crore ordinary shares of Taka One Hundred each. The Paid-up Capital of the company is Taka 20,824,096,400 (Taka two thousand eighty two crore forty lakh ninety six thousand four hundred) divided into Twenty crore eighty two lakh forty thousand nine hundred sixty four Ordinary shares of Taka one hundred each. The equity capital of Biman is currently Tk. 150,000,000,000 divided into 1,500,000,000 shares which, at present, are all owned by the Government. All shares are ordinary shares ranking equally (Ordinary shares of Tk. 100 each as per Memorandum Articles of the Association).

Biman Flight Catering Center's (BFCC) capital was provided Bangladesh Biman Corporation at the time of its setting up. A Board called BFCC Board manages it. A



Accounting and Reporting System of Airlines Industry

board was also originally constituted by Bangladesh Biman Corporation for management of BFCC on 26 November 1989 vide Biman Order No. 38/39. The Board is re-constituted by Bangladesh Biman Corporation from time to time. For all intents and purposes of Bangladesh Biman Corporation may be treated as the owner of the center (BFCC) is to provide catering services to all Airlines at home and abroad including Biman Bangladesh Airlines.

Biman has a plan to offload 51% of its shares through stock exchange and private placement to the strategic partner. The shareholding structure of the Company as on December 2012 is as follows:

Table 3: Shareholding structure of Biman

SL. No.	Shareholder/Representation on Board of Directors	No. of Ordinary shares	Date of Allotment	Value of Shares in BDT
1	Govt. of the Peoples Republic of Bangladesh (Represented by the Secretary, Ministry of Civil Aviation and Tourism)	1	12.08.2009	100
		208,240,957	24.01.2011	20,824,095,700
2	Cabinet Division, GOB (Represented by the Cabinet Secretary)	1	12.08.2009	100
3	Energy & Mineral Resources Division, Ministry of Power, Energy and Mineral Resources, GOB (Represented by the Secretary)	1	12.08.2009	100
4	Finance Division, Ministry of Finance, GOB, [Represented by the Secretary]	1	12.08.2009	100
5	Ministry of Foreign Affairs, GOB [Represented by the Secretary]	1	12.08.2009	100
6	Ministry of Civil Aviation and Tourism [Represented by the Joint Secretary (Biman & CA)]	1	12.08.2009	100
7	Ministry of Commerce, GOB [Represented by the Secretary]	1	26.08.2010	100
Total		208,240,964		20,824,096,400

Source: Biman

Corporate Profile of BIMAN

Biman Bangladesh Airlines, popularly known as Biman, is the national airlines of Bangladesh. A member of IATA, it flies passengers and cargo to 18 international destinations in Asia and Europe. It goes to most of the destinations directly or via a stopover. Convenient transfer connections from Dhaka to regional destinations are



Accounting and Reporting System of Airlines Industry

easily available. Biman is reputed for its well-trained and dedicated crew with appreciable safety record.

Biman came into being on January 04, 1972 with a gift of DC-3 aircraft from Bangladesh Air force. Presently Biman has two 737-800, four DC10-30, three A310-300 and three F28-4000 aircraft in it's fleet. Biman is in the process of procuring more new generation aircraft such as Boeing 777-300ER, 787-8 and 737-800 for it's fleet.

The airline's Reservation and Departure Control System and other communication systems are fully computerized. Biman is now striving to make the airline more attractive to its valued passengers by fixing priority on providing more comfort and maintaining schedule regularity.

Biman Ground Handling (BGH) and Maintenance:

Biman had the capability to do entire maintenance work on it's F-28 aircraft being F-28 aircrafts have been grounded in the year June 2011. Biman is also doing C-check, D-check on DC10-30 and A310-300 in it's hangar complex at Dhaka. Checks, repair and maintenance of one DC10-30, one wide bodied Boeing and two F-28 aircraft can be done simultaneously there.

In addition to its own aircraft, Biman's ground-handling unit also provides support to Singapore Airlines, Thai Airways, Malaysia Airlines, Qatar Airways, Emirates, Kuwait Airways, Oman Air, Saudia, Gulf Air, PIA, Indian Airlines, Dragon Air, Druk Air, etc.at Hazrat Shahjalal International Airport, Dhaka.

Biman Flight Catering Center (BFCC):

Biman Flight Catering Centre (BFCC) was established on 11th November 1989 vide Biman office order # 13/ 89. An agreement was made between Bangladesh Biman Corporation and M/S Albert Abela (Far East) Inc. on 03 October 1989 for three years to operate BFCC. After completion of 3 years operation period M/S Albert Abela (Far East) Inc. left BFCC and Bangladesh Biman Corporation took over the responsibility of BFCC on 27 October 1992. A wholly-owned subsidiary of Biman Bangladesh Airlines was set up in 1989. BFCC provides Biman's in-flight meals and is one of Biman's profitable operations; regularly supplying food to Cathay Pacific Airways,



Accounting and Reporting System of Airlines Industry

Etihad Airways, China Eastern, Saudi Arabian Airlines, Dragon Air and also receiving casual orders from other airlines operating in Bangladesh. It is a modern flight kitchen of the airlines, having the capacity of producing 10000 meals a day and provides excellent cuisine to Biman and to other international airlines. BFCC also provides Cabin Dressing services to Malaysian Airlines, Bangkok Airways, Qatar Airways, Air India, Thai Airways, Emirates, PIA, Oman Air, Etihad Airways, Turkish Airways and Saudi Arabian Airlines. Currently 594 employees are working in this subsidiary.

Bangladesh Airlines training Center (BATC):

Bangladesh Airlines Training Center (BATC) is the first among the neighboring countries to achieve EASA part 147 approvals on 28th of February 2012. EASA is the apex body of European Union for regulation and maintenance of aviation safety. Biman Bangladesh Airlines Training Center (BATC) has been training its ground, flight service and technical personnel to meet the growing needs of Biman's manpower. The center has also been turned into a seat of training and technical seminars for local travel agents and some foreign airlines.

Biman Poultry Complex (BPC):

Biman Poultry complex (Former Savar Poultry complex) was established in 1976 by Bangladesh Biman Corporation. The complex went into its operation in 10th November, 1980. The complex produces and supplies hybrid one day chicks both layer and broiler from its parent stock imported from Hatchery of Biman Poultry Breeding farm of Canada and supplies dressed meat to Biman Flight Catering Centre (BFCC). The complex also produces agricultural products like paddy, wheat, mustered, vegetable and grows fishes, milk. Total area of the complex is 76.12 acres. Biman Poultry Complex, a subsidiary of Biman was formed to create a profit earning concern to augment the cash flow of Biman. The complex is situated 40 km north-west away from Dhaka City at Ganakbari, Savar, Dhaka.

The poultry industry in Bangladesh was partly pioneered by the Biman subsidiary in the mid-1970s, though the first poultry in Bangladesh was a private venture named Eggs and Hens established in 1964. The medium-sized breeder set up by BPC eventually led to NGOs and the government coming forward to develop the sector in



Accounting and Reporting System of Airlines Industry

early 1990. There are currently 90 employees at Biman Poultry Complex on 76.12 acres (308,290 m²) of land including 5 acres (20,000 m²) poultry shed, 1 acre for residential purpose and 69 acres (280,000 m²) of agricultural land.

Abacus Bangladesh NMC Ltd.:

Biman through an innovative approach started GDS marketing in Bangladesh. Biman Bangladesh Airlines and Abacus International formed a National Marketing Company (NMC) for Bangladesh on 09 July, 2002. Certificate of Incorporation was issued by the Registrar of Joint Stock Companies on 23 July 2003. In Abacus NMC Biman Bangladesh Airlines holds 51 percent (%) share and 49 percent by Abacus International Pvt. Ltd. is a global distribution system and technology partner. Abacus International operates as a travel facilitator in the Asia Pacific region and establishes joint ventures with local companies in various countries.

3.4 Organizational structure/ Administrative Structure of Biman

The airline is 100% owned by the Bangladesh government. Bangladesh Biman Corporation is a commercial venture of the Ministry of Civil Aviation. The chief of this government-owned organization is by designation the Minister of the Aviation Ministry. This corporation is operated through a Board of Directors. Usually, this Board of Directors is headed by a Chairman who is supposed to be accountable to a higher authority. According to the company's organogram, the Managing Director (MD) is the Chief Executive Officer (CEO) of Biman. There are eight divisions in Biman – administration, finance, flight operations, store and purchase, customer service, engineering, planning, and special project – each headed by an appointed Director of its own. Biman's management and most of the financial matters fall under the responsibility of this eight-member Executive Board.

As of March 2014, the chairman position was held by Air Mshl (Retd.) Jamal Uddin Ahmed, whereas, Kevin John Steele was the Managing Director (MD) and Chief Executive Officer (CEO). Steele is the first foreign national in the airline's history to be appointed CEO and MD of Biman. He was appointed in March 2013 and was chosen from a pool of 42 local and foreign candidates after a competitive selection process. Steele is a British citizen who has many years of experience working in management and administrative positions at British Airways and other airlines



Accounting and Reporting System of Airlines Industry

around the world and at a press briefing, held a few days after joining the airline, he promised to turn things around and make Biman Bangladesh Airlines a profitable 21st century airline. Steel is resigning from 17th April 2014 due to illness.

Kyle Haywood, a South-African born British citizen, has joined Biman Bangladesh Airlines on 3rd January, 2014, as the managing director and chief executive officer. He is the second foreign MD & CEO for Biman and still working.

Manpower of Biman

There are three types of employee in Biman. For example: Permanent, Contractual and Casual. Manpower Status of Biman Bangladesh Airlines Ltd. as of 30 June 2014 is given below:

Table 4: Manpower status of Biman

Employee Level	Permanent	Contractual	Casual	Total
MD & CEO				
Executive Director	04	01		05
Cockpit Crew	122	06		128
General Manager & Equivalent	12			12
Dy. General Manager & Equivalent	29			29
Manager/Asstt. Manager/Officer & Equivalent	737			737
Staff	1979	275	1349	3603
Total	2883	282	1349	4514

Source: Biman

3.5 Business overview / Nature of business and consolidation

The global economy gradually shifts gears and moves out of recession, still in red. The aviation industry has also not been able to fully recover from the crisis that engulfed it in the wake of the oil price hike and financial meltdown. In fact the oil price hike that resulted from Arab Spring in the Middle East still continues, which cast doubts on the ability of the aviation industry to return profitably in the foreseeable future.



Accounting and Reporting System of Airlines Industry

The events of the last financial year tested Biman in new ways once again. Biman Bangladesh Airlines Limited Continued to face exceptional challenges during the year under review. Fuel prices remain constant as of last year highs. The extreme volatility of oil prices once again continued to be a critical factor. In addition, the markets Biman serves continued to be severely affected by overcapacity, falling yield and revenue resulting from the global economic crisis. Although Biman is committed to become the customers' preferred global airlines in future, it is still the airlines for Bangladeshi diaspora worldwide. Amidst aggressive trend to Budget Carriers, Biman prides itself for being a full service carrier, engaged in almost all air transport related activities- from passenger and cargo transportation to aircraft and engine maintenance and in-flight catering services.

The principal activities of the company is to provide and develop safe, efficient, adequate, economical and properly coordinated air transport services, internal and as well as international. The Company operates Biman Bangladesh Airlines (BBA), Biman Poultry Complex (BPC) and Biman Flight Catering Center (BFCC), Bangladesh Airlines Training Center (BATC) and as such the accounts of these three units (BBA, BFCC, and BPC) have been consolidated as the Company Accounts.

3.5.1 Core Businesses

Air transportation of passenger: Biman is primarily a scheduled passenger carrier operating out of an international and domestic base at Hazrat Shahjalaj International Airport in Dhaka. The airline serves 19 International and 04 Domestic destinations including Dhaka, the base of the airlines.

During the FY2009-10, the passenger business contributed 75.76% of total operating revenue of the Airlines. Available Seat Kilometers (ASKs) increased to 72,457.18 lakh from 68,788.35 in 2009-10 demonstrating increased capacity with existing fleet. Revenue Passenger Kilometer increased by 5.48% to BDT 22,260.87 lakh. Passenger market continued to grow in the financial year 2011-12. Passenger transportation contributed some 77.50% of total operating revenue of the airlines. Available Seat kilometers (ASKs) increased to 73,157lakh from 72,457 in 2010-11 demonstrating increased capacity with existing fleet. Revenue Passenger Kilometer increased by 4.92% mainly due to increased frequencies to various destinations in



Accounting and Reporting System of Airlines Industry

the Middle East. Passenger revenue added to about 75.14% of total revenue of the airline in FY 2012-13. ASKs decreased to 70,171 lakh in 2012-13 from 73,157 lakh in 2011-12 demonstrating 4.08% decrease in ASK. Revenue Passenger Kilometer also decreased by 4.89% mainly due to decrease of frequencies to various destinations. In FY 2013-14, Passenger revenue contributed about 72.90% of total revenue income of the airlines. Available Seat KMs (ASKs) recorded a 4.52% rise. It increased to 73,346.76 lakh in 2013-14 from 70,171.75 lakh in 2012-13. However, Revenue Passenger Kilometer (RPK) declined by 1.60%.

Air transportation of cargo: Cargo is a key service in a globalized economy where the competitiveness of business depend on their ability to manage inventory levels and bring products, particularly perishables and high tech items to market within a very tight time frames. Biman Bangladesh Airlines cargo operations reported a good year in 2010-11 when it registered a record growth. There were increases in terms of load factor. The airlines carried 32,035.96 ton cargo in the period under review which is 11.43% higher than that of past fiscal year. The revenue Ton Kilometer was also shown upward trend amounting 6925.18 lakh which was 6719.89 lakh in the 2009-10 and a decrease in 2011-12 mainly due to operation of direct freighter flights by various airlines to/from Dhaka. The airlines carried 23,665 ton cargo during the period under review which is 25% lower than that of past fiscal year. In FY 2012-13, Airline cargo operations stated an increase by carrying 33,434 tons cargo during the period under review which is 41.28% higher than that of last fiscal year of 23,665 tons. Through better yield management Revenue earning from Cargo increased by Tk. 37.93 crore compared to the previous financial year, though Biman carried 1.49% less cargo than that of 2012-13. Biman carried 32,936.22 tons of cargo during the FY 2013-14 under review compared to 33,433.98 tons in 2012-13.

3.5.2 Non-Core Businesses

Biman Flight Catering Center and Biman Poultry Complex (BFCC and BPC):

Biman has two distinct profit centers as subsidiaries: Biman Flight Catering Center (BFCC) and Biman Poultry Complex (BPC). Both make positive financial contributions to the company. BFCC is responsible for all catering operations at Hajrat Shajalal International Airport, primarily to Biman flights, but also to third party customers. The poultry Complex operates almost entirely independently and



Accounting and Reporting System of Airlines Industry

generating its profit from third party sales. BFCC and BPC have been remaining the profit making center of Biman.

In the 2010-11 fiscal year, net profits generated by BFCC and BPC are amounted to the tune of BDT 30.66 crore and 1.74 crore respectively. During the 2011-12 fiscal year, net profits generated by BFCC and BPC amounted to BDT 23.08 crore and 3.35 crore respectively. . In FY 2011-12, BPC has accounted for less than ½ percent of total Company revenue and BFCC has accounted for approximately 2.44% of total Company revenue. During the 2012-13 fiscal year, BFCC and BPC have remained as profit making centers of Biman, net profit generated by BFCC and BPC amounts to BDT 19.99 crore and BDT 3.42 crore respectively. During the FY 2013-14, BFCC earned total revenue of BDT 87.87 crore and net profit generated by BFCC of BDT 17.42 crore. In the FY 2013-14, BPC earned total revenue of BDT 15.73 crore and net profit generated by BDT 3.59 crore.

Ground and Cargo handling services for own and foreign airlines: Biman Bangladesh Airlines is the only handling agency in Bangladesh. It enjoys monopoly in providing ground handling and cargo handling services to other airlines operating through Bangladesh.

Ground handling business still remains a key income generating area and vital to Biman's survival. With revenue of BDT 273.32 crore, the Ground handling business from Airport and Cargo represents 7.21% of the Company's total revenue mainly due to increased frequency of the foreign scheduled and non-scheduled carriers to and from Bangladesh during the 2011-12 fiscal years. During the FY 2012-13, with revenue of BDT 490.43 crore, the ground handling business from Airport and Cargo exemplifies 12.39% of the Company's total revenue. With revenue of BDT 556.95 crore, the Ground Handling business from Airport and Cargo represented 14.81% of the Company's total revenue in 2013-14. During the year 2013-14, Biman earned BDT 449.33 crore from Cargo Handling Services and BDT 80.40 crore from Cargo Handling Services to other airlines and BDT 27.22 crore from Cargo warehouse demurrage charges.

At the same time Biman recognize the fact that there are areas for improvement in ground services. Realizing the potential of the ground handling business, Biman has made a considerable size of investment in procuring new fleet of Ground Support



Accounting and Reporting System of Airlines Industry

Equipment during the period under review but could not do so due to acute shortage of fund. Biman is exploring avenues to enhance its capabilities through partnership building with internationally reputed Ground Handling Agencies.

Biman Engineering and Maintenance services: Biman Bangladesh Airlines has in-house maintenance facility for its fleet by establishing a modern Hanger Complex at Hazrat Shahjalal International Airport, Dhaka. Biman is maintaining different types of aircrafts, like-777-300ER, DC 10-30, A 310-300, B-737 and F-28 aircraft in Biman's own facility. For these aircraft Biman is performing maintenance and Engineering services by its own manpower. Apart from the day-to-day line maintenance and certification prior to each flight, Biman Engineering is also providing support to the en-route line stations. This saves a huge amount of foreign currency for operation of these aircraft at the line maintenance level. The operations are being supported by Biman's own Engineering and technical services. Biman has also formed EASA 145 implementation Project Committee for Engineering and maintenance. Maintenance cost went down by Tk. 97.75 crore in FY2013-14. However, passenger revenue decreased by Tk. 234.06 crore due to decrease in yield and cabin factor by 10.53% and 4% respectively compared to previous year.

Bangladesh Airlines Training Center (BATC): Bangladesh Airlines Training Center (BATC) is the first among the neighboring countries to achieve EASA part 147 approvals on 28th of February 2012. EASA is the apex body of European Union for regulation and maintenance of aviation safety. With this approval BATC will be able to offer courses on aircraft maintenance. The demand in this sector is increasing and promises 80,000 highly rewarding jobs for engineers. Bangladesh Airlines Training Center provides training in the faculty of Operations Technical, Management Development, Avionics Engineering, Aerospace Engineering, Customer Services, and Marketing & Sales. During the period from 1st July 2011 to 30th June 2012, 35 faculty members of BATC conducted 570 courses for 4770 participants. During the period from 1st July 2013 to 30th June 2014, faculty members of BATC conducted 650 courses for 6,016 participants.

Engineering faculties of BATC submitted the project paper for establishing "Biman University of Aviation & Engineering". The project proposal has been approved by Biman Board. Right at this moment, it is under the active consideration of ministry.



Accounting and Reporting System of Airlines Industry

Though the proposed university will have separate entity, the initial operation will be started at BATC with two faculties of Aerospace and Avionics engineering.

3.5.3 Other core operations

Biman printing Press: Biman maintains a substantial printing department. This department meets most of Biman's printing needs except for the production of international ticket stock, which is outsourced.

Motor Transport: Biman has own motor and transport division (MT Division) to facilitate pick-up and drop of the crew members for operation of flight. MT division also provides pick-up and drops for executives. This also provides transport for shifting duties for the operation of flight.

Partnership Business with Abacus (National Marketing Company): Biman through an innovative approach started GDS marketing in Bangladesh. Biman Bangladesh Airlines and Abacus International formed a National Marketing Company (NMC) for Bangladesh on 09 July, 2002. Certificate of Incorporation was issued by the Registrar of Joint Stock Companies on 23 July 2003. In Abacus NMC Biman Bangladesh Airlines holds 51% share. Abacus NMC's Bangladesh business is generated from agents booking on Abacus for all the operating airlines in Bangladesh. It earned substantial profit every year since inception. During the financial year 2011-12 Biman received dividend from Abacus amounting to Tk.25,245,000.00 from its previous year income. This year Biman's other comprehensive income increased by tk. 54,340,307.00 after inclusion of 51% of Biman's share from Abacus retained earnings. In the FY 2012-13, Biman received dividend from Abacus amounting Tk. 34,052,280.00 and BDT 29,376,000 in FY 2013-14.

Medical Service: Biman has own medical center for providing medical services for Biman employees and their depended.

3.6 Properties and subsidiaries of Biman Bangladesh

3.6.1 Biman Flight Catering Center (BFCC)

Biman Flight Catering Center (BFCC) was commissioned in 1989 with the assistance of an Australian Catering firm named ACCA that carried out the design and facility



Accounting and Reporting System of Airlines Industry

planning. Subsequently SAS was appointed as a service partner to construct infrastructure and install modern equipment. After the initial 3 years of its operation under a management contract with M/S. Albert Abela (Far East) Inc., BFCC was taken under Biman management. BFCC is located at the Hazrat Shajalal International Airport, Dhaka. BFCC today is responsible and a fully owned independent unit of Biman Bangladesh Airlines Ltd. for all catering operations at Hazrat Shahjalal International Airport and installed capacity to produce 8,500 meals per day. However, the daily production currently averages around 4,600 meals which translate into an average daily capacity utilization of around 55 percent. The total approved manpower capacity of BFCC is 611. BFCC currently employs 554 people whom 258 are on Biman payroll and have been seconded to BFCC. Since BFCC maintains separate financials, Biman charges BFCC the manpower cost.

Biman Flight Catering Center is a profitable operational unit which provides in-flight catering services to Biman as well as other Foreign Airlines operating through Dhaka, It is regularly supplying food services to Etihad Airways, Malaysia Airlines, Saudi Arabian Airlines, Turkish Airlines, Dragon Air, Cathay Pacific and Regent Airways with casual supply of meal and services to other fourteen airlines. BFCC also handles VVIP flights of Bangladesh Govt. and other foreign countries where catering support is required.

3.6.2 Biman Poultry Complex (BPC)

Biman Poultry Complex was formed in 1976 and was put into operation in November 1980 as a backward linkage to Biman Flight Catering Center (BFCC). BPC is situated at Ganakbari, Savar, Dhaka, 40 Km Northwest of Dhaka city occupying an area of 76.12 acres of which 5 acres are by poultry shed, 1 acre is for residential purposes and 69 acres is agricultural land.

BPC produces and supplies hybrid one day old chicks both layer and broiler from its parent stock, imported from France Hatchery of Savar Poultry Breeding Farm of Canada. The complex also produces agricultural products like vegetables, fish and eggs for BFCC and also for the local market. BPC started a model Dairy firm in early 2008 which is being enriched day by day. Presently, BPC has restarted integrated farming. From March 2013, BPC has started producing poultry feed in BPC's own feed mill. Own feed had positive effect on growth/weight and decreased mortality of



Accounting and Reporting System of Airlines Industry

chickens. The difference between supplier feed and BPC own feed is about Tk.3/4 per kg. BPC produced total 1177.00 M.ton poultry feed from 09 March 2013 to 25 November 2013.

After almost 7 years BPC has purchased 3000 Broiler Parent in April 2013. It laid eggs after 25 weeks, which were sent to hatchery section for production of chicks. BPC will house 30,000 Day-Old-Chicks per month and sell additional day old chicks to outside parties.

3.6.3 Ground and Cargo Handling

Biman is the only authorized ground handling provider at all Bangladesh airports for both airside and landside functions. This position has been advantageous to Biman in the control it secures over the airline's customer service and product quality, the access it provides to competitive data (from passenger check-in), and the steady revenue stream it provides.

There is no statutory basis for Biman's effective monopoly in ground handling; ground handling is regulated by the CAAB, which has decided to limit the field to one provider for now. CAAB officials observed that they do not believe the market could profitably support more than one ground handling provider, and are unlikely to reconsider that position during the next few years. Biman- since its inception has been providing this very important and specialized service to all the airlines operating from Dhaka and Chittagong, both for Passengers and Cargo. Through providing Ground Handling Services to other airlines, in addition to handling its own flights, this strategic unit has been a source of substantial revenue.

The aviation industry has gone through a huge change after the 9/11 and over the past few years. Diversified security requirements in passenger and baggage services have been imposed. IATA has also implemented global standards in the Aviation Industry. As such hundreds of standards have been set which the Airlines are required to comply with to ensure safe and secured services. Biman naturally had to struggle to cope with this critical business environment with its limited means and resources.

Biman's Ground Handling Services has been suffering due to inadequacy of Ground Service Equipment (GSE) and man power. During the year 2011-12 Biman invested



Accounting and Reporting System of Airlines Industry

Tk. 21.61 crore and the year 2012-13, invested Tk. 67.09 crore for purchase of new Ground Service Equipment to improve its Ground Handling Services. Procurement of the additional GSE items is also under pipeline. However, investment, both in Equipment and Human resources has been seriously affected by resource constraints and legal complications. Biman is exploring avenues to enhance its capabilities through partnership building with internationally reputed ground Handlers.

Taking into view the current business scenario the benchmarks have been formulated to raise the standard of service and all out efforts are being made to achieve better results.

3.6.4 Biman Airlines Training Center (BATC)

Biman Airlines Training Center (BATC) began its journey as the Ground Training School in the Engineering Hanger at the old Airport in 1972 immediately after the War of Liberation and subsequently moved to Biman's own building at Farm Gate. In 1984, Biman Management took advantage of an ICAO/UNDP offer to set up an apprentice training school and acquired land from CAAB to start the project at Hazrat Shahjalal International Airport. The UNDP/ICAO assistance to set up Apprentice Training School was utilized to actually build a proper and full-fledged training center for the national carrier. This is BATC today.

BATC offers all ground training (except simulator training to cockpit crew) to Biman's own personnel and personnel of other airlines. Aerospace and Avionics Engineering Facilities of BATC have offered Aircraft Maintenance Engineering (AME) courses for the new entrant in the aviation industry on payment basis. BATC also offers training to travel and cargo agents on a regular basis. Its main objectives are skill development and generating savings. Its main mission is to train personnel appropriate to the needs of the airline, skill development of personnel for in-depth qualitative improvement of the airline service, attitudinal realignment of airline personnel for developing proper service-oriented mentality and management development for efficiency and long-term effectiveness.

BATC provides training in the faculty of Operations Technical, marketing & Sales and Management Development, Avionics Engineering, Aerospace Engineering,



Accounting and Reporting System of Airlines Industry

Customer Services. During the period from 1st July 2011 to 30th June 2012, 35 faculty members of BATC conducted 570 courses for 4770 participants and from 1st July 2012 to 30th June 2013, faculty members of BATC conducted 537 courses for 4106 participants.

BATC has obtained European Aviation safety Agency–147 (EASA–147) certification for the training center as a pre-requisite to get EASA Part-145 certification for Biman's maintenance or repair facility. One course for EASA B1.1 (Aerospace) with 16 students and one course for EASA B2 (Avionics) with another 16 students have started in July 2012. Bangladesh Airlines Training Center (BATC) is EASA-147 (European Aviation safety Agency–147) approved training academy. Biman has also formed EASA-145 implementation Project committee for Engineering and Maintenance.

Since 28th February, 2012 engineering faculties of BATC are approved by EASA as EASA Part-147 Approved maintenance Training Organization. Under the scope of this approval, BATC can conduct B1 (Aero plane Turbine) and B2 (Avionics) courses. In addition, it is also approved to conduct EASA Part-66 Licensing Examination for external students. Duration of these courses is 2.5 years including theoretical and practical elements. Two courses for B1 and two courses for B2 are currently going on with total of 64 external participants on payment basis. EASA Part-147 organization of BATC is also playing a vital role in achieving EASA Part-147 approval of Biman Engineering Directorate.

EASA Part-147 Training Organization to go with Part-66 on the issuing of licenses is the larger area of setting up and gaining approval for a training school for aircraft mechanics. Part-147 governs the larger situation of establishing such a training school. Currently BATC is training the EASA 1st batch (2012-2014) .There are 32 students. 16 in B-1.1(aero plane turbine) & 16 in B-2(Avionics) BATC has the authority to conduct the part 66 license exam.

3.6.5 Biman Press and Printing

Biman maintains a substantial printing department with 52 employees. This department meets most of Biman's printing needs except for the production of international ticket stock, which is outsourced. At current capacity, Biman needs to



Accounting and Reporting System of Airlines Industry

send occasional jobs to third party suppliers, indicating that the shop is near an efficient size for the airline's current operations.

3.6.6 Biman Engineering

The engineering division of Biman Bangladesh was separated from the commercial division in 2004. This step was taken in order to turn engineering independently profitable from the commercial ventures listed above. This subsidiary is located in Biman's Engineering Hangar at Hazrat Shahjalal International Airport in Dhaka.

Biman Bangladesh Airlines has in-house maintenance facility for its fleet by establishing a modern Hanger Complex at Hazrat Shahjalal International Airport, Dhaka. Biman is maintaining two 777-300ER, two DC10-30 (one DC10-30 withdraw from service on 10th November 2013), two A310-300, two B-737 and three F-28 aircraft in Biman's own facility. For these aircraft Biman is performing maintenance and Engineering services by its own manpower. Apart from the day-to-day line maintenance and certification prior to each flight, Biman Engineering is also providing support to the en-route line stations. This saves a huge amount of foreign currency for operation of these aircraft at the line maintenance level. The operations are being supported by Biman,s own Engineering and technical services. All schedule and non-schedule maintenance like weekly, A-check, A-Phase check of all types of aircraft, C-checks for all aircraft except 777-300ER and heavy maintenance for DC10-30 aircraft are done in Biman Hanger by Biman's own engineering manpower.

Engineering Services to Other Parties: Biman Engineering is providing engineering services to local and foreign airlines operating to/from DAC and CGP under the Ground Handling Agreement (GHA). Biman Engineering is also providing technical assistance services to local operator/airlines operating to/from DAC under the Technical Assistance Agreement (TAA). Under Technical Handling Agreement (THA), Biman Engineering is providing Transit certification.

Biman is in the process to make agreement with few more Airlines / local operators under GHA/TAA. Beside this Biman Engineering is also providing Technical/ Engineering services to Bangladesh Flying Academy & General Aviation Ltd., South



Accounting and Reporting System of Airlines Industry

Asian Airlines Ltd., Galaxy Flying Academy, and R&R Aviation against advance cash payment.

Table 5: Engineering service agreement with other parties in FY 2012-13 and 2014

Year	Type of Agreement	Name of Airlines/Operators
2012-2013	GHA-DAC	Afriqiyah Airways, Air Arabia, Air Asia Berhad, Air India Ltd. (AI), air India Express Ltd., Air India Charters Ltd., British Airways (Freighter), Cathay Pacific Airways (Cargo), China Eastern Airlines, China Cargo (CK), China Southern Airlines, Dragon Air, Druk Air Corporation, Emirates, Etihad Airways, Gulf Air, JET Airways, Kuwait Airways, Malaysian Airlines, Maldivian Airlines, PIAC, Qatar Airways, Qatar Airways Freighter, Saudi Arabian Airlines, Singapore Airlines, Singapore Airlines Cargo, Thai Airways, Turkish Airlines, Turkish Airlines Cargo, Mihin Lanka, RAK airways, Regent Airways, South Asian Airlines Ltd., Tiger Airways Singapore, Fly Dubai, Lufthansa Cargo, Bangkok Air (PG), United Airways, China Cargo, Island Aviation Services (Maldivian).
	GHA-CGP	Air Arabia, Air Asia Berhad, Oman Air, Fly Dubai, RAK Airways, United Airways, Regent Airways, Kingfisher Airways
	GHA-ZYL	United Airways
	TAA	Easy Fly, Bangladesh Air force, Regent Airways, Square Air, United Airways, Youngone Flight Department and Voyager
2014	GHA-DAC	Japan Airlines Co. LTD., Aerologic, Germany
	TAA-DAC	True Aviation, US-Bangla Airlines, Bangladesh Navy

Source: Biman

3.6.7 Real Estate

Biman Bangladesh Airlines Ltd. owns a plot of land measuring 0.589 acre at 100, Motijheel Commercial Area, Dhaka. At present, there is a 9 storied building (West side 7 storied). Existing structure is very old. Only two floors (Ground and part of 1st floor) are being used by Biman as District Sales Office, Communication office



Accounting and Reporting System of Airlines Industry

(PABX), Mosque etc. Other floors are rented out to various private organizations for the rental amount of Tk.5.269 crore annually.

Biman also owns some significant real estate, notably its head office building BALAKA adjacent to Hazrat Shahjalal International Airport in Dhaka. Biman Bangladesh Airlines Ltd. owns a Plot of land measuring 0.0295 acre with 06 storied Building. It was purchased in 1992 at a cost of GBP 0.75 million. Biman is using the whole building as sales office.

Biman owns a plot of land measuring approximately 1.33 Acre at 81, Kazi Nazrul Islam Avenue, Farm Gate, Dhaka. At present, there exist two old low-rise structures which are being used as Biman Press and Poultry Display Centre.

Biman Bangladesh Airlines Ltd. owns a plot of land measuring 0.978 acre at Sholoshahar, Chittagong. At present there is a two Storied Building having ten storied foundation. Only one floor (Ground floor) is being used by Biman as Sales Counter. Other floor is rented out to a private organization "Aarong" for the rental amount of Tk.42.93 lac annually.

Table 6: Biman's owned Subsidiaries

Company	Main activity	Founded
Biman Ground Handling (BGH)	Aircraft ground handling	1972
Biman Engineering	Aviation engineering	2004
Bangladesh Airlines Training Centre (BATC)	Aviation training	1987
Biman Flight Catering Centre (BFCC)	Flight catering	1989
Biman Poultry Complex (BPC)	Poultry farming complex	1980

Source: Wikipedia

Biman's subsidiaries are associated with aircraft ground handling, aviation engineering, aviation training and flight catering. There are five wholly owned subsidiaries in Biman.

3.7 Marketing and distribution

The marketing and distribution function represents an enormous opportunity for Biman. Historically, Biman has been able to economize its efforts in this area by



Accounting and Reporting System of Airlines Industry

taking advantage of a protected competitive environment and a small but dedicated network of specialized travel agencies. Biman's routes followed ethnic Bangladeshis loyally favored Biman as their preferred carrier. In recent years, inability to expand fleet, heightened competition and increasing globalization of airline distribution have adversely impacted Biman, leading to a sudden decline in market share.

3.7.1 Liberalization of Aviation Market in Bangladesh

In the context of worldwide deregulation of civil aviation market, the Government of Bangladesh initiated deregulation of its air transport sector in 1991-92 and formulated policies for operation of private airlines in the domestic market. Initially, private airlines were not allowed to operate international destinations, but with the change of time and increasing demand, private airlines are also allowed to operate international services.

Besides the domestic civil aviation market, freighter operation in international routes has been opened for private entrepreneurs. Accordingly, some cargo airlines in the private sector have come up to tap the opportunity of cargo transportation to/from Bangladesh.

Major Competitors: The airlines operating to and from Bangladesh are the focus of this business plan. Almost all of them are considered as direct competitors in respect to their carriage, market share, price and schedule and also to their geographical locations of hubs/bases. Until 2005, Biman served as the only designated airlines of Bangladesh. However, at present Biman has to compete against 23 foreign airlines besides other Bangladeshi Airlines like United Airways, Regent Air, Novo Air etc. The Government of Bangladesh has opened the Bangladesh air market temporarily for the designated airlines of other countries. Under this type of situation, the foreign airlines can operate unlimited weekly frequencies to and from Bangladesh without any restriction. If the Open Sky Policy is implemented again, Biman will have to face tremendous competition especially on the routes to the Middle East. The privilege of the Open Sky Policy has enabled the foreign airliners, if they take the opportunity, to provide convenient services to the customers at a lower price as it will not require extra investment for station and other related costs.

The following airlines are considered as the major competitors of Biman:



Accounting and Reporting System of Airlines Industry

Table 7: Major competitors of Biman

Region	For Passenger Carriage	For Cargo Carriage
Europe	Emirates, Qatar, Etihad, PIA, Jet Air, , Kuwait Airways, Turkish Airlines	Turkish Airlines, British Airways, Lufthansa, Air France
Middle East & Gulf	Saudia, Emirates, Qatar Kuwait Airways, Etihad Airways, Oman Air, Air Arabia, Fly Dubai, Oman Air, PIA, Jet Airways, United Airways,	Saudia, Qatar Airways, Etihad Crystal,
South East	Thai Airways, Singapore Airlines, Malaysia Airlines, United Airways	Thai Airways, Singapore Airlines, Malaysia Airlines
China & Far East	Dragon Air, China Eastern, China Southern	Cathay Pacific-Dragon Air
Indian Sub-continent	Air India, PIA, Druk Air, Jet Airways, Mihin Lanka, United Airways	Air India, PIA, Jet Airways

Source: Wikipedia

3.7.2 Distribution Structure and Agency Relationships

Historically Biman's tickets were sold either directly or through various travel agents. Modern computer technology and communications systems have contributed to change the mix dramatically. Travel agent commission is the highest individual cost item to Biman as Marketing and Distribution cost. Biman is maintaining 6 Domestic and 20 international offices in different cities. Its distribution channel is based on more than 350 travel agents in Bangladesh. Besides, 13 GSA and 2 Cargo GSA are also engaged in Biman's distribution network. The physical cost of printing and distributing of tickets are also substantial. From 2008, Biman started selling E-tickets directly to passengers as well as to travel agent.

Close to 80 percent of Biman's operating revenue, including domestic tickets and cargo, is sold through travel agencies and general sales agents. In several countries that account for a major portion of revenue, including all the Gulf countries, an even higher percentage of sales are made through agencies. Travel agencies that distribute Biman tickets earn nine percent standard commission plus occasional override commissions. Agencies pay Biman directly on 15-day terms. Some agencies purchase tickets over the counter from Biman on a cash basis. This practice may account for as much as one third of total sales in Bangladesh.

E-Ticketing: An agreement was signed with Amadeus in 2007 to upgrade Biman's ticketing system with an e-ticketing solution to comply with IATA rules, which set out



Accounting and Reporting System of Airlines Industry

a deadline of 31 December 2007 for all member airlines to switch over their ticketing systems. E-ticketing has enabled major airlines to provide online check-in facilities, reducing the need to queue up at check-in counters. However, Biman has not made any attempts to improve customer service through the adoption of e-ticketing, although it has been able to reduce its own costs. In 2005, Biman had briefly stopped using the Amadeus ticketing system when the government suspended the operation of a local Amadeus subsidiary following a court order, after allegations of money laundering. The suspension, however, lasted only a month, and was lifted after the writ was appealed in the High Court.

E-Ticketing was implemented in March 2007, within the IATA dead line; Biman continued to achieve improvements in this area. Interline E-ticketing Agreement were signed with 7(Seven) more airlines. In 2013, Biman signed an agreement with German e-ticketing company Hahn Air, enabling Biman's tickets to be purchased from anywhere around the world.

Network: Biman's hub is Hazrat Shahjalal International Airport (formerly ZIA) in Dhaka, Bangladesh. Biman serves two domestic locations from its hub in Dhaka and 18 international destinations out of Dhaka and Chittagong. Most of Biman's destinations are served with either non-stop or one-stop service from its hub in Dhaka. The Airline divides up its markets into two regions: domestic and international.

Till October 2011, Biman had 19 international and 04 Domestic destinations including Dhaka, the base of the airlines. With the newly inducted 777-300ER, Biman resumed its operation to Manchester, UK and started scheduled flights to Milan, Italy in November 2011. Biman is expecting to resume its services to New York and Narita in the near future. The airline is also planning to commence its services to Sydney, Colombo, Male and Guangzhou. Beside Biman is also exploring the possibilities of operating dedicated freighter flights to international destinations to and from Bangladesh.

Till November 2013, Biman had 17 International and 03 domestic destinations. This year Biman has resumed flights to Delhi and Hong Kong. Biman is expecting to resume its services to New York, Los Angeles and Toronto in the near future. The year line is also planning to commence its services to Sydney, Colombo, Male and



Accounting and Reporting System of Airlines Industry

Guangzhou. Resumption of domestic flights by first quarter of 2014 is under process. Beside Biman is also exploring the possibilities of operating dedicated freighter flights to international destinations to and from Bangladesh.

Till November 2014, Biman had 18 International and 03 Domestic destinations including Dhaka. Biman has resumed flight to and from Yangon. Biman is expecting to resume its services to New York and Tokyo in the near future. The airline is also planning to commence its services to Colombo, Male, Guangzhou and Kunming.

Domestic: Biman serves two domestic destinations - Sylhet and Chittagong. At present Biman is not operating dedicated domestic flight. Chittagong and Sylhet provide important feeder traffic for the major regional and international destinations.



Figure 14: Domestic destinations of Biman

As such Biman is operating flights to Chittagong and Sylhet reroute international destinations. For the last several years, domestic market has constituted less than two percent Biman's total passenger revenue. Resumption of Domestic flights is under process, which is scheduled to commence by March 2015.

International: Biman is now serving 17 international destinations across two continents. Biman has appointed General Sales Agents, Passenger Sales Agents



Accounting and Reporting System of Airlines Industry

and Cargo Sales Agents to reach its products to every probable customer throughout the network. Biman has entered into computer reservation system in early 1988. Biman has agreements for GABRIEL-II (SITA), ABACUS, GALILEO, and AMADEUS computer reservation systems (CRS) which are the major Global Distribution Systems (GDS). About 45% of passenger segments are being created by the GDS's. The wider opportunity of using GDS in that, Agent who is not even a Biman Agent, is capable of selling on Biman flights from their own terminals for the passengers from any corner of the world.

Biman has begun to develop some of the marketing tools that are increasingly wide spread in the industry. The airline maintains special pricing agreement with a number of airlines to sell interline tickets at attractive prices to a range of destinations. Biman has entered into 130 interline and 41 special prorated agreement with different airlines. Biman also engages in royalty agreements concerning route rights with other airlines. Recently, Biman signed a new code share and block space agreement with Qatar Airways.



Figure 15: Biman's International destinations

3.7.3 Domestic Sales

Biman currently operates two domestic stations from Dhaka: Chittagong and Sylhet. Flight from Chittagong and Sylhet bring in feeder traffic for the airline's international flights out of its hub in Dhaka. Going forward, the government has indicated that it



Accounting and Reporting System of Airlines Industry

would like its local carriers to expand service to smaller airports within Bangladesh to improve connectivity. Thus, Biman will be resuming operations to previously discontinued domestic destinations: Rajshahi, Saidpur, Jessore, Barisal and Cox's Bazar. Flights will likely to start within the year 2013-14. To serve the smaller airports, Biman intends to lease two turbo prop aircrafts by the end of 2013.

Table 8: Domestic Net Sales Statement of Biman

Domestic Sales					
Net Sales Statement (Passenger, Cargo and Excess baggage)					
SL	Station	District	Year (Figure in BDT Lakh)		
			2010-11	2011-12	2012-13
1	DAC	Dhaka	26,390.31	43,145.82	30,959.35
2	BCC	Dhaka	25,257.55	23,282.55	23,888.11
3	CGP	Chittagong	7,824.92	13,128.22	7,273.81
4	ZYL	Sylhet	8,056.62	11,992.48	8,141.77
5	CXB	Cox's Bazar	181.47	222.76	52.29
Total			67,710.87	91,771.83	70,315.33

Source: Biman

The comparative domestic sales of Biman for last three fiscal years are showed in the following figure.

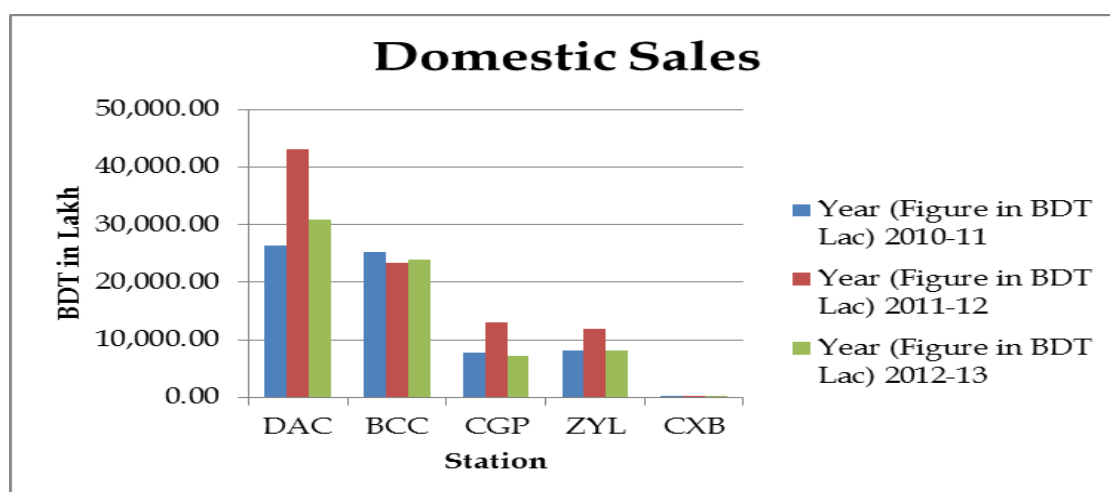


Figure 16: Domestic sales of Biman



Accounting and Reporting System of Airlines Industry

The Bangladesh domestic market has seen capacity peaks and troughs for much of the 2000s but overall seat availability is up 13.2% since 2000 thanks mainly to rapid growth in 2008 and 2011. In Fiscal year 2012-13, 28.12% of Biman's sales took place in Bangladesh. Comparative Net Sales Statement of Domestic Sales of Biman is given below (sales included passenger, cargo and excess baggage):

In the table below, highlighted the largest air carriers in the local market (in Bangladesh) and look at how their capacity has changed in the past two years.

Table 9: Domestic Air Service of Bangladesh

BANGLADESH DOMESTIC AIR SERVICES (non-stop annual departures)						
Rank	Airline	Departures (2012)	Seats (2012)	% Capacity	% Change (2011)	% Change (2010)
1	Biman Bangladesh Airlines (BG)	3,638	702,575	50.3 %	2.7 %	11.3 %
2	Regent Airways (RX)	6,588	329,400	23.6 %	3.7 %	809.9 %
3	United Airways (4H)	5,640	314,026	22.4 %	32.0 %	37.0 %
4	GMG Airways (Z5)	772	51,990	3.7 %	(-76.8) %	(-85.5) %
TOTAL		16,638	1,397,991	-	(-4.5) %	11.5 %

Source: Wikipedia

3.7.4 Foreign Sales

Biman's most important international market is the Middle East where there are significant numbers of Bangladeshi guest workers. Biman also has a customer base on flights to Europe. The British Bangladeshi community is one of the largest immigrant communities in the UK. Bangladeshis primarily live in the city of London, mainly in the East London boroughs, of which the borough of Tower Hamlets has the highest percentage of Bangladeshis with about 33 percent of the borough's total population. Bengalese was first present in the United Kingdom, when Sylhet is arrived as lascars on ships during the 18th century to 19th century, and throughout the years this has created connections with Sylhet. Large numbers arrived during the 1970s mainly from Sylhet region, for the need to find work and earn a better living.



Accounting and Reporting System of Airlines Industry

A comparative Net Sales of Biman of foreign stations is given below:

Table 10: Statement of Net Foreign Sales of Biman

SL no.	Station/ City code	Country/City	2010-11	2011-12	2012-13
(Figure in BDT Lakh)					
1	AUH	Abu Dhabi	14,171.31	17,403.82	18,591.23
2	ATH	Athens	79.75	106.08	85.1
3	BAH	Bahrain	631.62	256.51	126.63
4	BKK	Bangkok	793.79	1,307.77	708.27
5	BOM	Bombay	0	0	0
6	CCU	Kolkata	3,362.96	4,350.50	2,118.85
7	DEL	Delhi	2,460.43	3,608.20	1,629.80
8	DMM	Dammam	7,770.45	8,708.43	7,196.97
9	DOH	Doha	1,633.10	2,287.34	2,649.78
10	DXB	Dubai	14,242.16	15,977.44	16,773.99
11	FRA	Frankfurt	0	0.00	0.00
12	HKG	Hong Kong	3,125.37	2,915.78	588.24
13	IBE		0	910.9	684.02
14	JED	Jeddah	23,025.25	25,431.06	24,557.57
15	KHI	Karachi	1,461.91	2,670.40	387.99
16	KTM	Kathmandu	7,670.69	6,250.64	4,724.86
17	KUL	Kualalampur	5,229.82	15,027.93	18,518.90
18	KWI	Kuwait	6,999.34	11,932.50	10,893.30
19	LON	London	18,377.11	20,651.25	19,323.59
20	MAN	Manchester	2,254.12	5,210.14	3,123.97
21	MCT	Muscat	9,417.79	11,199.46	11,498.97
22	MPX		0	0.00	10.3
23	NYC	New York	186.47	456.5	439.24
24	ROM	Rome	5,802.23	8,333.27	4,968.98
25	RUH	Riyadh	17,522.57	23,514.02	21,497.29
26	TYO	Tokyo	189.2	63.92	5.84
27	SIN	Singapore	8,180.41	9,969.46	8,376.06
28	YYZ	Toronto	84.32	77.27	286.77
Total			154,672.17	198,620.59	179,766.51

Source: Biman

The influence of Bangladeshi culture and diversity can be seen across London in boroughs such as Tower Hamlets, New ham, Camden and Southward. The street of Brick Lane has a large history of Bangladeshis, which the area has officially been dubbed as "Banglatown", which has over hundreds of "Indian" restaurants nearly all owned by Sylheti Bengalis. Outside London, Westwood, Greater Manchester has the



Accounting and Reporting System of Airlines Industry

second largest concentration of Bangladeshi Diaspora in UK. Biman has an advantage over other carriers in serving the Bangladeshi population of immigrants in the UK as it currently offers the only non-stop flight to London.

Biman currently connects Dhaka with Kuala Lumpur and Singapore which have large population of guest workers. The regional passengers are business travelers, visitors and transit passengers mostly from points in India and Nepal. These are primarily tourist destinations but also a large number of Bangladeshis working there and many Sri Lankans are working in Bangladesh.

The foreign sales of Biman are higher in FY2011-12 than 2010-11 and 2012-13; this is showing in the figure below.

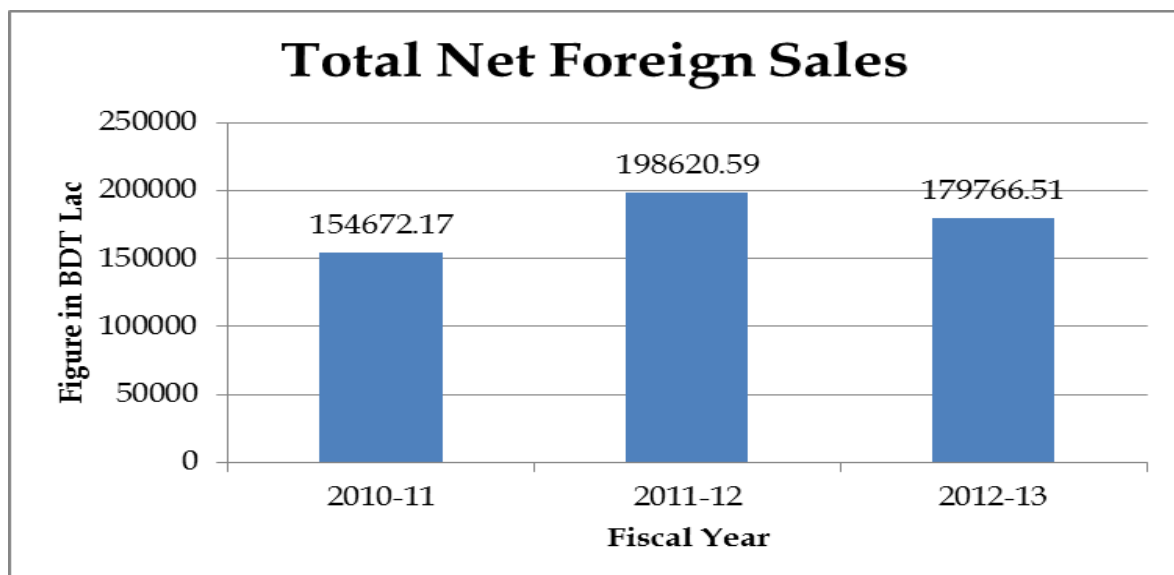


Figure 17: Comparative Net total foreign sales of Biman

3.7.5 Foreign Sales and Representations

In most countries where it flies, Biman maintains representative office to oversee the airport operation and build relationships with passenger sales agencies. Biman's representative offices are generally staffed with a few managers from home base, including a country manager and a finance manager, as well as local employees.

In many countries, Biman is represented by general sales agents (GSAs). These function as a combination of Biman representative and super travel agency, saving the airline the cost of maintaining its own office. Biman GSAs earn the industry-standard 3 percent commission on top of 9 percent for agency sales.



Accounting and Reporting System of Airlines Industry

Table 11: Biman Foreign Sales Structure-Office and GSAs

Country	City	Biman Sales Office	GSA/PSA
DOMESTIC			
	Dhaka	✓	
	Chittagong	✓	
	Cox,s Bazar	✓	
	Sylhet	✓	
INTERNATIONAL			
Bahrain	Bahrain		✓
Canada	Toronto	✓	
China	Hong Kong		✓
Germany	Frankfurt	✓	
Greece	Athens		✓
India	Kolkata	✓	
	Delhi		✓
Italy	Rome		✓
Kuwait	Kuwait		✓
Malaysia	Kuala lumpur	✓	
Myanmar	Yangon	✓	
Nepal	Kathmandu	✓	
Oman	Muscat		✓
Pakistan	Karachi	✓	
Thailand	Bangkok	✓	
Qatar	Doha		✓
Saudi Arabia	Jeddah		✓
	Riyadh		✓
Singapore	Singapore	✓	
Taiwan	Taipei		✓
U.A.E.	Abu Dhabi	✓	
	Dubai	✓	
U.K.	London	✓	
	Manchester	✓	
U.S.A.	New York	✓	

Source: Biman

3.7.6 Global Distribution System (GDS)

Biman,s internal Gabriel reservations system has the capacity to link with any of the major global distribution systems (GDS). Listing in GDSs presents Biman flights as an option to travel agencies worldwide. Without the listing, travel agents would need



Accounting and Reporting System of Airlines Industry

to know by themselves that Biman is flying a route, and call a local Biman representative to get more information. Biman has participated in the Galileo Global Airlines Distribution System operated by Galileo International Partnership since December 16, 1993. Its participation is on the standard form Global Airline Distribution Agreement that Galileo International used when it was signed on December 24, 1993. In addition to its agreement with Galileo, Biman has an agreement with Abacus, another major GDS especially prominent in Asia. Biman has made certain that all affiliated travel agencies have access to one or the other system, even if the airline has to purchase the hardware.

3.7.7 Bank Settlement Plan/Billing and Settlement plan (BSP)

In most countries, airlines and travel agencies join together to establish a Bank Settlement Plan (BSP) under the auspices of the International Travel Association (IATA). Without this clearinghouse and its multi-airline ticket stock, it is almost impossible for travel agencies that do not have an established relationship with a carrier to sell. Biman recently joined the UK BSP, which will create the opportunity for thousands of new agencies to sell passage on Biman.

In 2008-2009, Biman Initiated efforts to bring its all stations under BSP. Today all stations are under BSP. BSP is a system designed to facilitate and simplify the selling, reporting and remitting procedures of IATA Accredited Passenger Sales Agents, as well as to improve financial control and cash flow for BSP Airlines. A truly Worldwide system; there are 88 BSP's covering 160 countries and territories serving 400 airlines. BSP simplifies total distribution burdens of the airlines as agents issue one Sales Report and remit one amount to a client point, airlines receive one settlement covering all agents and most importantly agents' sales are reported electronically. This has earned savings both for Biman and its agents. Biman not only participated in BSP but also made it mandatory for all its agents. Now agents are dealing with Biman in a more secured environment with reduced financial risk exposure.

3.7.8 Frequent Flyer Program

Biman introduced its first frequent flyer program in September 1999. The new program, which is currently being promoted, rewards frequent flyers who submit



Accounting and Reporting System of Airlines Industry

ticket jackets from 10 return journeys on any international flight with one free round-trip ticket anywhere Biman flies. As currently envisioned, there is no time limit for participants to collect the ten tickets, and virtually no administration required from Barman's side. Biman launched a frequent-flyer program, named Biman Loyalty Club, in November 2013. FFP is a loyalty program for its valuable passengers who travel frequently with Biman's flight. It is an 'earn and burn' program for the passenger. In future if Biman has a code shares program with any other airlines, then passenger will earn their millage from flying code share flights also. Biman Bangladesh Airlines may share its FFP program with some hotels, Banks and Transport Companies for redemption of millage. There are three tires for FFP, namely; Green, Silver and Gold. It offers rewards such as tiered benefits, mileage bonuses, extra baggage, lounge access and priority check-in at airports.

3.7.9 Fares and Yield management

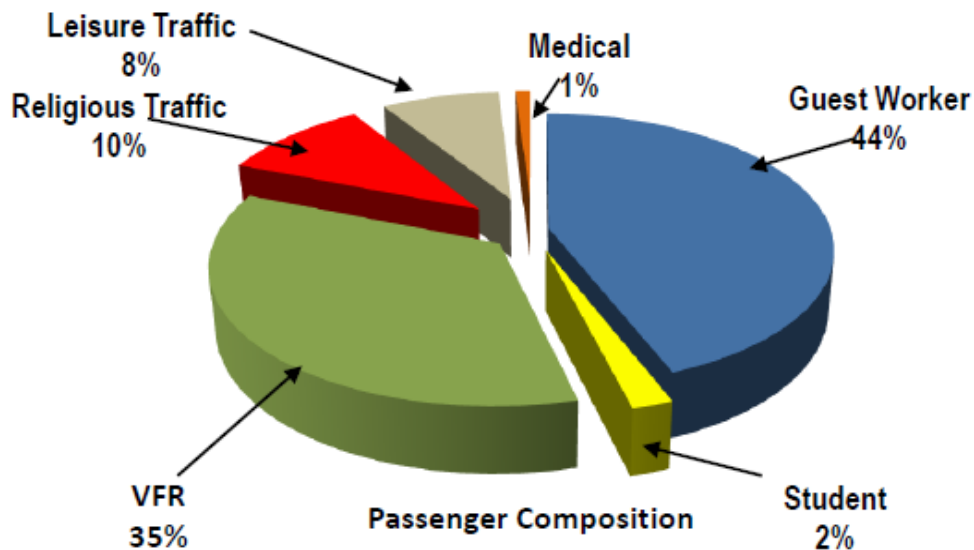
Biman employs a two-tier fare structure for international tickets. On the one hand, Biman publishes rates that are agreed with other carriers and approved by the Government. These published fares include full IATA-tariff conference fares, used primarily for prorating interline tickets and calculating other special tariffs, such as infant tickets and excess baggage, and excursion fares. But outside occasional sales, Biman's published fares, like many carriers', are not used extensively. To bring competitive fares to market, Biman uses a range of Sales Incentive Plan (SIP) or "confidential" fares. These fares are offered directly to travel agents through circulars. Published fares must be filed with, and approved by, the Civil Aviation Administration of Bangladesh (CAAB). Confidential fares are not submitted for Government approval.

3.7.10 Biman passenger Mix

A lion share of Biman passengers is Bangladeshi expatriate workers especially based in Saudi Arabia, Middle East and Malaysia. They are the biggest part of the mix. The next massive piece of the pie is the VFR (visiting friend and relatives) which is increasing gradually. Religious traffic especially Hajj and Umrah passengers are also significant. A few students are also travelling by Biman. Very recently some medical traffic also travels by Biman as their carrier of preference.



Accounting and Reporting System of Airlines Industry



Source: Biman

.Figure 18: Biman Passenger Mix

3.7.11 Biman's Market Share

Current Situation: Biman Bangladesh Airlines is passing one of the most crisis periods. Biman incurred a Net Loss of BDT 6.05 billion in the Fiscal Year 2011-12. More than 60% percent routes are loss-making. In fact, Biman is in much more fragile position than earlier. The aviation market has become even more competitive with the rapid increase of the low cost carrier (LCC) and continued growth of the Middle Eastern full service carriers.

Biman has not focused adequately on the premium segment of the market, and its product quality has not been increased. The marketing efforts have been predominantly focused on strategic sales promotions rather than brand-building. With such adverse odds, its intensifying sales efforts could only generate low yields insufficient to cover an increasingly uncompetitive cost structure. Gratefully, Biman is still flying high as it is the primary preference of the Bangladeshi expatriate workers.

The following issues have adversely affected Biman's image during recent years:

- Frequent schedule disruptions
- Old aircraft and untidy cabins
- Lack of in-flight entertainment
- Lack of user friendly on-line booking facilities
- Limited added services



Accounting and Reporting System of Airlines Industry

- Customer care not meeting international standards
- Product offerings that did not meet international standards
- Adverse publicity in media
- Insufficient promotional campaign

Biman realizes that it is at a turning point in its evolution. It sees this as an opportunity to fully recognize the problems and work to change its future. As a result, a transformation is currently underway at Biman. The Airline has focused significant resources and attention on rebuilding its brand and its image.

Historical Market Share: With the continuing growth of traffic in Bangladesh, airlines from different regions are entering into the market with competitive advantage over Biman in terms of better equipment, fares, incentives, and competition has become uneven. Taking advantage of the situation competitors of Biman like Emirates (EK), Gulf (GF), Saudia (SV), Etihad (EY), Singapore Airlines (SQ), Kuwait Airways (KU) and Thai Air ways (TG) improved their performance both in passenger and cargo at the cost of Biman. These airlines found it very easy to get frequency to/from Bangladesh because of “Free for All” policy of the concerned governing authorities ignoring interest of the national carrier. Whereas, these airlines enjoys the benefit of all sort of protection and support from respective governments when the question of allocating slots, timings, extra frequency etc. comes from Biman.

It is an established phenomenon that no airlines can survive or grow without protection and support from government. This is very much true even in the case of strongest economy like USA and Europe. As we know that a portion of the bailout package declared after 9/11 went to USA’s airlines as well.

Over the last several years, foreign airlines have increased their frequencies and also a number of local airlines have started operation to/from Bangladesh. This increase in frequencies and passenger carriage by the foreign airlines and simultaneous reduction of the same by Biman, have contributed to a drop in Biman's passenger market share from historical 50% to 29% in 2011-12. During the period, Biman's cargo market share has also decreased from historical 50% to 20%. Same period, Biman's cargo market share has also decreased from historical 50% to 20%.



Accounting and Reporting System of Airlines Industry

Table 12: Historical Market Share of Biman

Year	Biman Market share (%)		Foreign/Local Airlines Market Share (%)	
	Passenger	Cargo	Passenger	Cargo
1991-92	51	59	49	41
1992-93	53	50	47	50
1993-94	51	47	49	53
1994-95	51	46	49	54
1995-96	51	44	49	56
1996-97	49	41	51	59
1997-98	46	38	54	62
1998-99	43	35	57	65
1999-00	43	34	57	66
2000-01	42	37	58	63
2001-02	43	36	57	64
2002-03	42	36	58	64
2003-04	43	37	57	63
2004-05	44	37	56	63
2005-06'	39	31	61	69
2006-07	35	25	65	75
2007-08	31	19	69	81
2008-09	32	20	68	80
2009-10	28	21	72	79
2010-11	28	20	72	80
2011-12	29	20	71	80

Source: Biman

This very low market share means that a substantial amount of foreign exchange that Biman could be earning for Bangladesh is actually going to other foreign airlines and their respective countries.

3.8 Biman legal environment

Biman Bangladesh Airlines Limited also must follow all the rules and regulations, constitutions, different acts related airlines business and aviation, procedures etc. established by Bangladesh Government, as well as international rules and regulations of airlines industry.

3.8.1 General Framework



Accounting and Reporting System of Airlines Industry

Republic: Bangladesh is a unitary, independent, sovereign, democratic republic. The Constitution is the supreme law of the Republic and if any law is inconsistent with the Constitution that other law, to the extent of the inconsistency, be void. The three organs of the Republic are the Executive, the Legislature and the Judiciary.

Constitution: The Constitution guarantees certain fundamental rights to citizens of the Republic. All citizens are equal before law and are entitled to equal protection of law. To enjoy the protection of the law and to be treated in accordance with law is stated to be the inalienable right to every citizen, and every other person for the time being within Bangladesh. No action detrimental to the life, liberty, body, reputation or property of any person shall be taken except in accordance with law.

3.8.2 Regulatory Bodies

The regulatory bodies of interest to foreign investors are, among others, Bangladesh Bank, the National Board of Revenue (NBR), the Chief Controller of exports and Imports, the Securities and Exchange Commission, and the Registrar of Joint Stock Companies and Firms.

3.8.3 Bangladesh Investment Legislation

Foreign Private Investment (Promotion and Protection) Act, 1980: The policy framework for foreign investment in Bangladesh is based on the Foreign Private Investment (Promotion and Protection) Act, 1980.

The Foreign Private Investment (Promotion and Protection) Act, 1980 ensure legal protection to foreign investment in Bangladesh against nationalization and expropriation and guarantees repatriation of capital and return from it and equitable treatment with local investors with regard to indemnification, compensation etc. in the event of losses of foreign investment owing to civil commotion, insurrection or riot.

Guarantees through Multilateral Agencies are available since Bangladesh is a signatory of the Multilateral Investment Guarantee agency (MIGA) of the World Bank Group; Overseas Private Investment Corporation (OPIC) of America and International Center for Settlement of investment Disputes (ICSID). Bangladesh has already concluded bilateral agreements with a number of countries for avoidance of double taxation and investment treaties for promotion and protection of investment.



Accounting and Reporting System of Airlines Industry

Investment Board Act, 1989: The government established the Board of Investment (BOI) in 1989 for accelerating and encouraging private investment in Bangladesh and providing necessary facilities and assistance in the establishment of industries. The BOI, headed by the Prime Minister and comprising Ministers and Secretaries of the Ministers concerned and public and private representatives, is vested with necessary powers to take decisions for prompt implementation of new industrial projects and provide operational support services to the existing ones. The BOI is organized to function under a mandate emphasizing its role in promotion and facilitation rather than regulation.

Investment Treaties: Bangladesh has entered investment treaties for promotion and protection of investment with the following countries:

Belgium, Philippines, Indonesia, China, Republic of Korea, Poland, France Germany, Romania, Iran, Switzerland Italy , Thailand, Japan , The Netherlands, Malaysia, Turkey and Pakistan.

3.8.4 Air Transport Regulatory Framework

The Civil Aviation Authority of Bangladesh (CAAB) is responsible for the regulation and control of civil aviation activities in Bangladesh. The general direction and administration of the CAAB and its affairs vest in a Board which may exercise all powers, perform all functions and do all acts and things which may be exercised, performed or done by the CAAB.

Civil Aviation Authority Ordinance, 1995 (IV/V/VI of 1995): Section 3 of the Civil Aviation Authority Ordinance, 1985 (CCAO) establishes the CAAB. The powers and functions of the CAAB are provided under Section of the CAAO. The CAAB prepares for approval of the government, Five year plans for the development of infrastructure for the promotion of safe, efficient, adequate, and economical and property coordinated civil air transport service and control and regulate civil aviation activities of Bangladesh. Generally, the CAAB develops plans in respect to:

- provision of civil airports and aerodromes,
- provision of air traffic services to aircraft,
- provision of navigational services to aircraft,



Accounting and Reporting System of Airlines Industry

- provision of communications services at the civil airports and aerodromes,
- provision of aeronautical and flight inspection services to all aircraft registered in Bangladesh,
- provision of security measures to the aerodromes and airport, and
- management of estates at airports and aerodromes.

According to Section 9 of the CAAO, the government may delegate to the CAAB or its Chairman Powers and functions under the Civil Aviation Ordinance, 1960.

Section 10 of the CAAO provides for the control of air transport and aviation services by the CAAB. The CAAB has control over:

- all civil airports and aerodromes in Bangladesh, including planning , construction, operation and maintenance,
- all air routes in Bangladesh,
- air space management of civil airports and aerodromes, and

Under Section 13 of the CAAO, the CAAB have the power to levy and collect:

- air route navigation charges,
- passenger services fees to be paid by the passengers travelling by air,
- fees ,charges, premium and rentals for use of any property including aircraft belonging to the CAAB,
- aircraft landing, parking and housing charges, and
- with the approval of the government, any other charges on any matter relating to civil aviation.

Civil Aviation Ordinance, 1960: The Civil Aviation Ordinance, 1960 (CAO) provides for the better control of the manufacture, possession, use, operation, sale, import and export of aircraft, the control and regulation of air transport services and the control and development of aerodromes in Bangladesh.

The Government may make rules for carrying out the purpose of the CAO, such rules may provide, inter alia, for one or more of the following matters:

- the regulation of air transport services and commercial flights and the prohibition of the use of aircraft in such services and in commercial flights



Accounting and Reporting System of Airlines Industry

(except the authority of, and in accordance with, a license authorizing the establishment of any such service or flight);

- the licensing, inspection and regulation of aerodromes or airports, the conditions under which they are to be maintained and the fees to be charged for the services provided at the aerodromes and airport;
- the inspection and control of the manufacture, repair and maintenance of aircraft and places where aircraft are manufactured, repaired or kept;
- the registration and marking of aircraft;
- the conditions under which aircraft may be flown, or may carry passengers, goods and the certificates, licenses or documents to be carried by the aircraft;
- the inspection and supervision of aircraft for the purpose of enforcing
- the provisions of the CAO and the rules;
- the conditions under which, and the aerodromes or airports to or from which, aircraft entering or leaving Bangladesh may fly, and the conditions under which aircraft may fly over Bangladesh or from one place in Bangladesh to another; and
- the prohibition to fly over any specified area.

Civil Aviation Rules, 1984: The government has entered the Civil Aviation Rules, 1984 (CAR). Pursuant to Rule 3 of the CAR, the Chairman of the CAAB is subject to the direction of the Government and is responsible for the administration of the rules and will exercise such power and perform such functions conferred by the rules.

Pursuant to Rule 4 of the CAR, for the purposes of giving effect to these rules, the Chairman may publish orders to be known as the Air Navigation Orders (ANOs).

3.8.5 Bangladesh Commercial Laws

Bangladesh has a legal system based on a mixture of legislation and judicial precedents, with closely follows the English common law in matters not specifically covered by legislation. The predominant language for business in Bangladesh is English.

Contract Act, 1872: The Contract Act, 1872 codifies that part of English common law dealing with contracts, which was applicable to the then British India. The Act is not exhaustive, but is imperative with regard to the areas it covers.



Accounting and Reporting System of Airlines Industry

The basic principle regarding contracts is that the law will seek to uphold contracts freely entered into for due consideration for a lawful purpose. Agreements in restraint of trade or legal proceedings, wagering contracts and agreements whose consideration and objects are unlawful are void. A contract may also be void for uncertainty.

Companies Act, 1994: Under the Companies Act, a private company must have minimum of two shareholders, and may have up to fifty members, a public company must have a minimum of seven shareholders. No company can be registered with a name similar to that of a company already in existence. The Government has been given the power to prohibit registration of undesirable names.

The 1994 Act introduces new provision enabling minority shareholders to seek remedies in court and also enlarges the powers of the Court to pass appropriate orders. Members or debenture-holder may bring to the notice of the court that the affairs of the company are being conducted or the powers of the directors are being exercised without regard to the interests of the members or debenture-holders, or that they are being or may be discriminated against. Protection may be sought for members other than the applicants.

3.8.6 Bangladesh Labor Laws

Employment Contracts: Each employer is bound by the provisions of the statutory labor laws; currently forty-seven statutory acts or ordinances relating to labor law are enforceable. The laws relate to, inter alia, **(a)** wages and employment **(b)** trade union and industrial disputes **(c)** working environment **(d)** labor administration and related matters. The labor laws only include “worker or workmen” working in factories, industries and commercial establishments. Pursuant to Section 2(v) of The Employment of labor (standing Order) Act, 1965 (Act) the definition of worker is based on a general idea that does not include a person employed in a managerial or administrative capacity. No worker or employer can contract out of the law.

Retrenchment, Discharge, Dismissal, and Termination of Employment: Under the Act there is three grounds on which workers can be relieved of their positions: (a) Retrenchment: The procedures for retrenchment for workers are prescribed



Accounting and Reporting System of Airlines Industry

under Section 12 of the Act and apply only to workers who have been in continuous service for at least one year.

(b) Discharge: As provided in Section 16 of the Act, a worker may also be discharged on grounds of physical or mental incapacity or continued ill health.

(c) Dismissal: Under Section 17 of the Act it is permissible to dismiss, without prior notice or payment in lieu thereof, a worker on grounds of misconduct or if worker is convinced of an offence.

Other labor laws that may be relevant are:

1. Worker's Compensation Act, 1923 2. Payment of Wages Act, 1936
3. Maternity Benefit Act, 1936 4. Factories Act, 1965
5. Industrial relations ordinance, 1969 6. The Shops and Establishments Act, 1965

Trade Union and Collective Bargaining Agents: (I) Trade Union is regulated by the Industrial Relations Ordinance 1969 (Ordinance XXIII of 1969) (IRO).

“Trade Union” under the IRO means any combination of work men or employers formed primarily for the purpose of regulating the relations between workmen or employers or workmen and workmen or employers and employers, or for imposing restrictive conditions on the conduct or any trade or business and includes a federation of two or more trade unions

(II) If there is more than one union in an establishment, the Collective Bargaining Agent (CBA) is determined by the Registrar of Trade Unions (RTU) through secret ballot for a term of two years. The Director of Labor of the government acts as the RTU.

Wages: There are procedures and manners prescribed for fixing the minimum rate of wages under the Minimum wages Ordinance, 1961, initially by the Minimum Wages Board and finally by the Government. In the public sector, the Government on the recommendation of the National Wages Commission, established from time to time, determines wages and fringe benefit of the workers. Public sector employees are also covered by the Pay Commission declared by the government from time to time.



Accounting and Reporting System of Airlines Industry

In the private sector, the wages and fringe benefits of the workers and employees may be determined through collective bargaining process. In case of inadequacy of the collective bargaining procedure, wage would, however be fixed by Minimum Wages Board.

Leave and Holiday: Leave and holiday of the workers and employees are regulated by the Factories Act, 1965 and the Shops and Establishment Act, 1965. The government may declare other holidays for workers by notification in the official gazette.

Social Security: The Workmen's Compensation Act, 1923, the Maternity Benefit (Tea Estate) Act, 1950, the Maternity Benefit Act, 1939, the Employment of Labor (Standing Orders) Act, 1965 etc. deal with provident fund and gratuity.

3.8.7 Air Service Agreements (ASAs)

Biman's national carrier's status: Biman's national carrier status is not granted by any law or regulation but arises from the practices of the Civil Aviation Authority of Bangladesh (CAAB) of the designating only Biman as the Bangladeshi carrier entitled to operate services under Bangladesh's 42 ASAs. The ICAO's model-form of ASA, which is the basis for most ASAs, permits each of the two contracting states to designate its national carrier(s) that will operate under the traffic rights granted by each state to the other under the relevant ASA. Most of the Bangladesh's ASA allow each state to designate only a single airline and it is understood that currently no other Bangladeshi carrier has been designated for this purpose.

Ownership and Control Requirements: As well as being designated as the Bangladeshi carrier to operate under the traffic right granted by an ASA. Biman must also obtain the necessary operating permits from the foreign government concerned. There are unlikely to be withheld so long as Biman meets the required international safety standards. One basis on which a government usually has the right to prevent an airline from operating an international service is if it is not satisfied that the airline complies with the internationally adopted ownership and control requirements in an ASA. These effectively require that substantial ownership and effective control of Biman must remain with the Bangladeshi State or its nationals. Non-compliance with these requirements could result in the refusal or revocation of Biman's international



Accounting and Reporting System of Airlines Industry

traffic rights. There is no authoritative definition of either “substantial ownership” or “effective control” when these expressions are used in ASAs.

Traffic Rights: The international traffic rights under Bangladesh’s ASAs which are presently available to Biman as the only Bangladeshi international airline. Additionally, Bangladesh has signed Memoranda of Understanding relating to traffic rights with North Korea and Ethiopia, although Biman does not presently operate to destinations in either country.

These traffic rights, only some of which are presently being utilized by Biman, comprise some significant 5th freedoms – being ‘intermediate points’ or ‘points beyond’, with the right to carry traffic between two foreign destinations- on routes both east and west of Bangladesh (e.g. under the ASAs with India, Thailand, Singapore, Japan, Philippines, Malaysia, Indonesia and Hong Kong). Where ‘international points’ or ‘points beyond’ are indicated, this does not necessary allow Biman to operate 5th freedom services, as the traffic rights allowed by two contracting states will require the additional agreement of a third state (where the relevant intermediate point or point beyond is located) in order for Biman to be able to use the 5th freedom.

Bilateral Air Services Agreements: At present Bangladesh has bilateral Air Services Agreements (ASA) with 47 countries in four continents of the world providing the scope of Bangladeshi designated airlines to operate air services in different parts of the world. In current review of ASAs between Bangladesh and different countries, provisions for dual and multiple designations of airlines are kept. Biman presently operates to only 17 international destinations in 14 countries. There is ample opportunity to explore air travel market to different international destinations under the framework of existing bilateral ASAs with different countries.

Biman has 47 Air Service Agreements with different countries in the world. These are: Afghanistan, Australia, Bahrain, Bhutan, Belgium, China, Egypt, France, Germany, Hong Kong, India, Indonesia, Iran, Iraq, Italy, Jordan, Japan, Kuwait, Kenya, Korea(North Korea) Libya, Malaysia, Maldives, Myanmar, Morocco, Netherlands, Nepal, Oman, Pakistan, Philippines, Poland, Qatar, Russian and CIS, Saudi Arabia, Singapore, Sri Lanka, Syria, South Korea, Thailand, Turkey, UAE, UK, Uzbekistan, USA, Vietnam, Yugoslavia, Yemen.



Accounting and Reporting System of Airlines Industry

Slot Regulation: The present level of scheduled aircraft movements at Dhaka's Shah Jalal International Airports rarely results in any competition between airlines for fixed arrival and departure times (or 'slots') for their scheduled services. The traffic levels at Chittagong (being the only other international airport for scheduled operations and solely domestic airport in Bangladesh is lower, with no competition for slots.

However, a significant number of the foreign airports to which Biman operates are congested and operate 'slot' allocation rules regulating arrival and departure times during periods of peak traffic movements. At most of these foreign airports it is accepted practice that once an airline has been granted a particular daily 'slot' it continues to be entitled to it for so long as it operates a scheduled service with the relevant departure or arrival times, under 'grandfather rights'. Slots at peak times held under these grandfather rights have considerable value to airlines, because of the importance of slot timing to both efficient schedule planning and attracting passengers. However, airlines are now generally prevented from realizing the commercial value of their 'slots' either by the active policy by airport authorities and aviation authorities or by legal regulations prohibiting the sale of slots. Although exchanges of slots are permitted, likelihood of Biman realizing any significant value in respects of the slots it holds. For the same reason, although they clearly have a significant value, it is not possible to make any accurate monetary estimate of the value of Biman's slots.

3.9 Biman Fleet and Maintenance

3.9.1 Fleet Planning Exercise:

Fleet Planning exercise is a continuous process by which suitable aircraft are selected for the airline depending on route pattern to serve the air travel demand. In Biman, there is a Fleet Planning Committee headed by Managing Director & CEO and represented by all Executive Directors and other officials from relevant trades. The Fleet Planning Committee performs fleet planning study time to time to determine suitable fleet for Biman to serve short, medium and long-haul destinations.

Biman operates a mostly owned fleet of jet aircraft that have historically been well suited to its market. As of June 2000 for long-haul operations to Europe, North



Accounting and Reporting System of Airlines Industry

America and the Far East, Biman operates five DC-10-30s; for medium-haul flights to the Middle East and within Asia, Biman operates three A310-300s; and for domestic and regional flights, Biman operates F-28s. Through 1999, Biman also operated two BAe ATP turboprop aircraft on domestic routes, but due to escalating maintenance costs and crew shortages, these two aircraft have been grounded pending sale.

In June 2000, the current active fleet has an average age of 16.3 years. The oldest aircraft is 22 years old, and the DC-10 fleet averages 19.2 years. Management understands that the age of the DC-10 fleet is beginning to threaten schedule reliability and will need to be replaced with a new type of aircraft. Biman began its DC-10 program by acquiring three DC-10-30 jets from Singapore Airlines in 1983, followed by a fourth jet purchased directly from McDonnell Douglas in 1988. In December 1999, Biman leased a fifth aircraft for a three year period from Pacific Air Corporation. The four DC-10s that Biman owns are certified with a 259,455 Kg maximum take-off weight. The leased DC-10 is certified for 263,086 Kg maximum take-off weight. In the second half of 2000, Biman is planning to acquire an additional one DC-10-30 and one a310-300 on operating lease.

Biman developed its current medium-haul fleet with the purchase of two new A310-300 jets from Airbus in June 1996. Recently in December 1999, Biman leased a third A310-300 from Singapore Airlines for a three year period. The A310s that Biman owns are certified for 164,000 Kg maximum take-off weight; the leased A310 is certified for 153,000 Kg maximum take-off weight.

For regional service, Biman purchased one new F-28 MK 4000 aircraft in 1981. With the decision to ground and sell its BAe ATP turboprops in 1999, Biman decided to expand its F-28 fleet. In May 1999, Biman bought two F-28 aircraft from Trigana Air Service. The first aircraft is certified for 33,205 Kg maximum take-off weight, the other two for 32,205 Kg. on December 22, 1997, a Biman F-28 aircraft was involved in an accident, resulting in a total loss.

As per agreement with Boeing the ten aircraft are scheduled to be delivered as per the following schedule:



Accounting and Reporting System of Airlines Industry

Table 13: Delivery schedule of ten new generation aircraft (which are purchasing by Biman)

Type	Aircraft	Delivery Schedule	Status of delivery
777-300ER	1 st Aircraft	October 2011	Delivered as per schedule
	2 nd Aircraft	November 2011	Delivered as per schedule
	3 rd Aircraft	October 2013	Delivery has been re-scheduled to February 2014
	4 th Aircraft	December 2013	Delivery has been re-scheduled to March 2014
737-800	1 st Aircraft	February 2015	Delivery has been re-scheduled to November 2015
	2 nd Aircraft	March 2015	Delivery has been re-scheduled to December 2015
787-8	1 st Aircraft	October 2019	-
	2 nd Aircraft	December 2019	-
	3 rd Aircraft	January 2020	-
	4 th Aircraft	February 2020	-

Source: Biman

During the FY 2011-2012, Biman continued operation with a mixed fleet of DC 10-30, A310-300, F28-4000, 737-800, 777-300ER and 747-400 aircraft to serve domestic and international routes. In 2011, Biman entered into a new era through introduction of two new generation 777-300ER aircraft from the Boeing Company. With a view to modernizing its fleet through replacement of aging aircraft, Biman signed two agreements with the Boeing on 22nd April and 30th May in 2008 for purchasing ten new generation aircraft to replace the aging DC10-30, A310-300 and F-28 aircraft.

Through induction of new generation aircraft, Biman will be able to improve its services and increase market share. More importantly, phasing out of old aircraft will help reduce cost on account of fuel and maintenance to a considerable extent. In the interim period of acquiring new generation aircraft, Biman is stepping to enhance its



Accounting and Reporting System of Airlines Industry

capacity through leasing appropriate aircraft commensurate with market demand. The Fleet Planning Committee in its meeting held on 26th November, 2012 recommended to procure 02 X 777-200/200ER, 01X 737-800 and two 50-seater turbo-prop aircraft on lease for short term solution of fleet and action is on progress in this regard.

Current Fleet: Presently, Biman operates a fleet of two narrow-body aircrafts and six wide-body aircrafts as shown in the following table:

Table14: Biman's current Fleet (2012)

Type & Reg. No.	Year of Manufacture	Acquisition	Remarks
DC10-30 (S2-ACO)	Oct 1978	23 Sep 1983	Old purchase
DC10-30 (S2-ACP)	Mar 1979	16 Aug 1983	Old purchase
A310-300 (S2-ADF)	May 1996	19 Aug 1996	New purchase
A310-300 (S2-ADK)	Aug 1991	23 Oct 2003	Old purchase
737-800 (S2-AFL)	Jun 2001	25 Jan 2010	Dry Lease for 60 months till Jan 2015
737-800 (S2-AFM)	Sep 2001	05 Feb 2010	Dry Lease for 60 months till Jan 2015
777-300ER (S2-AFO)	Sep 2011	22 Oct 2011	New purchase
777-300ER (S2-AFP)	Oct 2011	21 Nov 2011	New purchase

Source: Wikipedia (2012)

An important part of the Biman strategy is to modernize its fleet. Biman Board has decided to continue DC10 operation till December 2013. As a step of fleet modernization, the A310 aircraft are planned to be phased out by 2016. The Airline has made significant progress in a short span of time bringing in leased aircraft to bridge operations until the arrival of the new Boeing aircraft on order and to expand service to new destinations. As it brings in new aircraft, Biman's fleet strategy is to replace and retire the older aircraft in its fleet.

Fleet position in 2012-13 and 2013-14 are mentioned below:

Table 15: Fleet position in 2012-13

Sl. No.	Aircraft Type	Number	Seat capacity	Ownership
1	DC10-30	02	314 (0+314)	Own
2	A310-300	02	221 (25+196)	Own
3	737-800	02	162 (12+150)	Leased (expiry in early 2015)
4	777-300ER	02	419 (35+384)	Own

Source: Biman



Accounting and Reporting System of Airlines Industry

Table 16: Fleet position in 2013-14

Sl. No.	Aircraft Type	Number	Seat capacity	Ownership
1	777-300ER	04	419 (35+384)	Own
2	777-200ER	02	319 (21+21+286)	Leased from Egypt Air Holding Co.
3	A310-300	02	221 (25+196) 223 (26+197)	Own
4	737-800	02	162 (12+150)	Leased from GECAS (Lease extended up to January/February 2018)

Source: Biman

As a plan to resume full domestic services, it is planning to dry lease two turboprop aircraft for a period of five years. Domestic flights to Cox's Bazar, Jessore, Saidpur, Rajshahi and Barisal are likely to resume in April 2014; originally it was supposed to start in November 2013, which Biman failed to as it was unable to find a lessor of aircraft. The carrier is also leasing two Boeing 777-200ER aircraft from Egypt Air for route expansion. It wants to expand its fleet to 16 aircraft, to allow further route expansion.

In order to modernize fleet with new generation aircraft, Biman signed two agreements with Boeing on 22 April 2008 and 30 May 2008 for purchasing a total of ten aircraft as under:

Table 17: List of delivered new aircraft

Sl. No.	Aircraft Type	Number	Seat capacity	Ownership
1	777-300ER	04	419 (35+384)	First two 777-300ER already delivered in October 2011. Another two 777-300ER also delivered in February and March 2014.
2	737-800	02	162 (12+150)	November and December 2015.
3	787-8	04	294 (in two class, number of seats not yet specified)	Two 787-8 delivery in November and December 2019 and another two 787-8 delivery in January and February 2020.

Source: Biman



Accounting and Reporting System of Airlines Industry

Biman retired its entire McDonnell Douglas DC-10 fleet on 20 February 2014, by operating a special Dhaka-Birmingham farewell flight with its last DC-10, with a stopover at Kuwait; the carrier also operated nine separate aviation enthusiasts' scenic flights at Birmingham, from 22–24 February, three flights a day. The last DC-10 will then be scrapped locally in Dhaka. The Airbus A310-300s will also be phased out by 2015.

Aiming at the enhancement of fleet capability to meet the increasing passenger demand, an interim fleet plan was prepared for five years in October 2012 followed by preparation of a 10-years fleet requirement plan for FY2013-2023 periods. Focusing on the growth in projected traffic demand, resumption/commencement of operation to some domestic and international destinations and enhancement of weekly frequencies to some selected destinations, and aimed to double the fleet size of eight (08) aircraft in 2013-14 to sixteen (16) aircraft by FY2014-2015.

Historical Fleet of Biman: The carrier (Biman Bangladesh Airlines) also formerly operated the following aircrafts:

Table 18: Historical Fleet of Biman

BAe ATP	Boeing 777-200
Boeing 707-120B	Boeing 777-200ER
Boeing 707-320	Douglas DC-6B
Boeing 707-320B	Douglas DC-8-40
Boeing 707-320C	Douglas DC-8-50
Boeing 737-300	Fokker F27-200
Boeing 747-200B	Fokker F27-600
Boeing 747-300	Fokker F28-4000
Boeing 747-300SCD	McDonnell Douglas DC-10-15
Boeing 747-400	McDonnell Douglas MD-80
McDonnell Douglas DC-10-30ER	

Source: Wikipedia

3.9.2 Aircraft Insurance

Biman Bangladesh Airlines Limited's Insurance Section deals with mainly two type of insurance: - 1) Life Insurance (Group Term Insurance) and 2) General Insurance.

Life Insurance: Biman Operates a group Term Insurance policy with Jibon Bima Corporation for all salaried employee of Biman Bangladesh Airlines Limited on yearly



Accounting and Reporting System of Airlines Industry

both last renewed on August 15, 2012 to confirm with Biman for the following 12 months. These are:

Table 19: Different Insurance Policies of Biman

Policy name	Policy No.
AVIATION HULL ALL RISK, SPARES AND LIABILITY INSURANCE POLICY	SBC/HO/AVN/P-04/2012
AVIATION WAR, HI-JACKING AND OTHER PERILS EXCESS LIABILITY INSURANCE POLICY	SBC/HO/AVN/P-06/2012
AVIATION HULL AND SPARES ENGINE "DEDUCTIBLE" INSURANCE POLICY	SBC/HO/AVN/P-07/2012

Source: Biman

Limits of Insurers' Liability

(a) Hull and Spares and Equipment Coverage:

- (1) Hull: Agreed values as per the Schedule of Aircraft. Maximum agreed value any one Aircraft USD 200,000,000.
- (2) Spares and Equipment: USD 50,000,000 any one occurrence but USD 30,000,000 any one item.

(b) Liability Coverage::

- (1) A combined single limit (Bodily Injury/Property Damage/ Personal Injury) USD 1,000,000,000 any one occurrence, but
- (2) In respect of the Insured's liability arising out of the ownership, operation or use of;
 - i) DC-10-30 aircraft USD 950,000 any one Occurrence;
 - ii) Airbus A310-300 aircraft registrations S2-ADF and S2-ADK and Boeing 737- 800 aircraft USD 650,000,000 any one Occurrence;
 - iii) F-28 aircraft USD 250,000,000 any one Occurrence;
 - iv) Aircraft in respect of flights to/from Hong Kong USD 1,000,000,000 any one Occurrence



Accounting and Reporting System of Airlines Industry

The above limits applying separately in respect of each aircraft;

(3) The combined single limit stated in paragraph (A)(1) above applies in the annual aggregate in respect of the Products Hazard;

(4) Personal Injury liability is subject to a limit of

- i) USD 25,000,000 in the annual aggregate, being within the combined single limit stated in paragraph (1) and not in addition thereto, but
- ii) In respect of passengers, the applicable limit stated in paragraph (1) or (2) above in the annual aggregate, being within the combined single limit stated in paragraph (1) and not in addition thereto

But in no event exceeding USD 1,000,000,000 in the annual aggregate overall.

(5) Cover in respect of expenses for acts of humanity (per paragraph (b) of Clause 7. Additional Expenses) is subject to a limit of USD 1,000,000 in the annual aggregate, being within the applicable limit atated in paragraph (1) or (2) above and not in addition thereto.

(c) Excess Non-Aviation Liability Coverage:

USD 25,000,000, any one Occurrence. This limit applies in the aggregate in respect of each hazard insured with an aggregate limit under the underlying insurance.

Hull Cover:

Table 20: Biman's Agreed Insurance Values of Aircrafts

Type	Registration	Agreed Value	Passenger Seats
Boeing 777-300ER	S2-AFO	USD 168,280,000	419
Boeing 777-300ER	S2-AFP	USD 168, 490, 000	419
Boeing 737-800	S2-AFL	USD 30,000,000	162



Accounting and Reporting System of Airlines Industry

Boeing 737-800	S2-AFM	USD 30,000,000	162
Airbus A310-300	S2-ADF	USD 19,000,000	221
Airbus A310-324	S2-ADK	USD 18,000,000	223
Airbus A310-300	S2-AFT	USD 19,503,000	223
DC-10-30	S2-ACP	USD 8,000,000	314
DC-10-30	S2-ACQ	USD 2,000,000	314
DC-10-30	S2-ACO	USD 8,000,000	314
DC-10-30	S2-ACR	USD 8,000,000	314
F-28	S2-ACW	USD 2,000,000	80
F-28	S2-ACV	USD 2,000,000	80
Boeing 767-300	TF-AMY	Not applicable	505

Source: Biman

Deductibles:

Hull and Spares and Equipment Coverage:

For Hull Risks the deductibles differ according to aircraft type as follows:

Aircraft Type	Deductible Amount (amount each loss)
DC-10/ Airbus A310/ Boeing 777	USD 1,000,000
Boeing 737-800	USD 750,000
F-28	USD 500,000
Other types	To be agreed by Insurers prior to attachment
Spares and Equipment	USD 10,000

The above amounts are not applicable in the event of a loss settled on the basis of a total loss, constructive total loss or arranged total loss.

Liability Coverage:

The insured shall bear the following amounts as a deduction in respect of Property Damage to:

Baggage	USD 1,250 any one Occurrence.
Cargo	USD 10,000 any one occurrence.



Accounting and Reporting System of Airlines Industry

Premium

AVIATION HULL ALL RISK, SPARES AND LIABILITY INSURANCE POLICY: The premium due at the inception of this Insurance is a deposit premium of USD 10,316,704.21 subject to a minimum premium of USD 9,800,868.99 adjustable at the expiry of the Period of Insurance at rates as agreed by Insurers.

AVIATION HULL AND SPARES ENGINE “Deductible” INSURANCE POLICY: The premium due at the inception of this Insurance is a deposit premium of USD 608,737.50 subject to a minimum premium of USD 547,863.75 adjustable at the expiry of the Period of Insurance at rates as agreed by Insurers.

AVIATION WAR, HI-JACKING AND OTHER PERILS EXCESS LIABILITY INSURANCE POLICY: The premium due at the inception of this Insurance is USD 198,000.00.

Premium paid for Insurance coverage of Biman Bangladesh Airlines Limited during 2012-13 (at Head Office):

A. Aviation Insurance:-

Hull all risks and Spares	\$ 5,523,315.29
Hull liabilities	\$ 3,290,982.24
Hull war, hijacking	\$ 105,519.85
Excess liability and Allied Perils	\$ 177,923.10
Hull Deductible	<u>\$ 497,816.40</u>
Total	\$ 9,595,556.88

B. Marine Insurance Tk. 30,22,234.00

C. Motor Vehicle Tk. 19,16,821.00

D. Cash in safe and transit Tk. 4,06,273.00

E. Fidelity Insurance Tk. 83,030.00

F. Burglary Insurance Tk. 31,241.00

G. Fire, Flood and Cyclone Tk. 58,23,892.00

H. Group Term Insurance Tk. 93,60,000.00

Total Tk. 2, 06, 43,491.00

Source: *Biman*



Accounting and Reporting System of Airlines Industry

Insurance is the fourth (4th) highest expenditure in Biman.

3.9.3 Aircraft Maintenance

Biman has broad maintenance capabilities limited more by lack of certifications than of skilled technicians. Although Biman does not have approval from the US Federal Aviation Administration (FAA) or the European Joint Aviation Authorities (JAA) as a maintenance base for foreign carriers, the company recently engaged a consultant to help achieve ISO 9002 certification. Following a very positive recent audit by ICAO, Biman expects to receive the ISO quality label in 2000.

Biman follows a typical maintenance schedule to maintain airworthiness and reliability. Biman is maintaining two 777-300ER, four DC10-30, three A310-300, two B-737 and three F-28 aircraft in Biman's own facility. For these aircraft Biman is performing maintenance and engineering services by its own manpower. Apart from the day-to-day line maintenance and certification prior to each flight, Biman Engineering is also providing support to the en-route line stations. This saves a huge amount of foreign currency for operation of these aircraft at the line maintenance level. The operations are being supported by Biman's own Engineering & Technical Services. From 15 May 2011 Biman Engineering has taken over the full responsibility of Maintenance and Engineering Services within its capability from Boeing Shanghai upon obtaining necessary licenses and approval CAAB. The maintenance capability will be enhanced with time and experience.

Table 21: Maintenance Facilities for Biman's Aircraft

Aircraft	Line Maintenance	Base Maintenance
Boeing 737-800	PDC, Daily, Bi-weekly Inspection	A-Phase Check, C-Phase Check
Boeing 777-300ER	PDC, Daily, 60 Hour Check	A-Phase Check
Boeing 777-200ER	ALC,PFC, Daily, RAMP (8 days) Check	A-Check, C-Check an 4C- Check
A310-300	PFC, 30 Hours Inspection, 8 days Inspection	A-Check, C-Check and Structural Inspection

Source: Biman



Accounting and Reporting System of Airlines Industry

Biman has signed an agreement with USA based renowned MRO Software Company named TRAX, with the intention of maintaining databases/record of all aircraft maintenance orientated activities in real time basis for Engineering, stores & Purchase and GSE Department. Biman has already purchased License of the software and implementation of an Integrated Maintenance Management System (IMMS) is in process. As an approved Maintenance Organization, Biman Engineering is currently providing engineering & maintenance support to the following Biman aircraft types per its present capabilities including repair/overhaul of limited numbers of component.

3.9.4 Safety, Security and Quality Control

The IATA Operational Safety Audit (IOSA) program is an internationally recognized and accepted and evaluation system designed to assess the operational management and control system of an airline. IOSA is a prerequisite for IATA (International Air Transport Association) membership and is a bench mark of aviation safety and security standard. To maintain IATA membership, an airline requires undergoing renewal audit once every two years. Biman faced initial IOSA audit by an IATA accredited and independent Audit Organization of UK in 2007 and became IOSA registered airline in 2008 and subsequently registration renewed in 2009 and 2011. To keep continue IOSA Registration and for securing IATA member, 3rd IOSA Renewal audit was conducted by another IATA Accredited Independent Audit Organization, AQS (Aviation Quality Services), a German based Lufthansa subsidized organization, in September 2013.

IOS Registration renewal audit of Biman in 2013 was conducted by IATA Accredited Audit Organization (AO), AQS, a German Company. To keep IOSA Registration and for securing IATA membership, Biman will face 4th IOSA Renewal Audit in August 2015. Under IOSA Program, IATA incorporated more than 900 Standards and Recommended Practices. To become an IOSA Registered airline, or to keep current IOSA registration, airline must conform to all Standards under IOSA Program, i.e. 100% conformity is required.

Bangladesh Airlines Training Centre (BATC) is EASA 147 (European Aviation Safety Agency – 147) approved training academy. Biman has also formed EASA 145 Implementation Project Committee for Engineering and Maintenance. In order to



Accounting and Reporting System of Airlines Industry

upgrade the Standard of Ground Handling and to increase the operational efficiency, Biman has undertaken a Project: ISAGO (IATA operational safety Audit from Ground Operation). Biman is hopeful that the company will be able to get ISAGO certification at the end of 2014. This certification will not only to raise the airline's Standard of Ground Operation, but also to provide the confidence with the foreign carriers who are taking services of Ground handling from Biman.

In order to monitor that the airline operation is conducted in accordance with national and international requirements, Biman has established Corporate Quality Department to conduct safety and quality audit, internal and external, on a regular and continual basis. Biman also has established Safety Management System in line with the requirements and guideline of ICAO (International Civil Aviation Organization) and Civil Aviation Authority of Bangladesh (CAAB) to enhance level of corporate safety.

Flight Safety: Directly responsible to the Managing Director, Biman's Flight safety Department is organized according to the requirements of ICAO Annex 6 Parts I and III. Biman maintains current Flight Safety Manuals that follow industry standards. The manuals include the duties and responsibilities of department officials, details of the mandatory occurrence reporting (MOR) system, investigation procedures, inspection and surveillance and the company emergency response plan.

The Flight Safety Department includes four employees – two pilots, an engineer and a flight manager. The department is also responsible for fire equipment throughout Biman facilities. Biman's Flight Safety Department enjoys good cooperation with the CAAB, The airline inform the CAAB about incidents according to the established reporting system. For serious incidents and accidents, the CAAB creates an investigation group led by a CAAB representative, with the participation of Biman representatives.

Quality Control: The inspection and Quality assurance Department is a part of the Directorate of Engineering headed by the Deputy Chief Engineer, who reports directly to the Managing Director. The department includes 18 engineers and 17 junior officers. The Quality Assurance Department is responsible for quality control and surveillance inspections on all types of aircraft maintenance and modifications. The department also audits maintenance records, calibrates tools and equipment,



Accounting and Reporting System of Airlines Industry

inspects spare parts and acts as liaison to the CAAB for the issuance of aircraft maintenance engineers licenses. In addition, the department participates in investigations of accidents and serious incidents.

3.10 Some Other Private Airlines in Bangladesh

Now, Biman is not only the carrier of Bangladesh. There have some other private airlines to compete with Biman. So, Biman is facing competition with local airlines as well as international also. We are discussing another three competitive airlines of Bangladesh.

3.10.1 United Airways Bangladesh Ltd.

United Airways (Bangladesh) Limited, a public limited company was founded by Capt. Tasbirul Ahmed Choudhury a British-Bangladeshi expatriate, along with few businessman and entrepreneurs in 2005. It obtained the Air Transport Operating License (ATOL) from Civil Aviation Authority of Bangladesh on 28 June 2005. United Airways is the first listed company in the aviation sector of Bangladesh; it became listed in July 2010.

Destinations: After Biman Bangladesh Airlines, United Airways (BD) Ltd. is serving flights both Domestic and International. But its domestic network is strong than international. This airline is trying to increase its international destinations. United Airways serves the following destinations (as of 18 November 2013):

Table 22: Destinations of United Airways Ltd.

City	Country	Airport	Notes
<u>Bangkok</u>	 <u>Thailand</u>	<u>Suvarnabhumi Airport</u>	
<u>Barisal</u>	 <u>Bangladesh</u>	<u>Barisal Airport</u>	
<u>Chittagong</u>	 <u>Bangladesh</u>	<u>Shah Amanat International Airport</u>	Secondary hub
<u>Cox's Bazar</u>	 <u>Bangladesh</u>	<u>Cox's Bazar Airport</u>	
<u>Dhaka</u>	 <u>Bangladesh</u>	<u>Shahjalal International Airport</u>	Hub
<u>Dubai</u>	 <u>United Arab Emirates</u>	<u>Dubai International Airport</u>	
<u>Ishwardi</u>	 <u>Bangladesh</u>	<u>Ishwardi Airport</u>	
<u>Jeddah</u>	 <u>Saudi Arabia</u>	<u>King Abdulaziz International</u>	



Accounting and Reporting System of Airlines Industry

City	Country	Airport	Notes
		<u>Airport</u>	
<u>Jessore</u>	 <u>Bangladesh</u>	<u>Jessore Airport</u>	
<u>Kathmandu</u>	 <u>Nepal</u>	<u>Tribhuvan International Airport</u>	
<u>Kolkata</u>	 <u>India</u>	<u>Netaji Subhash Chandra Bose International Airport</u>	
<u>Kuala Lumpur</u>	 <u>Malaysia</u>	<u>Kuala Lumpur International Airport</u>	
<u>London</u>	 <u>United Kingdom</u>	<u>Gatwick Airport</u>	TERMINATED
<u>Muscat</u>	 <u>Oman</u>	<u>Muscat International Airport</u>	
<u>Rajshahi</u>	 <u>Bangladesh</u>	<u>Shah Makhdum Airport</u>	
<u>Saidpur</u>	 <u>Bangladesh</u>	<u>Saidpur Airport</u>	
<u>Singapore</u>	 <u>Singapore</u>	<u>Singapore Changi Airport</u>	
<u>Sylhet</u>	 <u>Bangladesh</u>	<u>Osmani International Airport</u>	

Source: United Airways

United Airways' route map: Feb-2010



Source: United Airways

Figure 19: Route map of United Airways Bangladesh Ltd.

Fleet: The United Airways fleet consists of the following aircraft (as of 17.09.2013):



Accounting and Reporting System of Airlines Industry

Table 23: Fleet lists of United Airways Ltd.

United Airways Fleet				
Aircraft	In Service	Orders	Passengers (Economy)	Notes
<u>Airbus A310-300</u>	2	—	250	
<u>ATR 72-200</u>	3	—	66	
<u>Bombardier Dash 8-100</u>	1	—	37	
<u>McDonnell Douglas MD-83</u>	1		155	Two stored.
	2	—	162	
	2		170	
Total	11	—		
<i>Source: Wikipedia & www.uabdl.com</i>				

As of December 2013, the average age of the United Airways fleet is 20.5 years.

It is currently the largest private airline in Bangladesh, with the largest domestic network in the country. United Airways operates to all of its destinations from its main hub Shahjalal International Airport, along with international flights from its secondary hub Shah Amanat International Airport. In the fiscal year 2012-13 it made profits of BDT 115.4 crore (US\$15 million). In 6 years of operations it operated 38,000 flights, carried 1.4 million passengers and 2,800 tons of cargo. As of 2013, it employs 850 peoples.

3.10.2 Regent Airways

Regent Airways is a Bangladeshi airline owned by HG Aviation Ltd, a fully owned subsidiary of Habib Group. Regent Airways is based at Shahjalal International Airport. It was founded in 2010, and its operations began in 10 November of the same year. It expanded its fleet with two Boeing 737-700 aircraft on a six-year lease from ILFC, and launched international flights in July 2013.

Destinations: Regent Airways currently operates 4 international destinations, along with domestic flights. It launched international flights in 2013 — Kuala Lumpur in July, Bangkok in October, Chittagong-Kolkata flights in October, Dhaka-Kolkata flights in November, and Singapore in December.



Accounting and Reporting System of Airlines Industry

Regent Airways serves the following destinations (as of 14 December 2013):

Table 24: Destinations of Regent Airways

City	Country	Airport
<u>Bangkok</u>	 Thailand	<u>Suvarnabhumi Airport</u>
<u>Chittagong</u>	 Bangladesh	<u>Shah Amanat International Airport</u>
<u>Cox's Bazar</u>	 Bangladesh	<u>Cox's Bazar Airport</u>
<u>Dhaka</u>	 Bangladesh	<u>Shahjalal International Airport</u>
<u>Jessore</u>	 Bangladesh	<u>Jessore Airport</u>
<u>Kolkata</u>	 India	<u>Netaji Subhas Chandra Bose International Airport</u>
<u>Kuala Lumpur</u>	 Malaysia	<u>Kuala Lumpur International Airport</u>
<u>Singapore</u>	 Singapore	<u>Singapore Changi Airport</u>
<u>Sylhet</u>	 Bangladesh	<u>Osmani International Airport</u>

Source: Wikipedia & www.flyregent.com

It plans to commence flights to Kathmandu, Hong Kong, Guangzhou, Doha and Muscat in the near future.

Fleet: The Regent Airways fleet includes the following aircraft (as of August 2013).

Table 25: Fleet list of Regent Airways

Regent Airways Fleet							
Aircraft	In Service	Orders	Passenger			Routes	Notes
			B	E	Total		
Bombardier Dash-8-Q300	2	—	—	50	50	Domestic	
Boeing 737-700	2	—	12	114	126	International	Both aircraft equipped with <u>winglets</u> . On a six-year lease from <u>ILFC</u> .
Total	4	0					

Source: Wikipedia & www.flyregent.com

As of February 2014, the average age of the Regent Airways fleet is 11.5 years.



Accounting and Reporting System of Airlines Industry

3.10.3 NovoAir

NovoAir is an airline based in Dhaka, Bangladesh. Novo Air only operates domestic flights, from its hub at Shahjalal International Airport, with two Embraer ERJ 145 aircraft. It began operations in 9 January 2013. NovoAir plans to launch international flights from the first quarter of 2014. In its one year of operation, it has operated 4,500 flights and carried 150,000 passengers.

Destinations: Flights to 4 initial domestic destinations began from 9 January—26 flights a week to Chittagong, and once a day flights to Jessore and Cox's Bazar, all from Dhaka. It later launched flights to Sylhet on 20 January. It plans to serve regional destinations such as Kolkata, Kathmandu, Yangon, Bangalore and Chiang Mai in the near future. NovoAir serves the following destinations (as of 20 January 2013) in Bangladesh:

- Dhaka – Shahjalal International Airport [Hub]
- Chittagong – Shah Amanat International Airport
- Jessore – Jessore Airport
- Cox's Bazar – Cox's Bazar Airport
- Sylhet – Osmani International Airport

Fleet: The airline operates two Embraer ERJ 145 aircraft leased from Flybe, a low-cost carrier based in United Kingdom. Both of the planes are equipped with Rolls-Royce engines. The NovoAir fleet consists of the following aircraft (as of 9 January 2013):

Table 26: Fleet list of Novo Air

NovoAir fleet				
Aircraft	Total	Orders	Passengers (Economy)	Notes
Embraer ERJ 145	2	0	49	First airline in Bangladesh to operate <u>Embraer</u> aircraft.
Total	2	0		

Source: Wikipedia & <http://www.flynovoair.com>

As of February 2014, the average age of the NovoAir fleet is 12.2 years.



Accounting and Reporting System of Airlines Industry

3.11 List of Airlines and Airports of Bangladesh

Bangladesh, officially the People's Republic of Bangladesh, is a country in South Asia. It is bordered by India on all sides except for a small border with Burma (Myanmar) to the far southeast and by the Bay of Bengal to the south. Its capital and largest city is Dhaka. There are some airlines and some airports to operate airline business. For different airlines, there are three types of airports in Bangladesh, like-

a) *International*: An International Airport is an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are arrived out.

b) *Domestic Airport*: A Domestic Airport is an airport which handles only domestic flights or flights within Bangladesh.

c) *International Air Traffic*: A flight that takes off in one country and lands in another.

Airlines:

This is a list of airlines which have an Air Operator Certificate issued by the Civil Aviation Authority of Bangladesh (CAAB).

Table 27: List of Airlines of Bangladesh (with AOC by CAAB)

Airline	IATA	ICAO	Call sign	Hub Airport(s)	Commenced operations
Biman Bangladesh Airlines	BG	BBC	BANGLADESH	*Shahjalal International Airport *Shah Amanat International Airport *Osmani International Airport	1972
United Airways	4H	UBD	UNITED BANGLADESH	*Shahjalal International Airport *Shah Amanat International Airport	2007
Regent Airways	RX	—	—	*Shahjalal International Airport	2010
NovoAir	VQ	NVQ	NVQ	*Shahjalal International Airport	2013

Source: Wikipedia

Private airlines:



Accounting and Reporting System of Airlines Industry

This is a list of private airlines of Bangladesh. These Airlines are in service with different objectives.

Table 28: List of private airlines of Bangladesh

Year	Airline	Type of service	Type of Aircraft	Status
1996	Aero Bengal Airlines	Passenger service, Aeroplane service	Harbin Y-12, Antonov An-24 RV	Defunct
1997	Mission Aviation Fellowship Sweden	Aeroplane service	de Havilland Canada DHC-3 Otter	
1997	Air Parabat	Flight training, Passenger service	Cessna 152, LET-410	Defunct
1998	GMG Airlines	Passenger service, Aeroplane Service	MD-82, Dash 8-100	
1999	Bismillah Airlines	Cargo service	Antonov An-12	
1999	Youngone	Private aircraft	Cessna Grand Caravan, Piaggio P.180 Avanti II, Pilatus PC-12	
1999	Best Aviation	Passenger Service, Helicopter service, Cargo service	BK 117, Antonov An-26, Boeing 707, Boeing 737	
2000	Air Maximus	Cargo service	Boeing 747	
2000	Aero Technologies	Helicopter service	Eurocopter AS-350 B	
2005	Zoom Airways	Passenger service, Aeroplane service	BAe 748 Series 2B	
2005	Air Bangladesh	Passenger service, Aeroplane service	Boeing 747	Defunct
2007	United Airways	Passenger service, Aeroplane service	Bombardier Dash 8, McDonnell Douglas MD-83, ATR 72, Airbus 310	
2007	Royal Bengal Airline	Passenger service, Aeroplane service	Bombardier Dash 8	Defunct
2010	Regent Airways	Passenger service, Aeroplane service	Bombardier Dash 8	

Source: Wikipedia

Airports:

The proposed airport would be Bangladesh's fourth international airport, in addition to Shah Amanat International in Chittagong and Osmani International Airport in Sylhet. Osmani Airport currently lacks refueling facilities, which is now being



Accounting and Reporting System of Airlines Industry

addressed.

Meanwhile, a feasibility study for the proposed Khan Jahan Ali Airport is being conducted. The Bangladesh Government is also considering plans to extend private-sector investment in duty-free stores to Shah Amanat and Osmani international airports, aiming to attract local and foreign investment. Private-sector investment in duty-free is currently limited to Hazrat Shahjalal International Airport Bangladesh's National Board of Revenue has reportedly debated the issue for some 25 years.

This is a list of airports in Bangladesh, grouped by type and sorted by location. All airports are operated and maintained by the Civil Aviation Authority of Bangladesh. Bangladesh has 3 international airports, 6 domestic airports and 6 STOL (Short Take-off and Landing) ports, with 1 new domestic airport under construction. It also has several airstrips, some built during the World War II.

There are so many airports in Bangladesh but some of them are using. Present Bangladeshi government is trying to open some unused airports for operation and government also has project for making new Airport for both domestic and international.

Table 29: List of Airports of Bangladesh

<u>Location served</u>	<u>ICAO</u>	<u>IATA</u>	<u>Airport Division</u>	<u>Airport name</u>
International airports				
<u>Dhaka</u>	VGHS	DAC	<u>Dhaka Division</u>	<u>Hazrat Shahjalal International Airport</u>
<u>Chittagong</u>	VGEG	CGP	<u>Chittagong Division</u>	<u>Shah Amanat International Airport</u>
<u>Sylhet</u>	VGSY	ZYL	<u>Sylhet Division</u>	<u>Osmani International Airport</u>
Domestic airports				
<u>Rajshahi</u>	VGRJ	RJH	<u>Rajshahi Division</u>	<u>Shah Makhdum Airport</u>
<u>Jessore</u>	VGJR	JSR	<u>Khulna Division</u>	<u>Jessore Airport</u>
<u>Saidpur</u>	VGSD	SPD	<u>Rangpur Division</u>	<u>Saidpur Airport</u>
<u>Cox's Bazar</u>	VGCB	CXB	<u>Chittagong Division</u>	<u>Cox's Bazar Airport</u>
<u>Barisal</u>	VGBR	BZL	<u>Barisal Division</u>	<u>Barisal Airport</u>
<u>Ishwardi Upazila</u>	VGIS	IRD	<u>Rajshahi Division</u>	<u>Ishwardi Airport</u>
<u>Bagerhat</u>		KHL	<u>Khulna Division</u>	<u>Khan Jahan Ali Airport</u> (under



Accounting and Reporting System of Airlines Industry

<u>Location served</u>	<u>ICAO</u>	<u>IATA</u>	<u>Airport Division</u>	<u>Airport name</u>
International airports				
				construction)
Tejgaon	VG TJ		Dhaka Division	Tejgaon Airport
STOL (Short Take-off and Landing) ports				
Comilla	VG CM CLA		Chittagong Division	Comilla STOLport
Bogra	VG BG		Rajshahi Division	Bogra STOLport (under construction)
Thakurgaon	VG SG TKR		Rangpur Division	Thakurgaon STOLport
Lalmonirhat	VG LM LLJ		Rangpur Division	Lalmonirhat STOLport
Shamshernagar	VG SH ZHM		Sylhet Division	Shamshernagar STOLport
Noakhali			Chittagong Division	Noakhali Airport (under construction)
Unused Airports				
Bay of Bengal / Sandwip		SDW	Chittagong Division	Sandwip Airport
Chakaria			Chittagong Division	Chokoria Airport
Feni			Chittagong Division	Feni Airport
Ghatail			Dhaka Division	Rajendrapur Airport
Maulvi Bazar			Sylhet Division	Maulvi Bazar Airport
Rasulpur			Chittagong Division/Dhaka	Rasulpur Airport
Siraiganj		SAJ	Rajshahi Division	Siraiganj Airport
Bajitpur			Dhaka Division	Bajitpur Airport
Patuakhali			Barisal Division	Patuakhali Airport

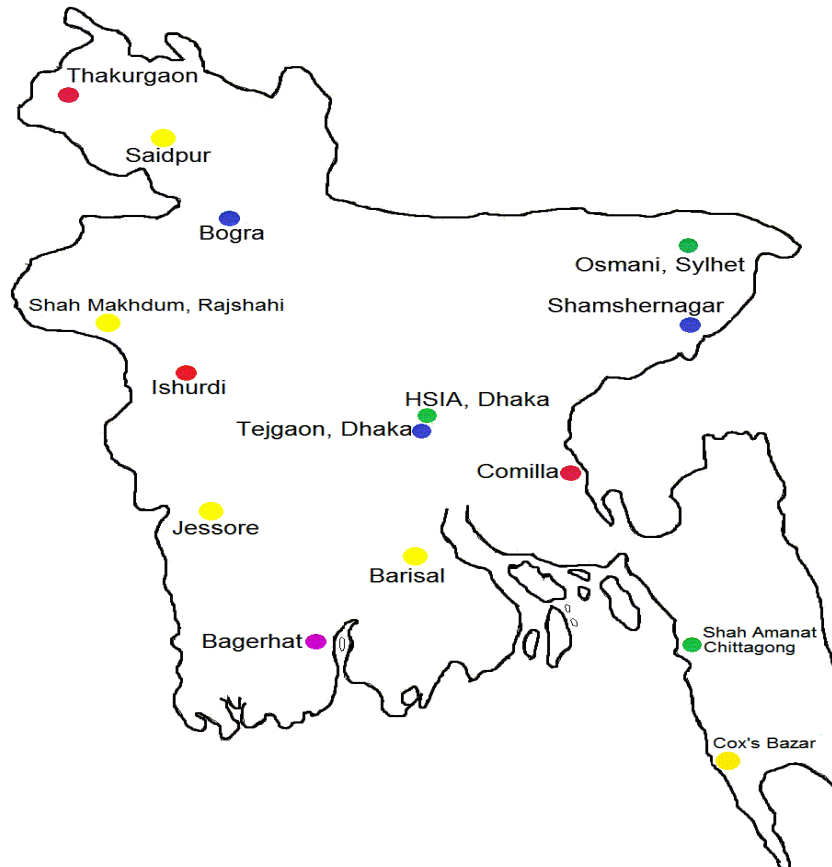
Source: Wikipedia, (Update-October 4, 2015)

In Table 29, Cities and airport names in detail shown in **bold** have scheduled passenger service of commercial airlines. And in Figure 20, airports are showing by different colors. Legend under Bangladesh Map:

1. Green - International Airports
2. Yellow - Domestic Operational Airports
3. Blue - Airports where prior approval is needed for air operation.
4. Red - Airports where service is not available
5. Purple - Airport under construction.



Accounting and Reporting System of Airlines Industry



Source: CAAB (August 5, 2014)

Figure 20: Airports in Bangladesh

This figure is showing the different airports in different divisions or districts in Bangladesh. Some of them are on operation and some are waiting for operation. To improve and extend the aviation industry of Bangladesh, Government should take decision to start some unused airports for domestic passengers and develop some airports for international standard.



Accounting and Reporting System of Airlines Industry

4. FINDINGS AND DATA ANALYSIS

The present Accounting System of Biman was inherited from the then Pakistan International Airlines (PIA). The current accounting code manual has also been furnished in advance with the same accounting policy of PIA. And the system has been followed and practiced in manual procedure since inception. In order to modernize revenue accounting system, Society for International Telecommunication and Aeronautics (SITA) Revenue Accounting (RA) system has been introduced in Biman with effect from May 2007. Although PRA (Passenger Revenue Accounting) is web-based revenue accounting system solicited from SITA. SITA is not well-known for Airline Revenue Accounting rather they are famous for computerized reservation system solution provider.

4.1 Accounting Policies and Disclosures

Airlines must comply with accounting policies. Accounting policies are the principles and methods used by an entity to record financial transactions and to prepare financial statements. Airlines prepare financial statements in accordance with Generally Accepted Accounting Principles (GAAP).

Basis of Accounting: The financial statements have been prepared in accordance with the Bangladesh Financial Reporting Standards (BFRS). The elements included in the financial statements have been measured under historical cost convention. The Biman Bangladesh Airlines Limited took over Assets and assumed Liabilities of Bangladesh Biman Corporation on the basis of valuation done by an independent valuer which was approved by the Board of Directors.

Fixed Assets and depreciation: Fixed assets are stated at cost less accumulated depreciation. Cost includes value of assets taken over from Bangladesh Biman Corporation at revalued amount. The fixed assets of Bangladesh Biman Corporation were revalued by an independent valuer as on 22 July, 2007 and the company incorporated those revalued assets as opening balance as on 23 July, 2007. Capital work in progress represents the cost incurred for acquisition and/or construction of fixed assets that were not ready for use at the end of 30 June, 2014 and those are stated at cost.



Accounting and Reporting System of Airlines Industry

Depreciation Methods used: Old aircrafts are depreciated, on straight-line method, after deducting 20% as residual value and the new aircrafts are depreciated. On straight-line method considering total life of 25 years, that is @4% per year. Fixed assets other than freehold land are depreciated on straight-line method at the rates from 2% to 20% depending on the categories of such assets. Full year's depreciation is provided on additions made during the first of the year while 50% of the rates are applied to additions made in the latter half of the year. No depreciation is charged on capital work in progress & disposal of assets. The depreciation policy of Biman Bangladesh Airlines Limited formulated by the valuer has been approved by the Board of Directors. No depreciation is charged on deletion of fixed ASSETS. The rate of depreciation as per depreciation policy on old Aircraft, Airframe, Radio Equipment, Engine, and Miscellaneous Flight Equipment has been determined at 10% p.a. Depreciation is charged from the month of acquisition as per IAS-16.

The rates at which assets are depreciated per annum, depending on the nature and estimated useful life of assets are given below:

Table 30: Depreciation Rate of Biman's Assets

Item/Equipment	Rate
Building	2%
Aircraft & Equipment	10%
Operating Ground Equipment	3.33% to 5%
Furniture & Fixture	10%
Machinery & Equipment	3.33% to 20%
Motor Vehicles	10%

Source: Biman (Annual Report, 2013-14)

Investment: Investment in shares of Abacus Bangladesh NMC Ltd. which is a subsidiary of Biman Bangladesh Airlines Ltd. is accounted for on the basis of equity method of accounting under BAS-27.

Stores and Spares: Raw materials and Stores and Spares are valued at the average cost. Stock in transit represents the cost incurred up to the date of the balance sheet for the items that were not received. Stock losses and abnormal losses are recognized as expense in the respective year.



Accounting and Reporting System of Airlines Industry

Provision for store obsolescence has been determined by the valuer as on 27 July 2007, which is incorporated in the opening balance of the company. This includes spare parts of aircraft, GSE, engineering equipment and motor vehicles and determined by valuer through physical inspection.

Revenue Recognition: Sales of passengers tickets are recognized as operating revenue after these are availed of by passengers within the period of their validity.

Foreign currency: Foreign currencies are translated into taka at the transaction dates. Monetary assets and liabilities are reconverted at the rates prevailing at the balance sheet date. Differences arising on conversion are charged or credited to the profit and loss account and adjusted with the respective account balance.

Income Tax Expense: Income tax expense is calculated as per Income Tax Ordinance 1984 and recognized in profit and loss account. Deferred tax has Liabilities/Assets has been recognized in accordance with the provision of BAS 12 based on temporary differences arising due to difference in the carrying amount of the assets or liabilities and their tax base. But minimum tax liability under section 16CCC of Income Tax Ordinance has not been recognized due to court verdict.

Related party transactions: Biman has transactions with related parties, the related parties are Government of Bangladesh, Padma Oil Company Limited, Meghna Oil Company Limited, Civil aviation Authority-Bangladesh and Sadharan Bima Corporation.

Aircraft Purchase Agreement: Bangladesh Biman Corporation has signed three definitive agreements with Boeing Company of America to acquire ten new generation aircrafts. These will provide fuel efficiency, reliability and spacious passenger cabin. Under these agreements Biman has ordered for Four (4) 777-300ER, two (2) 737-800 and four (4) 787-8 Aircraft. Out of ten (10), four (4) 777-300ER have already been delivered by Boeing in the financial year 2011, another two (2) 777-800ER aircraft will be delivered in November and December, 2015. And four (4) 787-8 will be delivered by 2019/2020.

Prior year Adjustment: Some previous year figures have been restated by rectifying the previous year errors as per Bangladesh Accounting Standard-8 (BAS-8).



Accounting and Reporting System of Airlines Industry

Intangible Assets: Intangible assets of Biman Bangladesh Airlines Ltd are Goodwill and Routes. The value of Goodwill and Routes has been calculated by the valuer. Routes and rights are valued according to their profitability and goodwill calculated according to the purchase value of investment return for three years @8,5% considering discounted cash flow.

Retained earnings: Retained earnings of the company include the net result of operational activities of Biman, BPC and BFCC.

Long term Loans:

Loan from Government of Bangladesh: Biman received foreign currency loan from eight different foreign bank and Sonali Bank, London branch for purchase of three DC-10 aircrafts in 1984. Subsequently the loan has been paid by Bangladesh Bank in favor of Biman as per Government decision and Bangladesh bank recovered the amount from the Government. Ultimately Biman's loan liability has been transferred to the Government.

Loan from Govt. of Bangladesh for VRS: As per Government decision 1877 employees of Bangladesh Biman Corporation were retired under Voluntary Retirement Scheme (VRS). The government provided the money for settlement of the above employees' retirement benefits amounting to Tk.290.10 crore as Government loan payable within fifteen years with 5% interest.

PDP loan from Eastern bank Ltd.: Biman received a foreign currency (USD) loan from Eastern bank Ltd. for Pre Delivery Payment (PDP) to Boeing for purchase of two 777-300 ER Aircrafts as per agreement between the Eastern bank Ltd. and Consortium Bank with Biman Bangladesh Airlines Limited on 28 April, 2010.

Loan from Sonali Bank (UK) Limited: Biman received a foreign currency (USD) loan from Sonali Bank (UK) Ltd. for Pre delivery Payment (PDP) to Boeing for purchase of two 777-300ER Aircrafts. Which already delivered at February and March of 2014 and the approximate price of those aircrafts are \$ 340 million. Biman received another loan from Sonali Bank (UK) Limited for purchase of 737-800ER aircrafts.

Loan from JP Morgan: Biman received a loan from JP Morgan for purchase of 1st and 2nd 777-300ER aircrafts.



Accounting and Reporting System of Airlines Industry

Loan from Standard Chartered Bank: Biman received a loan from Standard Chartered bank for payment of PDP loan of Eastern Bank Limited for 1st and 2nd aircrafts, and received another loan for purchase of 3rd and 4th aircrafts.

Loan from TD Bank: Biman received a loan from TD Bank for purchase of 3rd and 4th 777-3000ER aircrafts

Provision for gratuity and pension: Provision for gratuity is calculated on the basis of – “last basic X length of service X 2” for general employees under gratuity scheme. For cockpit crew calculation is made “last basic X length of service X 3”. Total number of employees under gratuity scheme as on June 2013 is 560. Provision for pension is calculated as per existing Government rules. Total number of employees under pension scheme as on 30th June 2013 is 2120.

4.2 Accounting Task Distributed/Classified to Sections

Accounting task are being maintained in Biman with the combination of manual and computerized system. The accounting software, which is being used in Biman, was developed by IT department (CMIS) of Biman.

Accounting and reporting procedure:

In line with standard airline practices, Biman’s all sales as well as revenue reports are prepared and controlled at station level and forwarded to head office revenue accounts of Finance Department for necessary checking, auditing and accounting functions through Journal Voucher (JV) in view of preparation of General Ledger balances as well as Trial balances, Profit & Loss A/c and Balance Sheets at the closing of the financial year. As mentioned earlier, revenue report includes all sales made through revenue documents e.g. paper/manual ticket or e-ticket either CRT (Computer reservation terminal) or BSP for Passenger carriage, Excess Baggage Ticket (EBT) for excess baggage carriage, Airway Bill (AWB) for Cargo carriage at the following points/levels of both foreign and domestic station:

- i. Airline Station ticketing counter
- ii. S PSA (Passenger Sales Agents) settlement Plan
- iii. GSA (General Sales Agents)
- iv. CSA (Cargo Sales Agents)



Accounting and Reporting System of Airlines Industry

- v. BSP (Billing Settlement Plan) agents
- vi. CASS (Cargo Accounts Settlement Systems) agents

All the counter sales are made on cash and credit basis. Sales through agents e.g. PSA, CSA, GSA, BSP Agents and CASS agents are made on weekly or fortnightly or monthly credit basis as the case may be as per agreement. Submission of sales report, payment of sales proceeds and other activities of agents are governed by the agreement signed between Biman and Agents.

Considering the volume of transaction reports are prepared on daily, weekly, fortnightly or monthly basis. All of those reports are prepared according to location base. Then the said reports are sent to head office at respective section of finance department for verification and journalizing. Considering the merits of transaction activities of the finance department are divided into eight (8) sections. Section-wise accounting task is stated below:

4.2.1 Revenue Division

Revenue division consists of three sections, i.e. Revenue General section, Revenue Interline section and revenue Lift section. The chief of revenue division is designated as Deputy General Manager and of each section is headed by manager.

Revenue General Section: Sales of passenger tickets are recorded as a deferred liability when the tickets are sold. Passenger revenue is generally recognized when the ticket is used or expires. Revenue from frequent flyer programs are recognized using the incremental cost basis or a deferred revenue model.

Revenue General Section deals with examining revenue reports and journalizing the transactions. Monthly basis revenue reports are sent to Revenue General Section from whole of the Biman network. Revenue reports include R-1 to R-10. (Detail list in Appendix-8)

Sale of passenger ticket (Revenue Report R-1) booked as unearned transportation revenue. There is also includes claim of other authority for arrival, departure at different airport and country. Collection may be evolved from other sources such as cargo, mail, excess baggage, ground handling, bar sale, engineering service, security money etc. Those are reported in the respective revenue report accordingly.



Accounting and Reporting System of Airlines Industry

After examining all the reports, personnel of this section prepare journal of all transaction of collection and send to the Central Accounts section. If any irregularity is found in the report, concerned personnel communicate with respective authority. After completion of accounting task audit coupon number and sector of passenger ticket are recovered in the computer system to protect fraud case.

Revenue Interline Section

- Revenue Interline deals with to ascertain the interline revenue by billing to other airline against carriage of OAL (Other Airlines) passenger, cargo, excess baggage and for the cost of various handling services rendered to other airline operating to and from specific airports of a country by the flag national airlines of that country.
- Billing of GPO is being made to Revenue Interline section against the carriage of postal mail on Biman flights over domestic and international sectors.
- Billing of credit card companies is being done by Revenue Internal section for tickets sold.
- This section deals in aiding of different other airlines invoices to ascertain the interline payable amounts against carriage of Biman passenger, cargo, excess baggage ticket, and handling service provided to Biman flight.

Revenue Accounting Manual (RAM) – a book designed by IATA where necessary rules, regulation are outlined for the preparation, dispatch, claiming settlement, auditing, acceptance and rejection of Interline participating/carrying airline bill and invoice for both ICH (IATA Clearing House) and Non-ICH members. Biman is a member of IATA. All receivable and payable invoice (passenger, cargo, mail, ground handling, miscellaneous) to and from different airlines are settled through IATA Clearing House (ICH) on weekly basis. Receivable and payable invoice, rejection, and acceptance are journalized in computerized accounting system using different source (SRC- 26, 27, 28, 29, 30, 31, 32, 36, 59, and 65).

After examining the input by different personnel, data are transferred to central ledger through network. Sample basis journals are stated below:



Accounting and Reporting System of Airlines Industry

<u>SRC NBR</u>	<u>Category</u>	<u>Head of Accounts</u>	<u>A/C</u>	<u>DR</u>	<u>CR</u>
SRC-26, 27, 28	Passenger	Airline Receivable	20504	XX	
		Transport Passenger	30100	XX	
		Excess Baggage	30700		XX

Revenue Lift Section: Passenger revenue are divided into three categories, for inland domestic (S-56), for SAARC country's flight regional (S-57), and for other world flight (S-58). Flight coupons by which passengers travelled in Biman are sent to this section. At the initial stage of accounting task flight coupons of other airlines are send to Revenue Interline section. Then earned revenue from Biman.s passenger flight coupon is calculated and sends to CMIS section for data punching in the Biman accounting software.

Accounting treatment for recognition of revenue is as below:

<u>Head of Accounts</u>	<u>A/C</u>	<u>DR</u>	<u>CR</u>
Unearned transportation revenue	11701	XX	
Earned revenue	30100		XX

4.2.2 Payrolls

Salary and concerned all other activities of Biman employees are performed in this section. The board of directors of Biman is the authority for determination of salary and allowances of Biman employees according to rank. On the basis of approved salary and allowances in board of directors, Payroll does work for preparation of salary statement. Attendance statement are sent to payroll section from the total network of Biman, where Biman employees exist, that contains employees rank, attendance, leave, absence, overtime hours etc.

Payroll section prepares salary statement based on that attendance sheet. Its need to mention that Biman authority provide loan such as Provident Fund loan, motor cycle loan, house building loan to its employees considering the length of service, rank etc.. Said disbursed loan are adjusted with salary of respective personnel. Payable amount as salary are determined after all adjustment. At the end payroll



Accounting and Reporting System of Airlines Industry

section made an advice to Cash and Banking section for payment. Payroll section prepares the following journal entry for preparation of salary:

<u>Head of Accounts</u>	<u>A/C</u>	<u>DR</u>	<u>CR</u>
Basic Salary		XX	
House Rent		XX	
Washing Allowance		XX	
Executive Allowance		XX	
Salary Payable			XX

4.2.3 Cash and Banking

It preserves all banking transactions of twenty six station of Biman network and also journalizes those banking transactions. All of the stations of Biman prepare a report regarding banking transaction on daily, weekly, fortnightly or monthly basis. This is known as R-9 report. A copy of R-9 report and supporting documents and monthly bank reconciliation statement are sent to Cash and Banking section at the end of month. Said reports are audited by the employee of Biman and then journal entries are passed to attach with central ledger. Cash and Banking section responsible for fund management of total network of Biman. All of the stations of Biman network regularly inform liquidity position to Cash and Banking. Then this section instructs the respective station for fund transfer and excess fund are preserved.

4.2.4 Disbursement Section

The expenditure, which is not related with Biman,s official and staff, are maintained, controlled, and recorded in the accounting software in disbursement section. This kind of expenditure reported named as D-15. To carry on expenditure Biman maintain a bank account in all location. This bank account is called imprest account. Money is transferred from collection account to imprest account to carry on expenditure.

According to financial policy of Biman, expenditure takes place after getting approval from proper authority.



Accounting and Reporting System of Airlines Industry

Table 31: Head of Expenses with proper authority and A/C Code of Biman

A/C Code	Head of Expenses	Certification of Expense	Approval Authority
431	Landing charges	Station manager/ Operating Officer on the basis of local tariff and regulation	1. Concerned Station head in foreign Station. 2. DGM route and fuel for all domestic station and for non-schedule flight-Manager route.
432	Parking	Station Manager/ Operation Officer on the basis of local tariff and regulation	1. Concerned Station Head 2. DGM route and fuel for all domestic station and for non-schedule flight-Manager route.
441	Aircraft Fuel	Station Manager/ Operation Officer/ Biman Technical handling agent will sign delivery voucher as to the quantity of fuel supplied. Fuel bill will be certified by Manager Route on the basis of agreement.	Director Flight Operation

Source: Biman

As an example payment procedure and journal for Landing, Parking, RNFC charges bill are described below:-

- a) On receipt of the bill from Asstt. Manager/ Accounts Officer it's to be entered into the control register by the dealing staff.
- b) Calculation to be checked and printout need to attach with the bill.
- c) Whether competent authority has certified the bill.
- d) Aircraft wise statement to be prepared showing landing, parking and RNFC amount separately.



Accounting and Reporting System of Airlines Industry

- e) Aircraft registration no of the bill to be checked.
- f) Pay voucher to be prepared for approval by Accounts Officer/ Asstt. Manager/ Manager.
- g) Bill to be entered in the payment register of the party.
- h) After the approval of the Accounts Officer/Asstt. Manager/ Manager the approval to be stamped as “PAYMENT REALESED” and to be entered in the dispatched register foe sending the same to Cash and Banking section or to send payment authority to respective station.
- i) Copy of pay voucher and other related papers to be kept in the respective file (Station wise).
- j) Control register to be updated as to the release of the payment.

Journal of the bill:

<u>Expense Title</u>	<u>Aircraft</u>	<u>Coding</u>
Landing	DC-10-30	2-15-Station-51431
Parking	F-28	6-15-Station-52432
RNFC	DC-10-30	2-15-Station-51433

On the other hand, Station D-15 reports are sent to Disbursement section on monthly basis. The Station Accountant/ Manager Accounts at the station will be responsible for maintaining books and records relating to accounts and prepare monthly and other periodical statements as prescribed and as required by the Finance Directorate from time to time. If approval authority is not available, then it needs to take initiative for approval from head office. Before recording the data of D-15 report in the accounting software, Disbursement sections take the following necessary steps:-

- To ensure preparation of D-15 are in order.
- To ensure that all the pay vouchers have been coded correctly.
- To ensure that payment has been made in accordance with financial rule.



Accounting and Reporting System of Airlines Industry

- To raise objection for the payment made beyond the scope of financial rules or any other reason not acceptable for good for payment.
- To incorporate the transaction, data are transferred to central accounts ledger.

4.2.5 Assets

Fixed assets and related information preserving and accounting task are done by this section. To acquire an asset, each unit/ section of Biman presents their justification in front of concern management for administrative approval. Asset section provides capital sanction, after verifying administrative approval and budget clearance. Then files are sent to Central Purchase committee (CPC) for financial approval. There are three purchase committees for acquisition of fixed assets. Those are CPC-1, CPC-2 and CPC-3. Considering the value of assets, assets acquisition files are sent to different purchase committee for financial approval. After receiving financial approval of CPC, Assets section determines Account code and takes initiatives to acquire, considering the characteristics of assets.

Property, plant and equipment is recorded at cost and depreciated over the useful life or lease term of the asset. Depreciation is expensed using the straight line method, with aircraft having an estimated useful life of between 20 to 30 years. Biman follows the straight line depreciation method. Depreciation is charged as per item wise prescribed rate. Biman takes write of action for assets, which is unserviceable or beyond economic repair. A committee is arranged to write off an assets.

4.2.6 Store Accounting

It is needed to preserve spare parts of aircraft and office stationary as store item to operate an Airline. Store Items are classified according to their application and marked with number in Accounts and Store department. Biman collect store item with advance payment and accrual basis. Journal for advance payment are given below:

Store in transit A/c	DR
Imprest A/c	CR
(Advance payment for store item)	



Accounting and Reporting System of Airlines Industry

Store department issues received voucher after receiving store items. Received voucher contains detail information of the received store item. One of the copies of received voucher is sent to Store Accounting section for journalization.

Respective store item A/c	DR
Store in transit A/c	CR
(Received store item)	

Issue voucher is prepared after releasing store item. A copy of issue voucher is sent to store Accounting section. Store Accounting section record relevant information of issue voucher in the Biman's accounting software. All of those financial data are sent to mainframe of Biman to attach with accounting file through network.

4.2.7 Central Accounts

It is also known as General Accounts. Financial data are inputted in the Biman's Accounting software from all of the respective section of Finance department. But financial data of Revenue General Section and Cash and Banking section are inputted by Central Accounts section. Inputted data are preserved in the mainframe according to financial year. At the end of financial year accounting software provide ledger, trial balance, profit and loss A/c, and balance sheet on the basis of inputted financial data. Ledger s are sent to related Accounts section for reconciliation. After the reconciliation, schedule of assets and liabilities are sent to Central Accounts section and rectification journal are passed if necessary.

Then accounts of BFCC and BPC are consolidated with Airlines accounts in this section. And total company's accounts are finalized in this way. Finally two audit firms, enlisted in ICAB are appointed for audit the accounts. After the completion of audit, an audit report and audited financial accounts are submitted in favor of Biman's board of Directors. Biman board of directors approved that accounts in the board meeting after discussion.

The financial statements have been prepared in accordance with the Bangladesh Financial Reporting Standards (BFRS). The elements in the Financial Statements have been measured under historical cost convention. Apart from General ledger accounting system, airline follows more specific and detail system in reporting revenue earnings.



Accounting and Reporting System of Airlines Industry

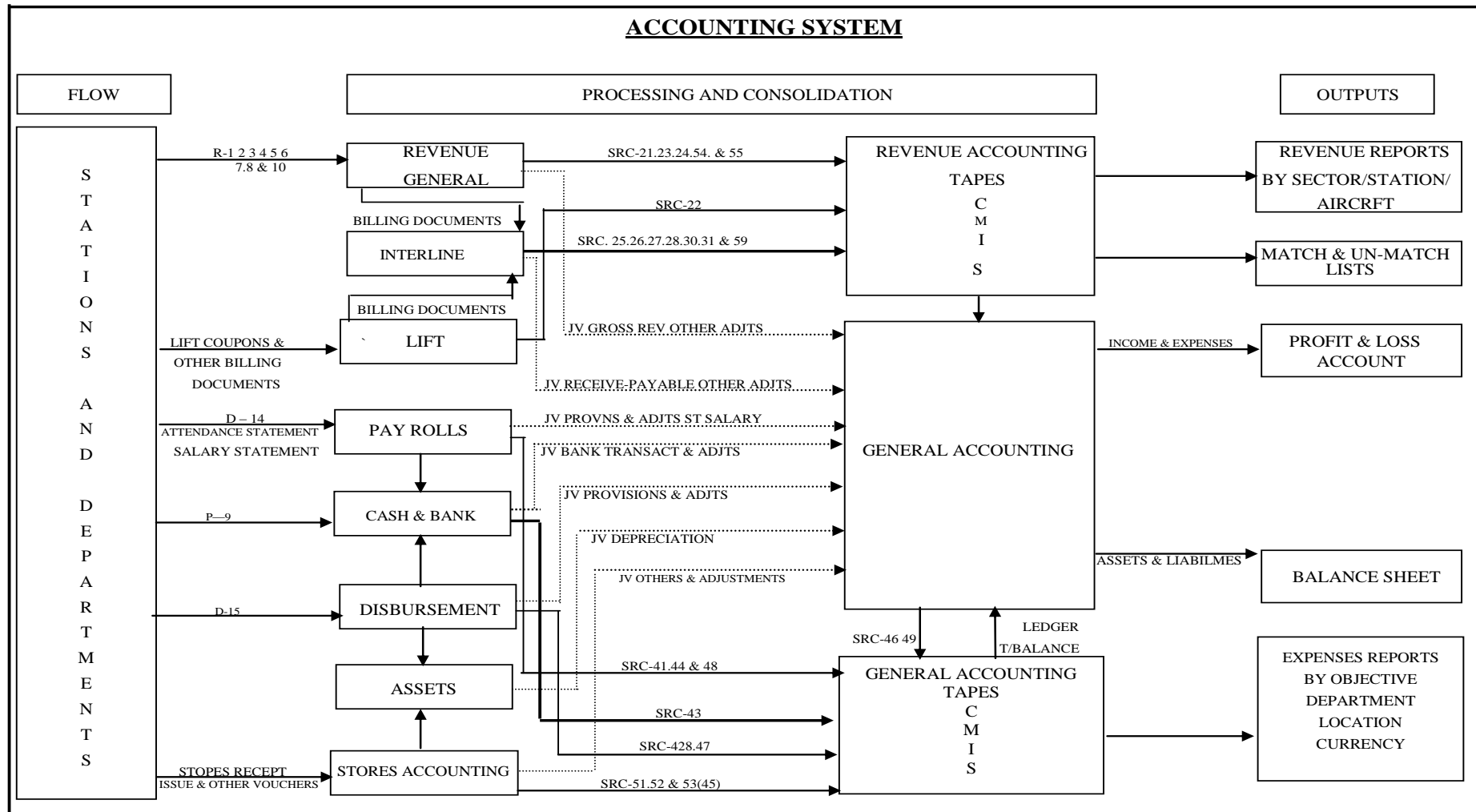
4.3 Biman Bangladesh Airlines Limited's Accounting Flow Chart

Accounting Flow Chart shows that, how a company executes its accounting procedures that means, from recording of transaction to financial statement of the company. Biman also has their own flow chart for their accounting system. It shows the whole accounting system at a glance and helps to do the proper task of accounting in proper way for every accounts section of Biman (Biman has eight sections). So the whole accounting procedures are running by following the Accounting Flow Chart of Biman. Now Biman is using computer based accounting system.

The following figure is showing the Accounting System of Biman Bangladesh Airlines:



Accounting and Reporting System of Airlines Industry



N.B :
 JV-
 SRC-

Figure 21: Accounting Flow Chart of Biman

Accounting and Reporting System of Airlines Industry

Some Opinions about Bangladesh Accounting Standards (BAS) followed by Biman

Base on the Fiscal Year 2011-12:

- Bangladesh Accounting Standards-12 (BAS-12) requires that an entity should recognize its income tax expenses, deferred tax assets and deferred tax liabilities. But the company has not recognized deferred tax assets and deferred tax liabilities as per the provisions of BAS-12. Moreover, no provision for income tax expense (minimum tax as per Section 16CCC of the Income Tax Ordinance, 1984) has been made for the current year (2011-12) on the ground that there is a dispute with NBR regarding minimum tax liability and there is a stay order from the High Court Division of Supreme Court by which NBR is restrained from charging minimum tax as per Section 16CCC of ITO 1984 to Biman Bangladesh Airlines Limited.
- Exchange rate fluctuation loss on account of PDP loan from Eastern bank Limited and loan from JP Morgan as on 30 June, 2012 has been capitalized and included in property, plant and equipment as addition during the year instead of recognizing such loss in the statement of Comprehensive Income as per Para-28 Of BAS-21. Again, the company has not recognized, as per Para-28 of BAS-21, the foreign exchange loss on account of payable (involved in USD for landing and parking) to the Director General Civil Aviation (DGCA).
- The Company has not made accruals for Fuel and Oil in the case of Riyadh GSA station.
- The company operates a defined benefit plan for gratuity scheme and makes provision as per Company policy. But no actuarial valuation, as per BAS 19, has been done, and hence it is not possible to confirm that the year-end provision agrees with, or approximates to, the provision that would have been required by actuarial valuation.

Again, the company operates a defined benefit plan for pension scheme and makes provision as per Company policy. But no actuarial valuation, as per



Accounting and Reporting System of Airlines Industry

BAS-19, has been done for determining the provision required for pension liability as on 30 June 2012, though the actuarial valuation was performed up to 30 June 2011. Based on that actuarial valuation report, the company has made provision in the current year for the shortfall up to the end of previous year, but no provision has been recognized for additional pension expense accruing in the current year.

- The financial statement has been reported Tk. 5,556,167,338 as intangible assets as on June 30, 2012. The same amount has been carried forward since July 23, 2007. Bangladesh Accounting Standards (BAS-38) requires that an entity should test its intangible assets with an indefinite useful life for impairment, at least annually, by comparing its recoverable amount with its carrying amount. But no such impairment test has been carried out by the Company for its intangible assets during the period under audit.
- The company has procured two aircrafts on lease (finance lease) from Balaka Aircraft Leasing LLC. But the company has recognized and measured these assets in a manner as if these have been purchased by the Company by taking loan from JP Morgan. As such the financial statements of the Company show these assets as if the company is the legal owner of the same and does not recognize lease obligations (disclosing total minimum lease payment at the end of the current year, and their present value, for each of the following periods: not later than one year, later than one year but not later than five years and later than later than five years). This is a non-compliance of the provisions of BAS-17.
- In the absence of item wise list of provision for store obsolescence, the adequacy of provision of Tk. 730,551,095 could not be confirmed. The same amount has been carried forward since July 23, 2007.
- The Company has disclosed to the financial statements, the year-end outstanding balances with their related parties, namely, Government of Bangladesh, Padma Oil Company Limited, Meghna Oil Company, Civil Aviation Authority and Sadharan Bima Corporation. But no disclosure has



Accounting and Reporting System of Airlines Industry

been made about the amount of transactions, details of any guaranties given, etc. this is a non-compliance of the disclosure requirements of BAS-24.

- The Company increased its paid up capital from Tk.700 to Tk.20, 824,096,400 in the year 2010-2011. In this respect the requirement of Section 151 of the Companies Act 1994 for submission of return of allotment to RJSC has not been complied with.

Base on the Fiscal Year 2012-13:

- The Company has been incurring a significant amount of net loss over the year. Moreover quick ratio, 0.92:1.00, of the Company as on 30 June 2013 is unfavorable which indicates the Company's potential inability to pay the current liabilities in near future. Accounts payable& accruals of the Company have increased by 1.21 times from the last year which is indication of the Company's increasing liquidity problem. For this, the Government of Bangladesh is giving further liquidity support and the operational efficiency of the Company is significantly enhanced.
- Depreciation policy of the Company has to charged full year's depreciation if the assets are purchased during the first half of the year and to charge a half year's depreciation if the assets are purchased during the second half of the year. This is not in line with IAS-16 where it is mentioned that "An entity is required to being depreciating an item of Property, Plant and Equipment when it is available for use".
- Foreign exchange rate fluctuation gain of BDT 799,056,054.00 from the related parties as on 30 June 2013 has been capitalized and included in Property. Plant and Equipment as adjustment (deduction) instead of recognition such gain in the Statement of the comprehensive Income. Previous year's (2011-12) foreign exchange loss of BDT 2,337,284,460.00 also capitalized and include in the statement of comprehensive income. This is a non-compliance of BAS-21 which requires that the said exchange rate fluctuation gain/loss shall be recognized in the statement of the comprehensive income.
- Unlike the other aircrafts of the Company, no residual value has been measured for the two newly procured (Boeing 777-300ER) aircrafts and



Accounting and Reporting System of Airlines Industry

depreciation has been charged at the rate of 4% per annum on the entire cost of the new aircrafts. As per IAS-16 "An entity is required to measure the residual value of an item of property, plant and equipment". The Company estimated residual value of all the other aircrafts at 20%.

- Intangible Assets of the Company as on 30 June 2013, BDT 5,556,167,338.00 has been carried forward since 23 July 2007. Bangladesh Accounting Standard (BAS-36) requires that an entity should test its intangible assets with indefinite useful life for impairment, at least annually, by comparing its recoverable amount with its carrying amount. But no such impairment test has been carried out by the Company for its intangible assets during the period.

Based on the Fiscal Year 2013-14:

- BBA has been incurring significant amount of losses over the years. On 30th June 2014, the quick ratio (0.47:1) is also unfavorable. Account payables & accruals of the company have been increased by 1.21 times from last byear indicates company's liquidity problem. Unless the Bangladesh Govt. gives further liquidity support and operational efficiency are increased at uppermost capacity, the company may embark going concern problem in foreseeable future.
- In the financial statements, an amount BDT 40,208,500 being 51% current year profit from subsidiary Abacus Bangladesh NMC Ltd. Has been recognized following Equity method. Such a huge amount has been incorporated from draft financial statement.
- Cargo operating revenue amounting to BDT 13,419,570 has been recognized as revenue at account through adjusting journals at the end of the year which aroused due to reconciliation. Management was unable to provide source documents for subject revenue.
- No actuarial valuation has been done for determining the provision required for pension, liability as on 30 June, 2014, though the actuarial valuation was performed up to 30 June, 2011. Based on that actuarial valuation report BBA has made provision in the current year.



Accounting and Reporting System of Airlines Industry

- A frequent restatement of last year's figures has been made for by correction journals, adjusting journals and reporting delay to the central accounts for updating financial statement. A large number of mistakes occurred because of failure to determine accrual basis of accounts

The financial statements of Biman Bangladesh Airlines Ltd. present fairly, in all material respects, the financial position of Biman Bangladesh Airlines Limited as at June 30, of every year and its financial performance and its cash flows for the year then ended in accordance with Bangladesh Financial Reporting Standards (BFRS) and comply with the applicable sections of the Companies Act, 1994, and other applicable laws and regulations.

4.4 Financial and Operational Performance Analysis

The following discussion provides an overview of Biman's financial and operational results and performance and reason for material changes for the last few Fiscal years ended June 30. The selected financial data shown in this analysis derived from the Audited Financial Statements for the fiscal years ended June 30, 2013, 2012, 2011, 2010, 2009, 2008 etc. of Biman Bangladesh Airlines, Biman Flight Catering Center and Biman Poultry Complex.

All financials are expressed in BDT (Tk.) Lakh or Crore. In some figures, financials are expressed in USD (\$).

Financial Performance

The following table is presenting the historical financial results of Biman which contains the financial data from the FY2000-01 to 2012-13. During the FY 2013-14, Biman earned total revenue of BDT of 3,760.12 crore including revenue of BDT 501.60 crore from Hajj, but Biman incurred a financial loss of BDT 198.81 crore in FY2013-14 which was 30.40% less than that of FY 2012-13. Non-operating Revenue & other Comprehensive income was BDT 81,189,824. So, from all these financial information, we can understand the real financial position of the firm.



Accounting and Reporting System of Airlines Industry

Table 32: Historical Financial Performance (2000-01 to 2012-13)

Financial performance of Biman Bangladesh Airlines Limited during the period from 2000-2001 to 2012-2013 is as follows: *Taka in Crore*

Fiscal Year (FY)	Revenue Income	Revenue Expenditure	Net Profit/(loss)
2000-2001	1,735.50	1,828.56	(93.06)
2001-2002	1,858.83	1,932.55	(73.73)
2002-2003	1,918.60	1,962.89	(44.28)
2003-2004	2,213.63	2,179.46	34.17
2004-2005	2,453.79	2,645.45	(191.66)
2005-2006	2,653.73	3,108.44	(454.71)
2006-2007	2,463.67	2,735.84	(272.10)
2007-2008	2,979.43	2,973.52	5.91
2008-2009	3,039.70	3,024.12	15.28
2009-2010	2,948.03	2,994.05	(46.02)
2010-2011	3,343.93	3,568.09	(224.16)
2011-2012	3,820.26	4,414.47	(594.21)
2012-2013	3,951.84	4,143.42	(191.58)

Source: Biman

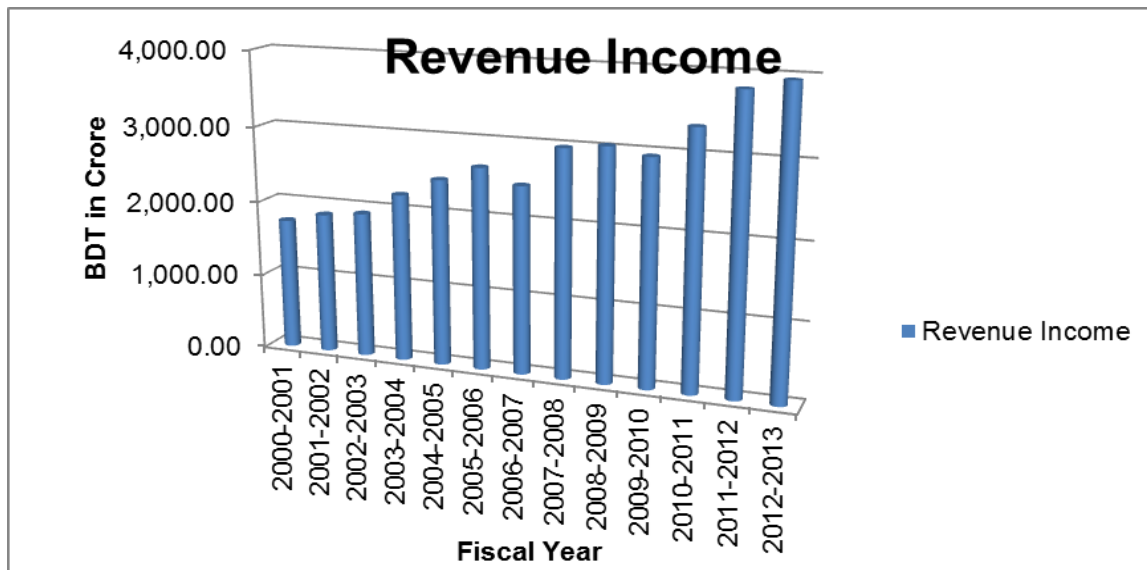


Figure 22: Comparative Revenue Income of Biman

The figure of Revenue Income is showing that revenues are increasing gradually and the figure of Revenue Expenditure also showing the increasing tendency. But the result of the comparison of Revenue Income and Revenue Expenditure of Biman is showing that the expenditure is higher than the income figure in the maximum year.



Accounting and Reporting System of Airlines Industry

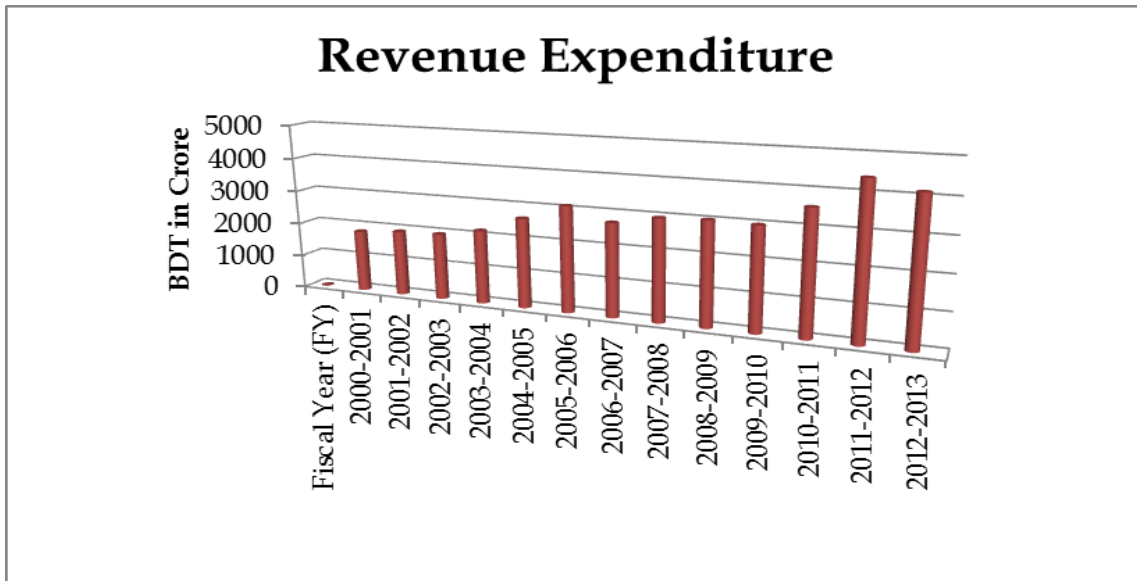


Figure 23: Comparative Revenue Expenditure of Biman

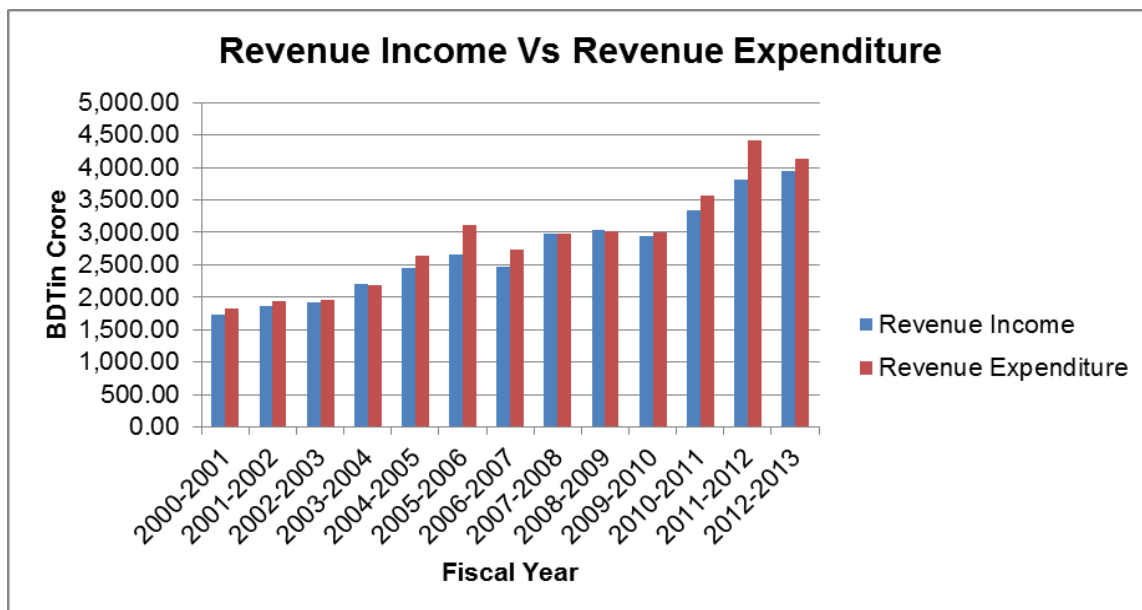


Figure 24: Comparison between Revenue Income and Revenue Expenditure

The figure of Revenue Income vs. Revenue Expenditure is display that the revenue expenditure is higher than the revenue income except the FY 2003-04, 2007-8 and 2008-09. That means, almost every year Biman is making Loss. In FY2012-13, the loss of BDT 191.59 crore is 67.76 % less than BDT 594.21 crore losses incurred in 2011-12. This substantial decrease of loss is mainly due to operation of fuel efficient aircraft and reduction of flights with old aircraft. Fuel cost reduced by BDT 214.44 crore out of total cost saving of BDT 330.44 crore. So the operating revenue reduced



Accounting and Reporting System of Airlines Industry

by BDT 225.25 crore but total revenue earnings increased by BDT 159.45 crore due to increase of 'Hajj Operation'2013' revenue by BDT 384.70 crore.

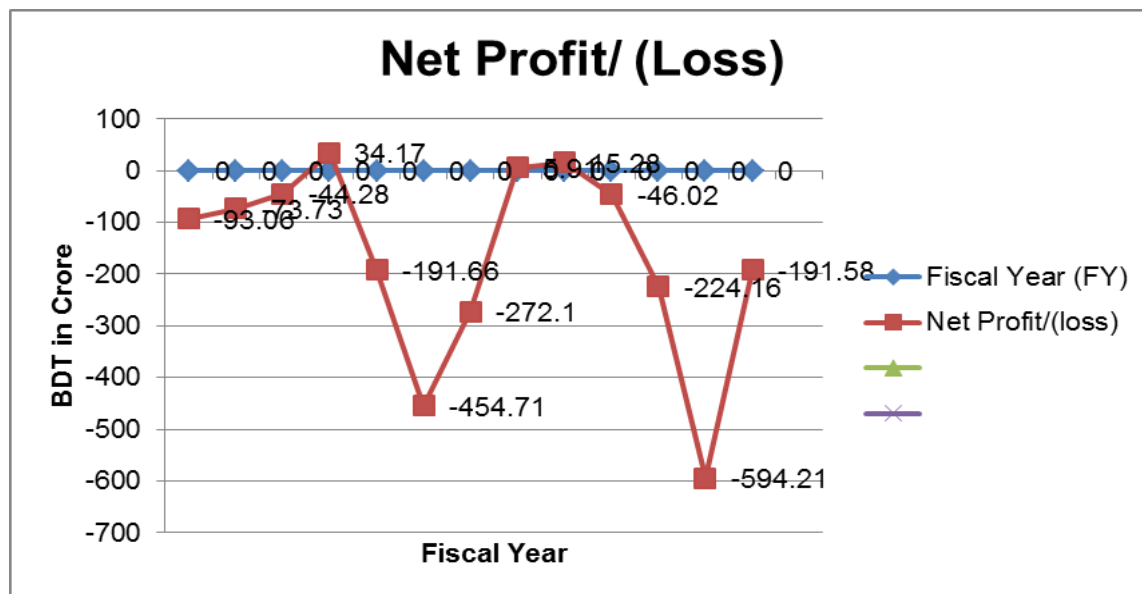


Figure 25: Historical Financial Performance of Biman [Net Profit/(Loss)].

However, in spite of positive year-on-year growth in revenue, Biman's profitability deteriorated compared to last year (FY2010-11) due to number of reason – rising oil prices in global market is the most important reason. In 2010, the yearly basket price of oil increased by almost 52%. Fuel cost, which is uncontrollable in nature, is almost 48.50% of airlines operating cost. Due to fuel price rise, Biman had to spend additional BDT 520.48 crore only on this head during the FY 2011-12. This excess expenditure was the main contributing factor for the loss BDT 605.95 crore during 2011-12. The other reasons for incurring such losses are provisioning for pension amounting to BDT 79.47 crore on the basis of actuarial valuation up to 30 June 2011, which was BDT 72.77 crore higher than previous year (2010).

Total Operating Revenue increased marginally in FY2007-08 and FY2008-09. Operating Revenue declined in FY2009-10 from FY2008-09. After that year Biman's total operating revenue increased gradually. Non-Scheduled Flights (VVIP Flights) are contributing a number of revenue every year from the Government. Other Operating Revenues, Comprising mainly of Ground and Cargo Handling revenues, Engineering services to other airlines, Interest earnings, Earning from BATC etc. also a big contributor of Total operating Revenue.



Accounting and Reporting System of Airlines Industry

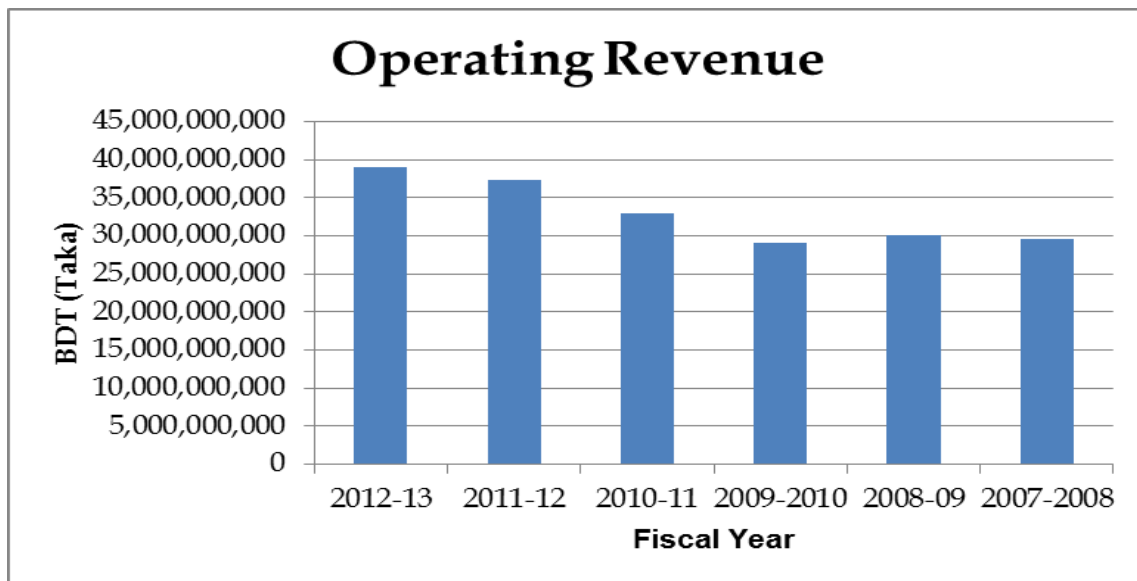


Figure 26: Comparative Operating Revenue of Biman

Total Operating Expenses are also increasing year by year. During the period, from 2007-08 to 2009-10, Operating Expenses were almost constant or marginal, increased slowly. But the operating expenses are as usual higher than operating income except the FY 2007-08 and 2008-09. During the FY2011-12, Total Operating

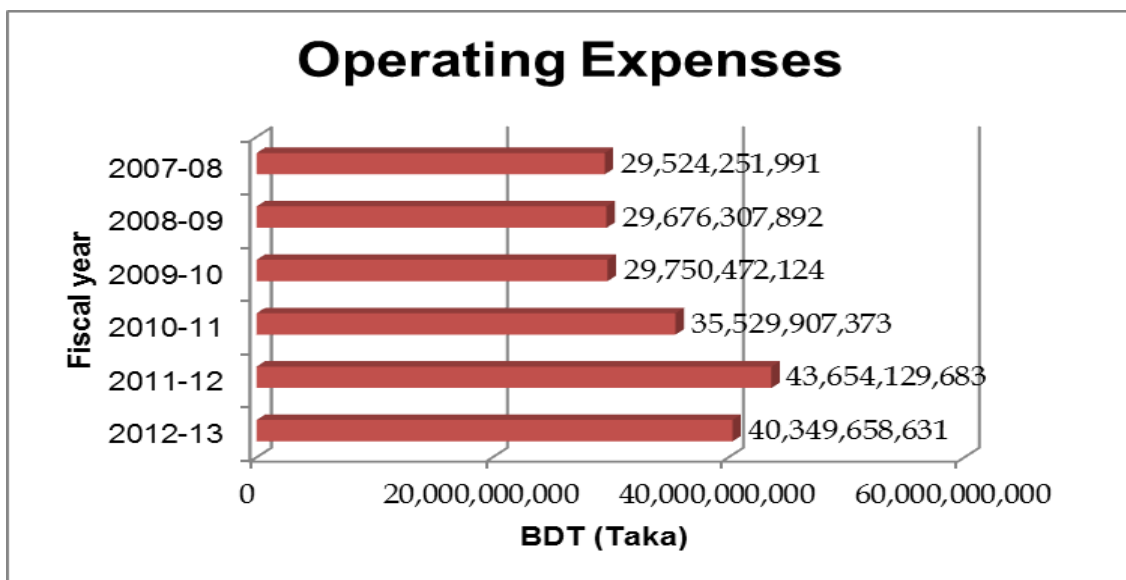


Figure 27: Comparative Operating Expenses of Biman

Expenses were too much higher than Operating Income. For this, the Operating Losses of that year was also so high. Operating Losses have progressively increased over the last three years.



Accounting and Reporting System of Airlines Industry

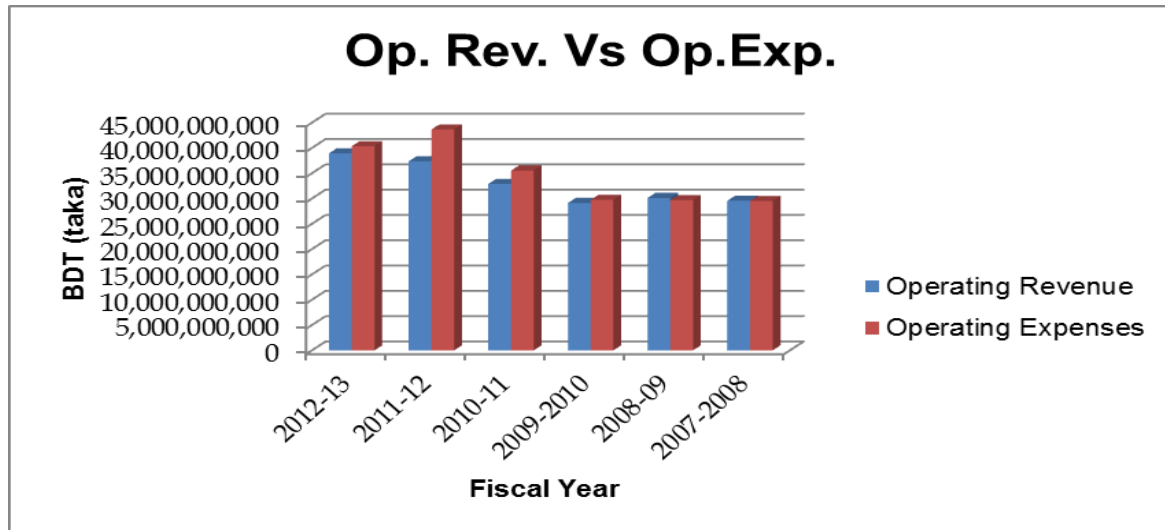


Figure 28: Comparison between Operating Revenue and Expense

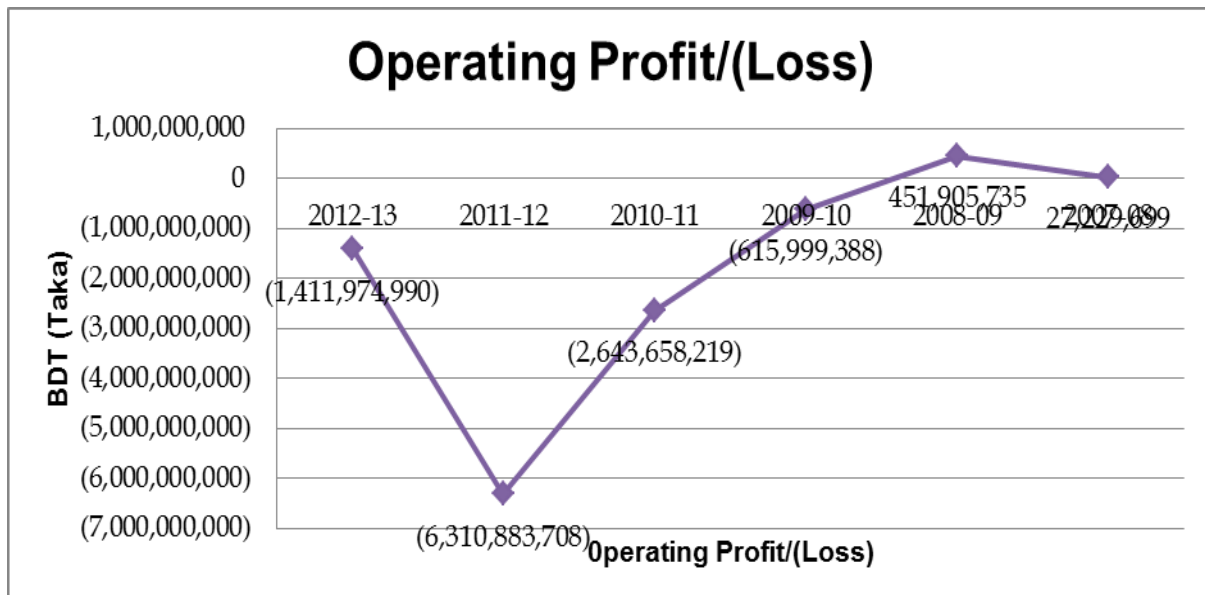


Figure 29: Comparative Operating Profit/(Loss) of Biman

Passenger Revenue:

During the year 2010-11, the airlines earned revenue BDT 3,343.83 crore which is 13.43% more than that of 2009-10 and the airline also recorded an increase in the number of passengers carried from 14, 29,489 in 2009-10 to 17, 43,251 in the 2010-11. Despite all the recession, capacity constraint and schedule disruption Biman faced during the year 2011-12 under review, the airlines total revenue BDT 3,789.51 crore which is 13.33% more than that of 2010-11. The airline also registered an increase in the number of passenger carried from 17, 43,251 in 2010-11 to 17,



Accounting and Reporting System of Airlines Industry

73,467 in the 2011-12. And during the year 2012-13, the airlines total revenue was BDT 3,951.84 Crore which was 3.44% more than that of 2011-12. The airline listed a decrease in the number of passenger carriage from 17, 73,467 in 2011-12 to 15, 72,708 in FY 2012-13, 11.32% decrease compared to last year.

The loss of Tk. 191.59 crore incurred in 2012-13 is 67.76% less than Tk. 594.21 Crore loss incurred in 2011-12. This substantial decrease of loss is mainly due to operation of fuel efficient aircraft and reduction of flights with old aircraft like DC-10-30. Fuel cost reduced by Tk. 214.44 crore out of total cost saving of Tk. 330.44 Crore. Therefore, the operating revenue reduced by Tk. 225.25 crore but total revenue earnings increased by Tk. 159.45 crore due to increase of Hajj Operation'2013, revenue by Tk. 384.70 crore.

Despite the schedule disruption and political turmoil which Biman faced during the year under review, the airlines earned revenue of BDT 3,760.12 crore, which was 4.85% lower than that of 2012-13. The airline registered a slight decrease in the number of passenger carriage from 15, 72,708 in 2012-13 to 15, 70,903 in FY 2013-14, a drop of 0.11% from the previous financial year.

Cargo, Mail and Excess Baggage Revenue:

Cargo, Mail and Excess Baggage Revenue increased 4.52% from BDT 277.02 crore to BDT 289.54 crore in FY 2010-11 and in FY 2011-12; it decreased 1.76% by BDT 5.10 crore from previous year. But in FY 2012-13, it increased 12.36% by BDT 35.16 crore from previous FY 2011-12. Through better yield management Revenue earning from Cargo increased by BDT 37.93 crore during the FY 2013-14 compared to the previous financial year, though Biman carried 1.49% less cargo than that of FY2012-13. Biman carried 32, 936 tons of cargo during the period of 2013-14.

Table 33: Revenue from Cargo, Mail and Excess Baggage

Year	BDT (Tk.) in crore	% of changes
2012-13	319.6	12.36%
2011-12	284.44	(1.76%)
2010-11	289.54	4.52%
2009-10	277.02	-

Source: Biman



Accounting and Reporting System of Airlines Industry

So, the FY 2012-13 was the good year for Biman. Revenue from cargo, mail and excess baggage has increased tremendously due to increased frequency of the foreign scheduled and non-scheduled carriers to and from Bangladesh. In FY 2010-11, 2011-12 and 2012-13 represent 7.78%, 7.21% and 12.39% of Company's total revenue respectively from ground handling business from airport and cargo. So, the revenue from cargo, mail and excess baggage is another revenue adding section of Biman.

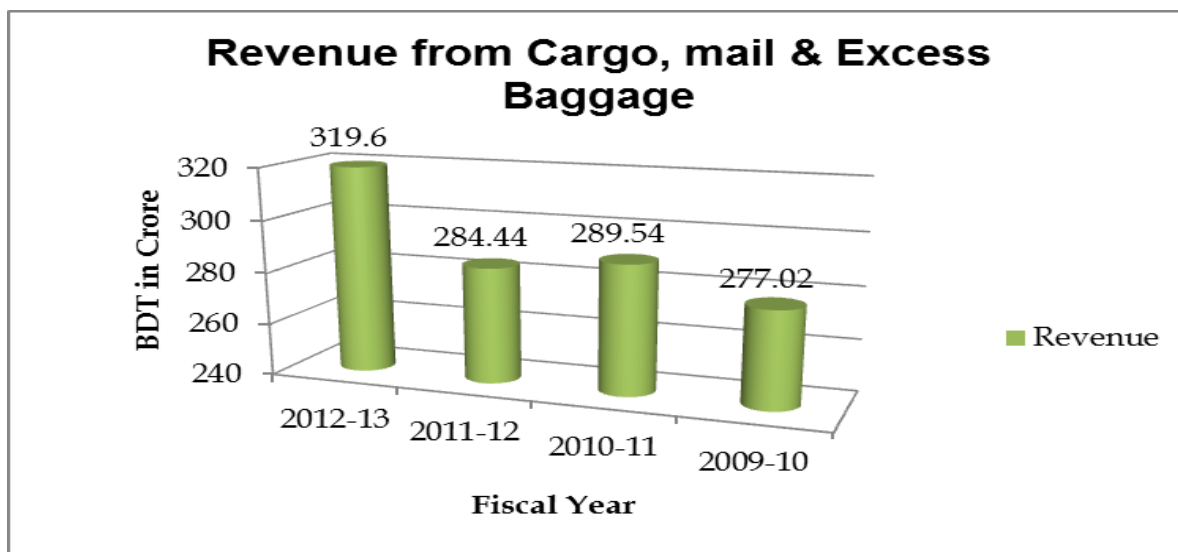


Figure 30: Comparative revenue from Cargo, Mail and Excess Baggage

Performance of Hajj operation:

Biman is honored to have the opportunity to serve the Hajj pilgrims. During the financial year 2008-09, Biman has earned total revenue of Tk. 3039.70 crore including revenue of Tk. 277.12 crore from Hajj Operation and this revenue is 9.12% of total revenue of Biman. In the financial year 2009-10, Biman has earned total revenue of Tk. 2948.02 crore including revenue of Tk. 290.17 crore and this revenue is 9.48% of total revenue. During the financial year 2010-11, Biman has earned total revenue of Tk. 3,343.94 crore including revenue of Tk. 429.13 crore from Hajj Operation and this revenue is 12.83% of total revenue. During the financial year 2011-12, Biman has earned total revenue of Tk. 3820.36 crore including revenue of Tk. 282.07 crore from Hajj Operation and this revenue is 7.38% of total revenue. During the financial year 2012-13, Biman has earned total revenue of Tk. 3951.84 crore including revenue of Tk. 666.77 crore from Hajj Operation and this revenue is



Accounting and Reporting System of Airlines Industry

17% of total revenue of Biman. The loss of Tk 191.59 crore incurred in FY2012-13 is 67.76% less than in FY2011-12 because total revenue earnings increased due to increase Hajj Operationn'2013.

The contribution of percentage of total revenue from Hajj Operation is gradually increasing year by year except the financial year 2011-12. So Hajj Operation is one of the principal sources of revenue of Biman.

Table 34: Income from Hajj Operation of Biman

Income from Hajj Operation of last five years (BDT in Crore)			
Year	Revenue from Hajj Operation	Total Revenue	% of Total Revenue
2012-13	666.77	3951.84	17%
2011-12	282.07	3820.36	7.38%
2010-11	429.13	3343.94	12.83%
2009-10	290.17	2948.02	9.84%
2008-09	277.12	3039.7	9.12%

Source: Biman

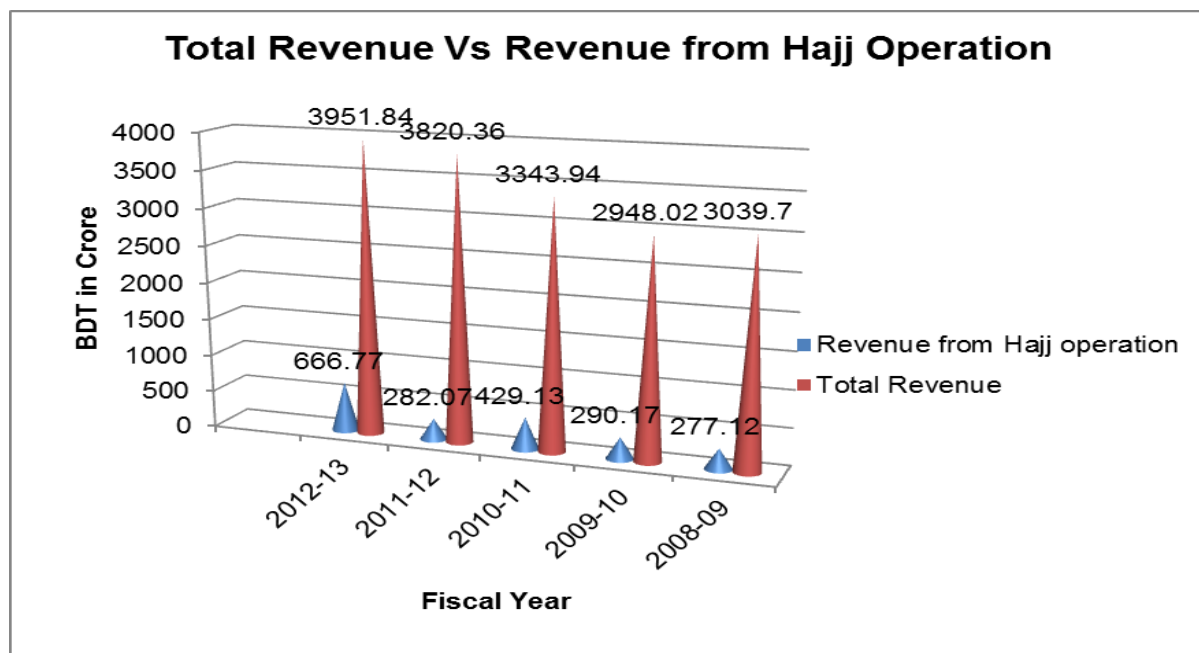


Figure 31: Comparison between Total revenue and Total Revenue from Hajj operation of Biman



Accounting and Reporting System of Airlines Industry

Fiscal year 2012-13 was the best year for revenue from hajj operations. It was 17%, showing in the figure. Hajj operations contributed 666.77 crore to the total revenue of this year. During the FY 2013-14, Biman earned revenue of BDT 501.60 crore from Hajj operation.

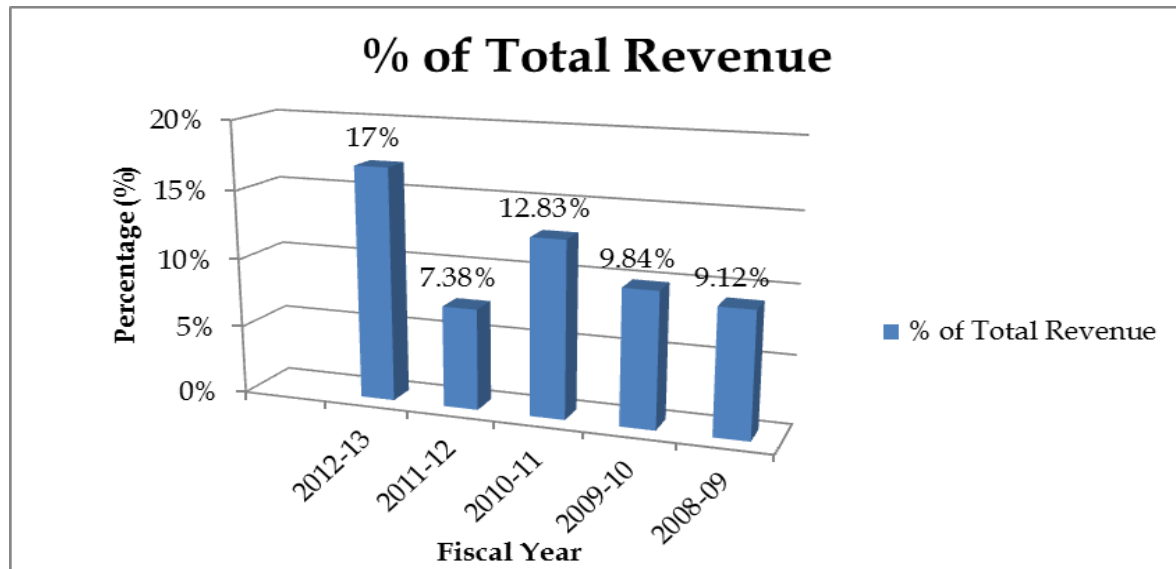


Figure 32: % of Revenue from Hajj Operations of Total Revenue

Airline Market Performance:

Although the number of passenger and amount of cargo carriage during 2000-2001 to 2011-2012 increased gradually, however, due to gradual hike of aviation fuel price and existence of fuel guzzling old aircraft in the fleet, increase of maintenance cost for the old fleet as well as recurrent increase of all other price factors during that period contributed higher overall expenditures compared to revenue and as a result Biman had to suffer significant amount of loss during 2000-2001 to 2012-2013 period except the financial year of 2003-04, 2007-08 and 2008-09.

Fuel expense is the major expenditure of any airlines like Biman also. In figure 35, showing the portion of fuel expenses and comparing this portion with total expenses. In FY2005-2006, fuel expenses were under 40% of total expenses, then gradually increasing the fuel expenses year by year. Biman usually buy fuel for aircrafts from foreign oil company and must pay the bill as early as possible from its earnings. If oil price is rise in international market, then airlines expenditure also is high. So the total expenses of any airlines like Biman directly related with the fuel price or expenses of



Accounting and Reporting System of Airlines Industry

aircraft. Airlines profits also depend on the fuel price. In Biman, high price of fuel is the main cause of its loss position. In the FY2014-15, Biman is making profit, because of low price of fuel. Fuel price is low in international market. So the squat fuel expenses are favorable for making profit in Biman.

The following table and figures are expressing and showing the percentage and portion of fuel costs over total costs of Biman.

Table 35: Biman's Fuel Expenses

Fueling Expenses for 2005-06 to 2012-13			
(Taka in Crore)			
Year	Fuel Expenses	Total Expenses	% of total expenses
2005-06	1233.98	3108.44	39.70%
2006-07	1133.24	2735.84	41.42%
2007-08	1413.15	2973.51	46.73%
2008-09	1346.71	3024.13	45.29%
2009-10	1276.36	3023.76	42.21%
2010-11	1580.17	3568.095	44.29%
2011-12	2108.00	4414.48	47.75%
2012-13	93.56	184143.42	45.70%

Source: Biman

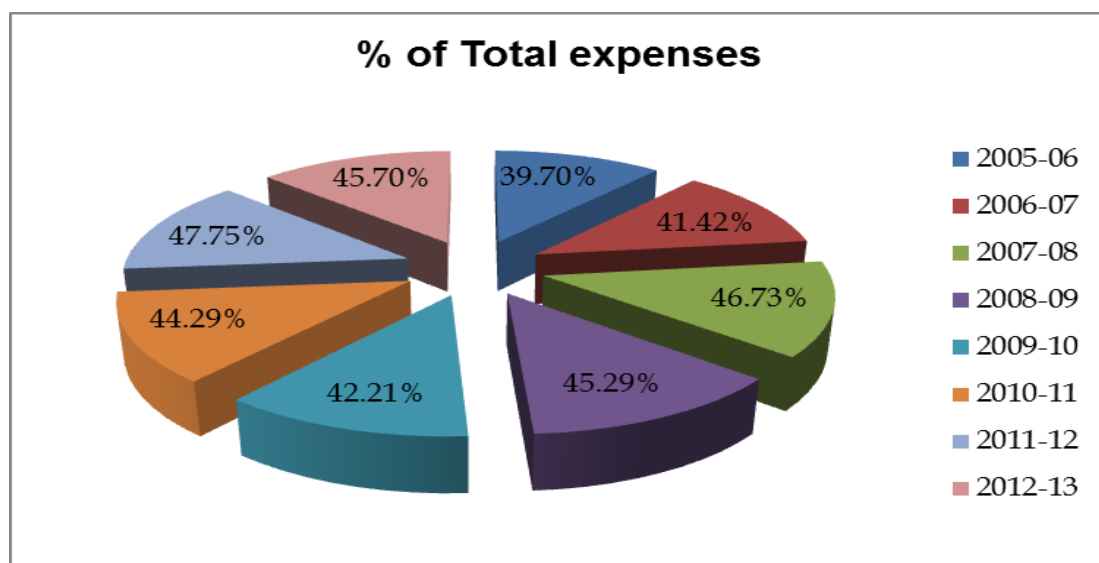


Figure 33: % of Fuel Expenses of Total Expenses



Accounting and Reporting System of Airlines Industry

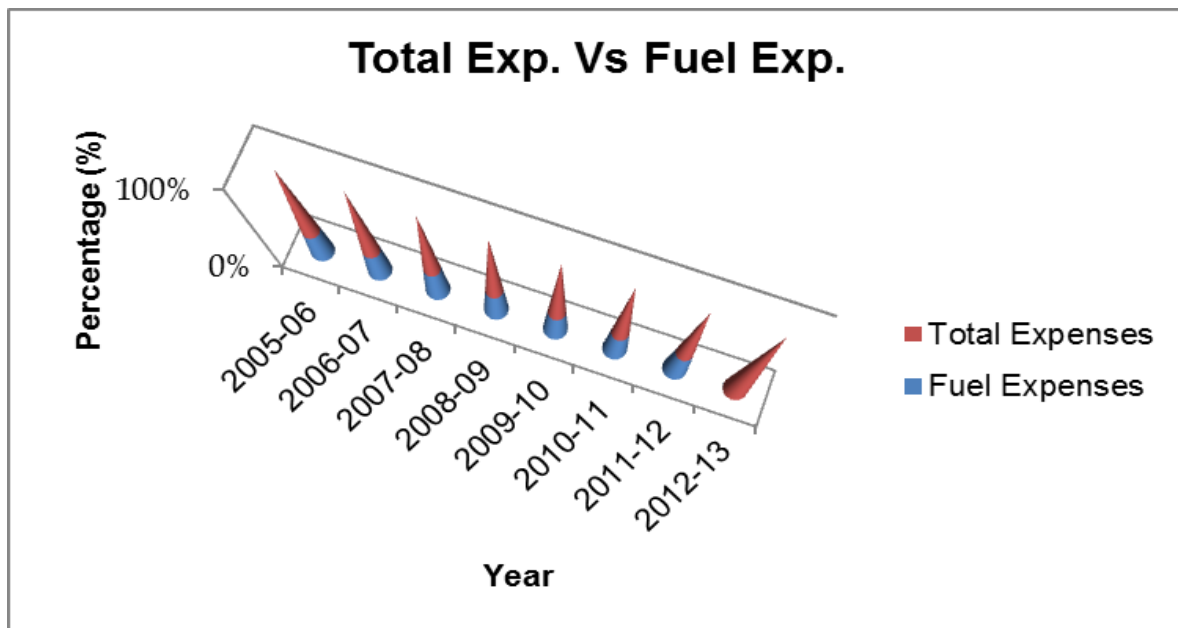


Figure 34: Comparison between Total Exp. And Fuel Exp. of Biman

During the FY 2013-14, Biman passed out its ageing DC 10-30 aircraft and modernize its fleet with 777-300ER, 777-200ER and 737-800. By operating with modern fleet, fuel cost reduced by BDT 112.05 crore. Moreover, during this FY 2013-14 average jet fuel price was \$3.98 per USG (US Gallon) at home, which was 89% higher than the international market price. Thus Biman paid 28.88% more for higher fuel price in Bangladesh.

The current market size for passengers in Bangladesh is 5 million and for cargo it will roughly be 128 thousand tons approximately. Average annual growth of air travel market in Bangladesh is about 11.5% for passenger and 2.60% for cargo. Passenger revenue contributed to about 75.76% of total revenue of the airlines, during the financial year 2010-11. Cargo and Excess-Baggage contributed 7.49% and 1.31% respectively. During the financial year 2011-12, passenger revenue contributed to about 77.50% of total revenue of Biman, cargo and Excess-Baggage contributed 6.13% and 1.51% respectively. In 2012-13, the percentage of passenger revenue was 75.14 of total revenue of Biman. Cargo and Excess-Baggage contributed 6.61% and 1.42% respectively. Due to the capacity constraints, Biman could not fully exploit the cargo market opportunity. Biman has brought cargo under automation, and other modern marketing mechanism has also been set to optimize revenue with the planned fleet enhancement.



Accounting and Reporting System of Airlines Industry

Table 36: The market size and growth of Bangladesh aviation industry

Market Information	Passenger	Cargo
Total Market Ex/To Bangladesh in 2000-01	2.29 million	101894 ton
Total Market Ex/to Bangladesh in 2002-03	2.39 million	105956 ton
Total Market Ex/To Bangladesh in 2003-04	2.62 million	992295 ton
Total Market Ex/To Bangladesh in 2004-05	2.77 million	104706 ton
Total Market Ex/To Bangladesh in 2005-06	3.07 million	118806 ton
Total Market Ex/To Bangladesh in 2006-07	3.31 million	102048 ton
Total Market Ex/To Bangladesh in 2007-08	3.86 million	112956 ton
Total Market Ex/To Bangladesh in 2008-09	3.81 million	117578 ton
Total Market Ex/To Bangladesh in 2009-10	4.14 million	122709 ton
Total Market Ex/To Bangladesh in 2010-11	4.53 million	124734 ton
Total Market Ex/To Bangladesh in 2011-12	4.92 million	128090 ton
Overall growth of Bangladesh Market over 12 Years	115%	26%
Biman's Growth	46%	-31%
Foreign Carrier's Growth	165%	58%

Source: Biman

The passenger business contributed some 75.76% of total operating revenue of the airlines in 2010-11. Available Seat Kilometers (ASKs) increased in 2010-11 from 2009-10, that's why Revenue Passenger kilometer increased by 5.48% due to increased frequencies to various destinations in Middle East. Passenger market contributed to growth in the financial year 2011-12. Passenger transportation added some 77.50% of total operating revenue of Biman. Available Seat Kilometers increased in 2011-12, for this Revenue Passenger Kilometers increased by 4.92%. In the financial year 2012-13, Available Seat Kilometers decreased to 70,171 lakh from 73,157 lakh in 2011-12 demonstrating 4.08% decrease in ASK. Revenue passenger kilometer also decreased by 4.89% mainly due to decrease of frequencies to various destinations.

Cargo operations of Biman has increased in 2012-13 by carrying 33,432 tons cargo during the period under review which is 41.28% higher than that of last fiscal year . Biman cargo operations reported a decrease in 2011-12 mainly due to operation of



Accounting and Reporting System of Airlines Industry

direct freighter flight by various airlines to/from Dhaka. The airlines carried 23,665 ton cargo during the period under review which is 26% lower than that of past fiscal year. Biman Bangladesh Airlines cargo operations stated a good year in 2010-11 when it registered a record growth. There were increases in terms of load factor. The airlines carried 32,035.96 ton cargo in the period which is 11.43% higher than that of past financial/fiscal year. The Revenue Ton Kilometer was also shown upward trend amounting 6925.18 lakh which was 6719.89 lakh in the n2009-10. As such the country has a large potential for tourism. The number of foreign visitors' arrival in Bangladesh during 2000 to 2010 is mentioned below:

Table 37: Foreign Visitors Arrival in Bangladesh (2000-2010)

Year	Number	Growth (%)
2000	1,99,211	-
2001	2,07,199	4.00
2002	2,07,246	0.02
2003	2,44,509	17.98
2004	2,71,270	10.94
2005	2,07,662	(-) 23.45
2006	2,00,311	(-) 3.54
2007	2,89,110	44.33
2008	4,67,332	61.65
2009	2,67,107	(-)42.84
2010	3,03,386	13.58
Average Growth		5.23%

Source: *Biman*

The figure of following page is showing the tourist arrival in Bangladesh during 2001-2010. Out of the total foreign visitors' arrival in Bangladesh, major contribution is from India which is about 30%. Besides India, major tourist generating countries are UK, USA, Pakistan, China, Canada, Australia, Japan, Korea and Germany which contribute approximately 50% of the tourist arrival in Bangladesh



Accounting and Reporting System of Airlines Industry



Figure 35: Tourists arrived in Bangladesh

Performance of Biman Properties and Subsidiaries:

Biman has no legal subsidiaries, although the Biman Flight Catering Center (BFCC) and Biman Poultry Complex (BPC) are treated as autonomous profit centers with separate audited accounts and largely independent management structures. The Biman Training Center (BATC) and the Biman Print Shop are also administrative division of Biman and not legal subsidiaries. Biman's Statement of Comprehensive Income and Financial position are the presentation of final draft audit reports on comprehensive Accounts of Biman Bangladesh Airlines (BBA), Biman Flight Catering Center (BFCC) and Biman Poultry Complex (BPC) jointly.

Table 38: Comparative Operating Revenue of BBA, BPC and BFCC

Year	Operating Revenue- BBA (BDT in Crore)	Operating Revenue- BPC (BDT in Crore)	Operating Revenue- BFCC (BDT in Crore)
2009-10	2894.30	7.72	64.41
2010-11	3260.55	9.88	83.83
2011-12	3703.27	10.11	84.69
2012-13	3875.24	11.20	77.08

So, Biman Bangladesh Airlines Ltd.'s financial performance depends on its different properties and subsidiaries like BBA, BFCC, BPC, BGH and BATC etc. as a whole.



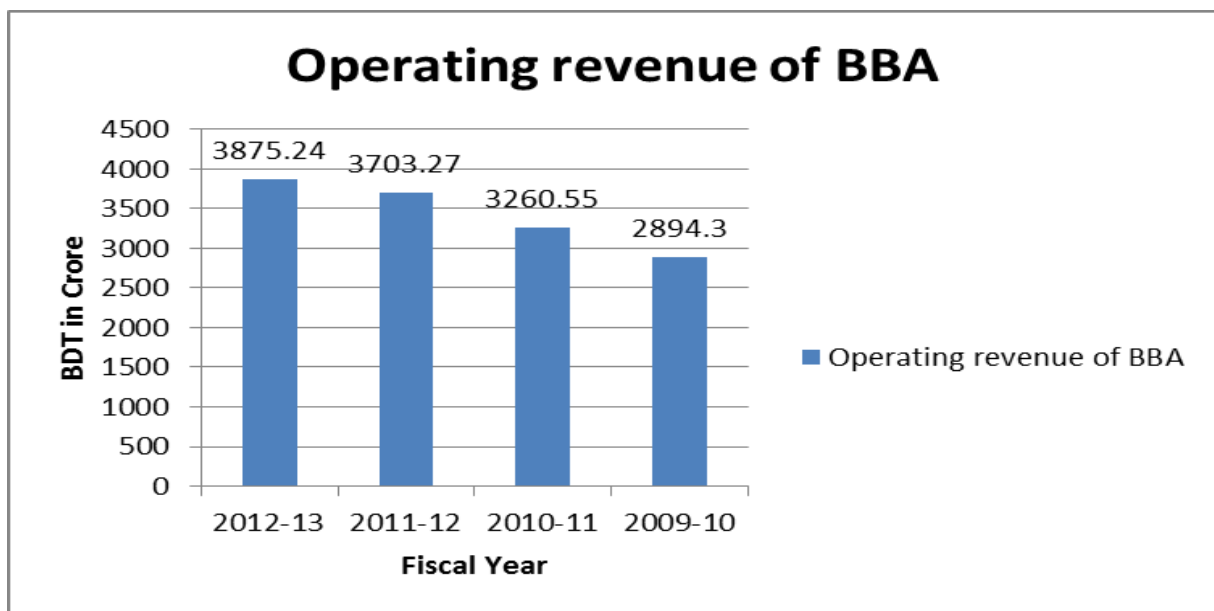
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Table 39: Operating Revenue of core business items of FY 2014-15

Operating Revenue	Amount in BDT Lac	Amount in USD in Million
Passenger	3477.24	448.09
Cargo	391.61	50.46
Excess baggage	53.70	6.92
Mail	0.12	0.01
Others – Ancillary & GHA	457.56	58.96
Total	4380.23	564.46

Source: Based on Financial statement FY2014-15

(1 USD= BDT 77.60)

**Figure 36: Operating Revenue of Biman Bangladesh Airlines (BBA)****Performance of BFCC:**

During the financial year 2011-12, BFCC earned total revenue USD.2, 93,530.00 by providing meal and services to UN Chartered and casual Foreign Flights. BFCC earned a net profit of BDT 23.08 crore only during the year 2011-12 by providing catering and different types of services to Biman as well as Foreign Airlines. In the FY 2012-13, BFCC earned total revenue of BDT 83.57 crore and net profit earned BDT 19.99 crore. Total operating revenue of BFCC also increasing every year except FY2012-13 but earned profit. During the FY 2013-14 BFCC earned total revenue of BDT 87.87 crore by providing meal, and services to Biman, Foreign Airlines, UN cahartered and casual foreign flights. In the aforesaid year BFCC succeeded to earn a net profit of BDT 17.42 through its activities.



Accounting and Reporting System of Airlines Industry

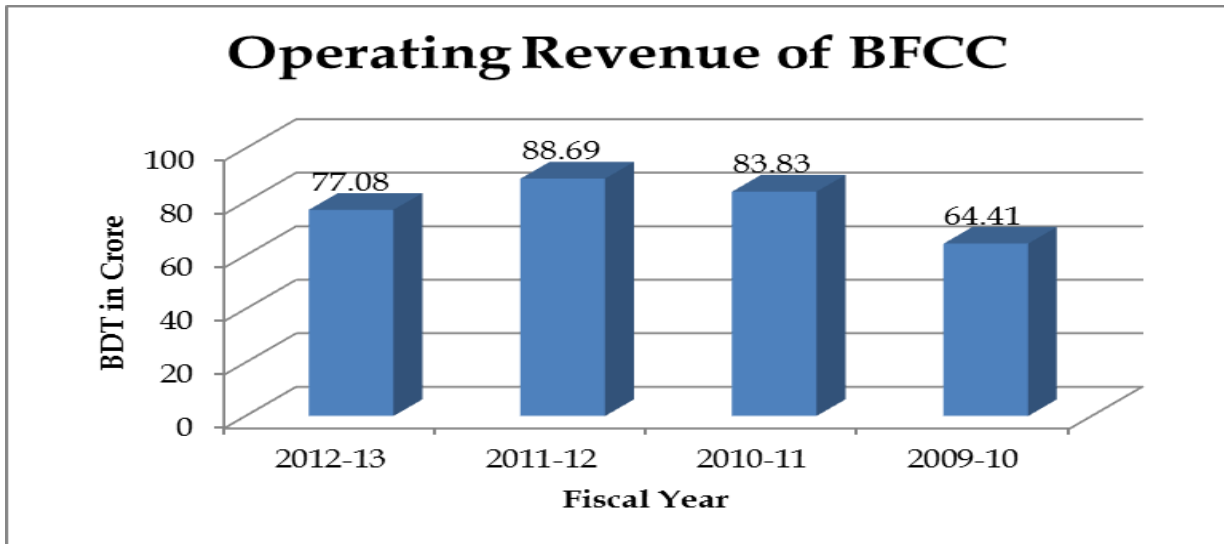


Figure 37: Total Operating Revenue of Biman Flight Catering Center

Performance of BPC:

In the financial year 2012-13, BPC earned revenue of BDT15.00 crore and total expenditure incurred BDT 11.58 crore. Thereby, BPC earned profit of BDT 3.42 crore during the FY 2012-13 and earned profit of BDT 3.35 crore during the financial year 2011-12. During FY 2013-14, BPC earned BDT 15.73 crore and total expenditure incurred BDT 12.14 crore and earned a profit of BDT 3.95 crore. The following figure also showing the increasing trend of Total operating revenue of BPC. So Biman Poultry Complex is making profit every year.

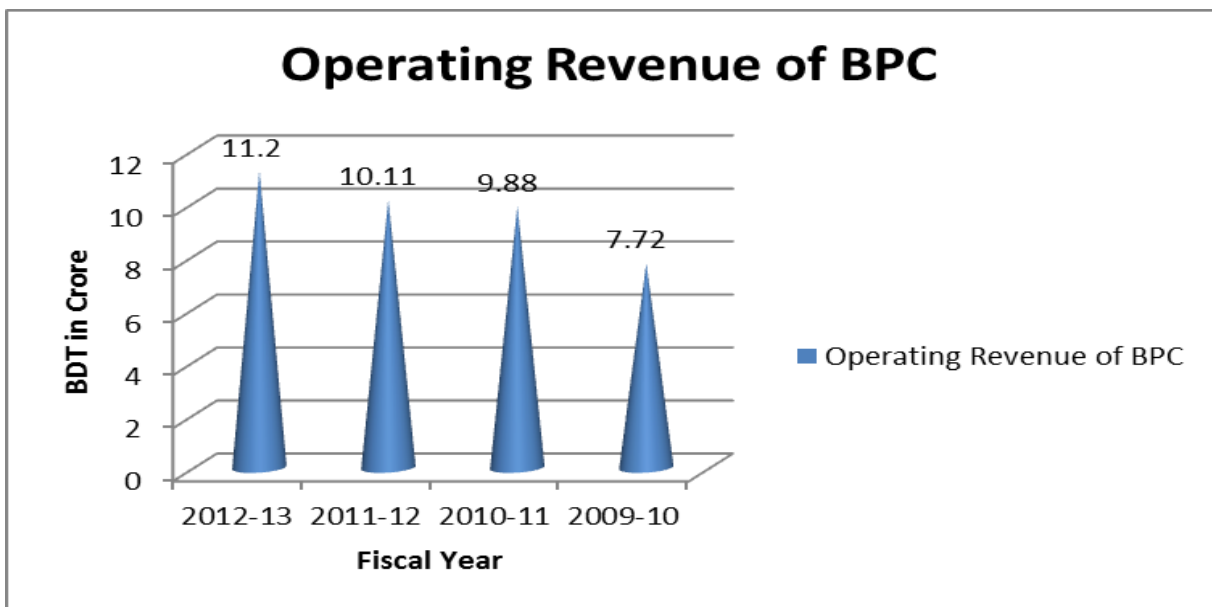


Figure 38: Total Operating Revenue of Biman Poultry Complex



Accounting and Reporting System of Airlines Industry

Performance of BGH:

From Ground Handling services, Biman earned BDT 260.01 crore during the fiscal year 2010-11 and in FY 2011-12 BDT 273.32 crore was earned. This is worthwhile to mention that during the year 2011-12 revenue from Cargo Handling services to other airlines was TK.70.13 crore. In the year 2012-13 Biman earned BDT 375.57 crore, higher than the revenue by BDT102.25 crore and earned BDT 86.13 crore from Cargo Handling Services (GHS) to other airlines. In FY 2009-10, earning from GH services was BDT194.97crore. During the FY 2013-14, Biman earned BDT 449.33 crore from Ground Handling Services.

The following figure is presenting that, from the FY 2009-10 to FY 2012-13, Biman is making significant earnings from ground handling services and increasing the figure of Total revenue of Biman Bangladesh Airlines. To improve GHS, Biman purchased additional GSE (Ground Service Equipment). That's why. Biman Ground Handling (BGH) will earn more revenue from Ground Handling Services in near future.

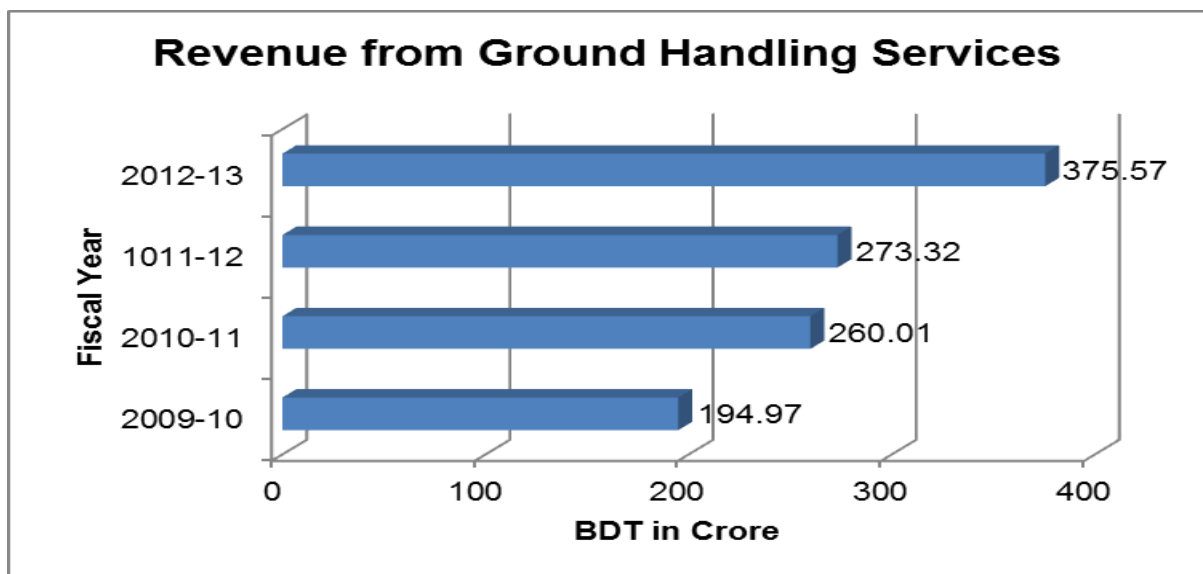


Figure 39: Revenue from Ground Handling Services of Biman

Performance of BATC:

Bangladesh Airlines Training Center (BATC) provides training in the faculty of Operations Technical, Management Development, Avionics Engineering, Aerospace Engineering, Customer Services, and Marketing & Sales. During the period from 1st July 2011 to 30th June 2012, 35 faculty members of BATC conducted 570 courses for 4770 participants.



Accounting and Reporting System of Airlines Industry

Financial Ratios Analysis and Highlights

Financial statements report both on a firm's position at point in time and on its operations over some past period. However, the real value of financial statements lies in the fact that they can be used to help predict future earnings and dividends.

Table 40: Different Ratios are used in Biman Bangladesh Airlines Ltd.

Classification of Ratios	Calculation Methods
Liquidity Ratio	
1. Working Capital	Current Assets – Current Liabilities
2. Current Ratio	Current Assets / Current Liabilities
3. Quick Ratio	(Current Assets – Stores & Spares)/Current Liabilities
Operating Ratio	
4. Accounts Receivable Turnover Ratio	Net Sales/Average gross receivable
5. Inventory Turnover Ratio	Net Sales/Average Inventory
6. Assets Turnover Ratio	Sales/Average Assets
Profitability Ratio	
7. Gross Margin Ratio	Gross margin/Sales
8. Operating Income Ratio	Operating Profit or (Loss)/Sales
9. Net Income Ratio	Net profit or (Loss)/Sales
10. Return on Assets Ratio	Net Income/Average Assets
Return on Fixed Assets Ratio	Net Income/Fixed Assets
11. Return on Equity Ratio	Net Income/Total Shareholders' Equity
12. Earning per Share (EPS)	Net Income/No. of Shares
Solvency Ratio	
13. Times Interest Earned Ratio	Operating Profit/Interest Expense
14. Debt to Equity Ratio	Total Liabilities/Total Shareholders' Equity
15. Bad Debts Ratio	Bad & Doubtful Debts/Total Receivables
16. Debt Service Coverage Ratio	(Net Income + Depreciation)/(Principal Repayment + Interest Payment + Lease Payment)

Source: Biman



Accounting and Reporting System of Airlines Industry

Financial Ratios are designed to help one or firm or company to evaluate a financial statement. Ratio Analysis involves methods of calculating and interpreting financial ratios to assess the firm's performance. Ratio analysis of a firm's financial statement is of interest to shareholders, creditors and firm's own management. Ratio analysis is the starting point in developing the information desired by the analyst. Ratio analysis provides only a single snapshot, the analysis being for one given point or period in time. In ratio analysis it is possible to compare the company ratio with a standard one. Every year Biman exercise and analyze so many Ratios for its performance analysis.

In chapter one, a detail discussion has expressed about the financial statement and financial ratios. How airlines present their financial statement and calculate the financial ratios, that also be discussed in details. Items of financial statements are also being discussed in mostly. Some significant ratios of Biman are mentioned in the following table and will discuss and analyze. (Other all ratios are in appendix no.7, in details) The major Comparative Financial Ratios of Biman are given below:

Table 41: The major Comparative Financial Ratios of Biman

Particulars	Ratio on 30 June 2014	Ratio on 30 June 2013	Ratio on 30 June 2012	Ratio on 30 June 2011	Ratio on 30 June 2010	Ratio on 30 June 2009
Debt Service Coverage Ratio	0.19 : 1	0.12 : 1	(0.32) : 1	(0.40) : 1	0.124 : 1	0.23 : 1
Return on Equity (ROE)	(0.26) : 1	(0.154) : 1	(0.478) : 1	(0.121) : 1	(0.022) : 1	0.007 : 1
Return on Fixed Asset	(0.031) : 1	(0.048) : 1	(0.139) : 1	(0.134) : 1	(0.027) : 1	0.009 : 1
Debt to Equity Ratio	11.06 : 1	5.32 : 1	3.80 : 1	1.14 : 1	0.93 : 1	0.48 : 1
Average Collection Period	32 Days	30 Days	30 Days	27 Days	27 Days	27 days
Current Ratio	0.57 : 1	1.12 : 1	0.73 : 1	2.75 : 1	3.72 : 1	2.38 : 1
Quick Ratio	0.47 : 1	.92 : 1	.55 : 1	2.46 : 1	3.26 : 1	1.78 : 1

Source: *Biman*



Accounting and Reporting System of Airlines Industry

Operating ratio:

The operating ratio is defined as operating revenue expressed as a percentage of operating expenditure, and is similar to margin on sales. The operating ratio gives an indication of management efficiency in controlling costs and increasing revenue. However it can be distorted by changes in depreciation policy, or a switch from ownership of aircraft, involving both depreciation and interest charges, only the first of which is shown under operating costs, to operating leases, all of which is shown under operating costs.

The measures of profitability normally used among airlines, are either the annual operating profit or loss expressed as a percentage of the total annual operating revenue, or the total operating revenue expressed as a percentage of the total operating expenditure. The latter measure is known as the 'revex ratio'. The former, operating profit as a percentage of operating revenue, is calculated annually for the world's airlines by ICAO.

But, as a service industry, Biman don't do the operating ratio, is my observation. For this, operating ratio didn't calculate and show in the ratio chart (Table: 46) collected from Biman. The following table and figure are expressing the Operating Ratios of different financial years of Biman Bangladesh Airlines.

Table 42: Operating Ratio of Biman Banglades Airlines

Year	Operating Revenue (Taka)	Operating Expenses (Taka)	Operating Ratio (%)
2013-14	37,520,021,031	39,013,922,117	96.17 : 1
2012-13	38,937,683,641	40,349,658,631	96.50 : 1
2011-12	37,343,245,975	43,654,129,683	85.54 : 1
2010-11	32,886,249,154	35,529,907,373	92.56 : 1
2009-10	29,134,472,736	29,750,472,124	97.93 : 1
2008-09	30,129,213,627	29,676,307,892	101.53 : 1
2007-08	29,551,481,690	29,524,251,991	100.09 : 1



Accounting and Reporting System of Airlines Industry

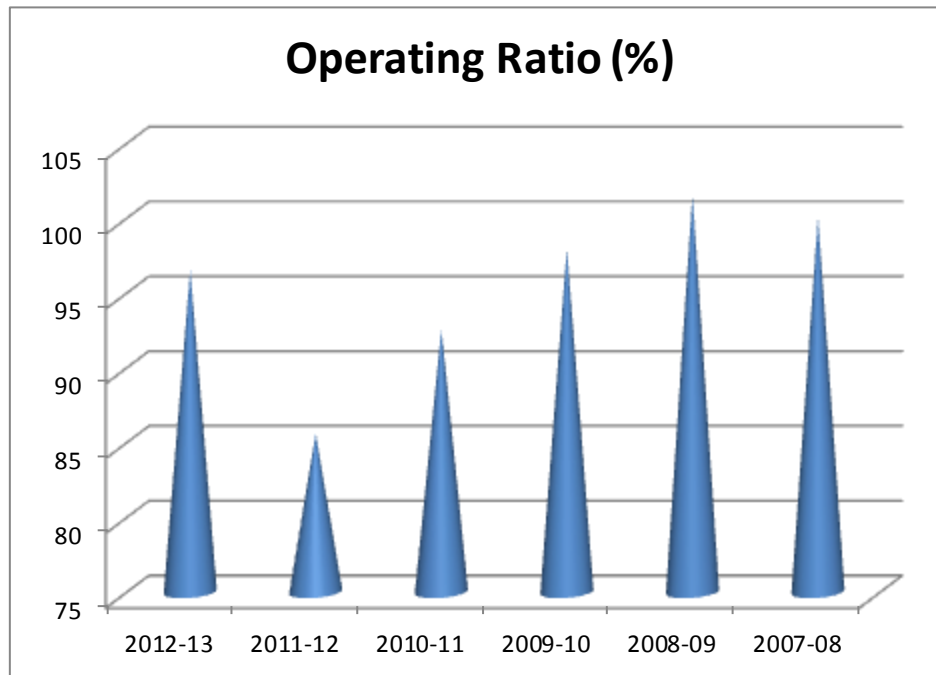


Figure 40: Comparative Operating Ratios of Biman

From FY 2009-10 to FY 2012-13, Biman's operating ratios are not in good position; the operating expenses are over than the operating revenues. As a result operating revenue is not sufficient for the operating expenses, so Biman is in loss position. But the FY 2008-09 and 2007-08 are showing better position, because the ratios are slightly exceed the hundred percent. These two years Biman was in profit position, earning profit. So Biman should do the operating ratio, by the comparison of operating revenue with operating expenses be expressed in terms of operating ratio, which is a very important indicator for service industry rather than comparison in absolute terms of Taka.

Current ratio:

The ratio is generally an acceptable measure of short term creditors are covered by assets that are likely to be converted into cash in a period corresponding to the maturity of the claims. A low ratio is an indicator that a firm may not be able to pay its future bills on time, particularly if conditions change, causing a slowdown in cash collections. A high ratio may indicate an excessive amount of current assets and management's failure to utilize the firm's resources properly.



Accounting and Reporting System of Airlines Industry

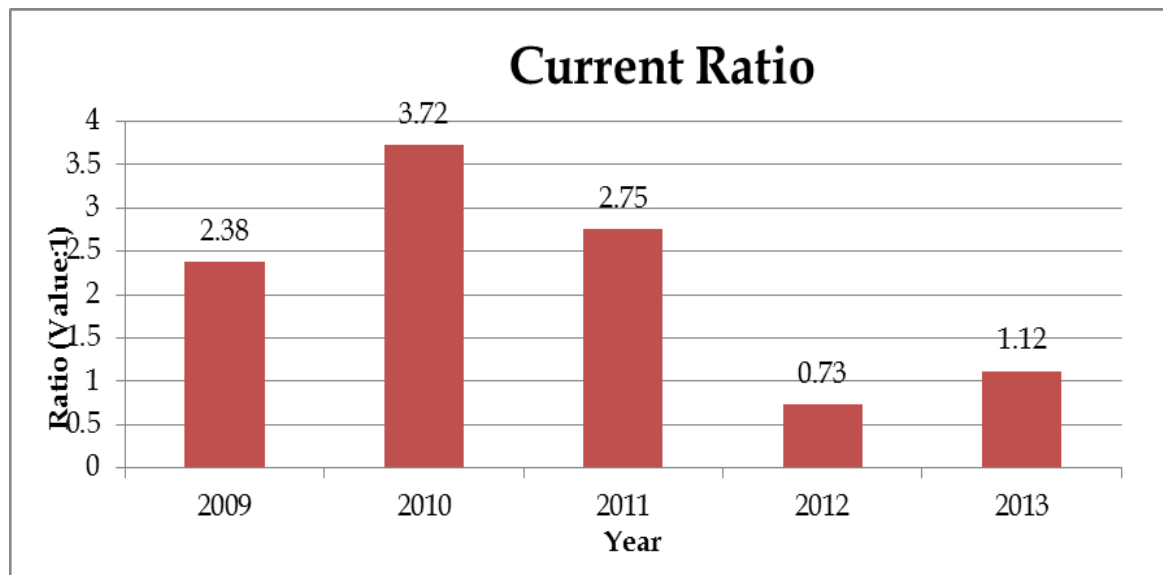


Figure 41: Comparative Current Ratio of Biman

Biman's current asset is lower than current liability during the corporation period, but the Company period it is positive situation. The current ratio is increasing year by year. After analyzing it was identified, profitability effect on current ratio positively. For example, FY2011-12 Biman suffered from highest loss and current ratio was most below. On the other hand, FY 2009-10 Biman earned highest profit and resulting current ratio is highest.

Quick Ratio:

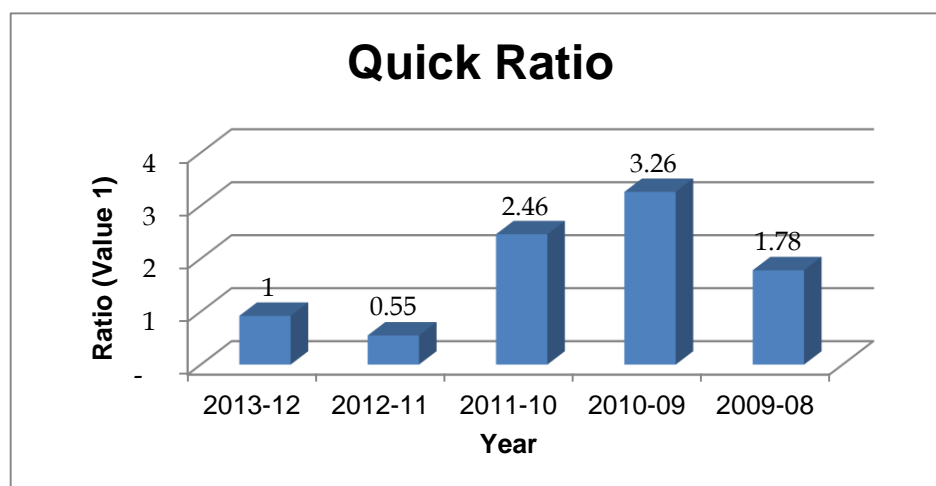


Figure 42: Comparative Quick Ratio of Biman

The quick ratio, which is also known as acid-test ratio is a better test of financial strength than the current ratio, as it gives no consideration to store item, which may



Accounting and Reporting System of Airlines Industry

be very slow moving. A comparison of the current ratio with quick ratio would give an indication regarding store item position.

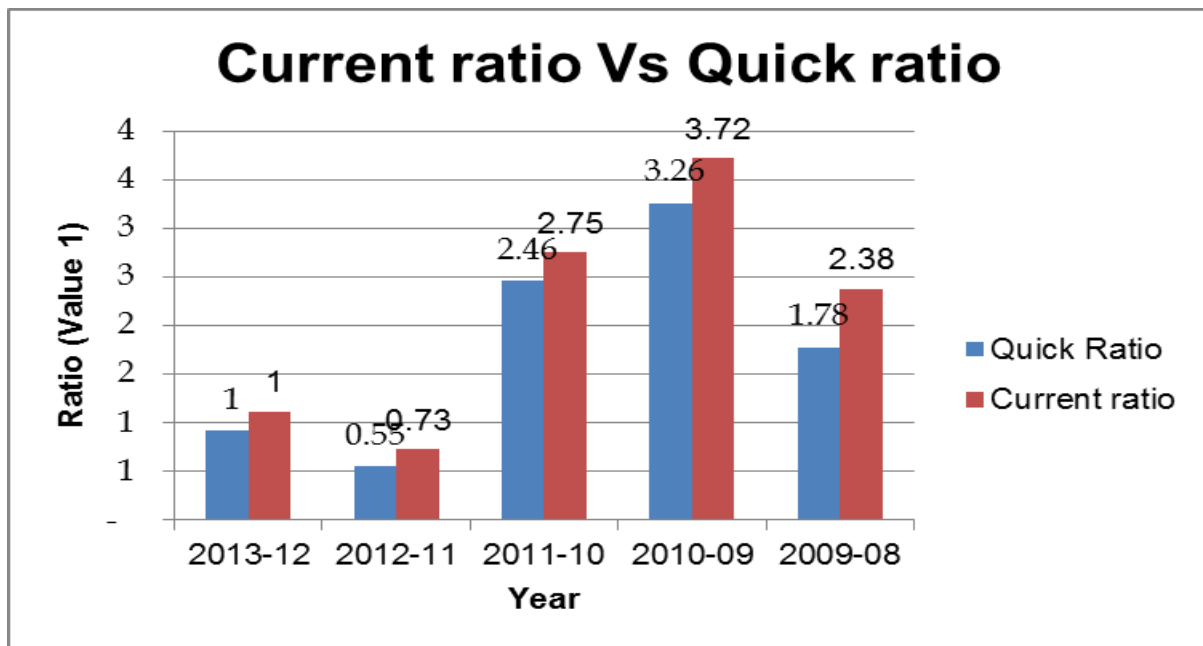


Figure 43: Comparison between Current ratio and Quick Ratio

Here it is seen that current ratio is higher than quick ratio because current asset consists of large amount of store item. For this reason quick ratio has declined compared to current ratio. Quick Ratio increased highest in FY2009-10. Financial performance positively effect on its Quick ratio. It should be noted that in the FY 2008-09 and 2010-11, quick ratio increased during these period with large figure.

Return on Fixed asset:

Return on Fixed Asset, Return on total Asset (ROA) are the measures of profitability which relate the returns of the firm to its sales, assets. Calculating the Return on Fixed Asset is a measuring how well the fixed asset of the business are used to generate profit return on fixed asset also called return on investment. It measures the overall effectiveness of management to generate profit with its fixed assets.

From five years data it were found that net loss has continuously increased from FY2009-10 to 2011-12 but in FY2012-13 net loss has decreased. The profitable year of Biman was FY2008-09. A business company can't run with alarming loss for a long period.



Accounting and Reporting System of Airlines Industry

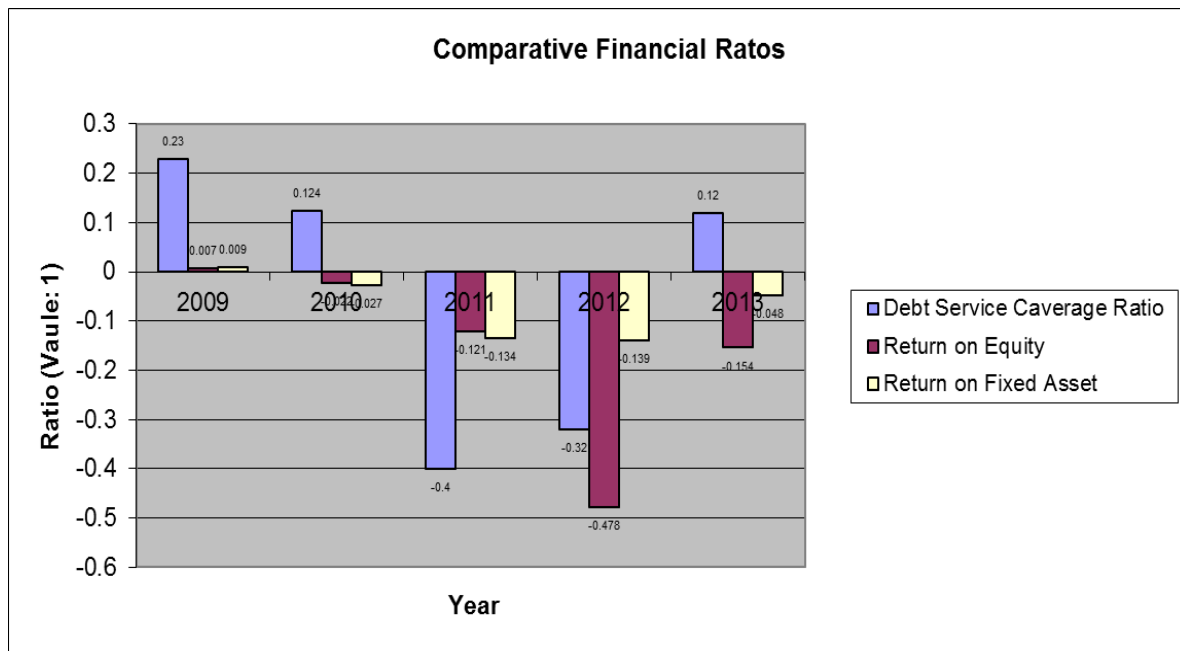


Figure 44: Comparative Financial Ratios of Biman

Return on Equity (ROE):

Shareholders invest to get a return on their money and this ratio tells how well they are doing in an accounting sense. Return on Equity also a measure of profitability, which relate the returns of the firm to its equity. This measure allows the analyst to evaluate the company's earnings with respect to a given level of the owners' investment. Without profits, a firm or company could not attract outside capital. Moreover, present owners and creditors would become concerned about the company's future and attempt to recover their funds. Owners, Creditors and management pay close attention to boosting profits due to the great importance placed on earnings in the marketplace.

The figure is showing that return on equity of Biman of last five years, except FY 2008-09, other all four years are in negative position. That means, from FY2010-11 to 2012-13 were Loss making year.

Debt Service Coverage Ratio:

Debt service coverage ratio is a measure of how efficient a company's Income to cover its debt payment. The calculation procedure is: $(\text{Net Income} + \text{Depreciation}) / (\text{Principal Repayment} + \text{Interest Payment} + \text{Lease Payment})$. Different type of payment like interest, lease payment, payables should pay by the company's net



Accounting and Reporting System of Airlines Industry

income, but Biman is making loss almost every year. So it is not possible to pay its debt by income. From FY2006-07, Bangladesh Government is helping Biman by arranging loan with low interest rate. For this, Biman is also trying to pay its debt by Govt. loan and Net Income with depreciation amount.

In the FY 2010-11 and 2011-12, Debt service coverage ratios are showing highly negative but other years are presenting positive effect.

Debt to Equity Ratio:

Debt to Equity Ratio is a measure of a Company's financial leverage calculation.

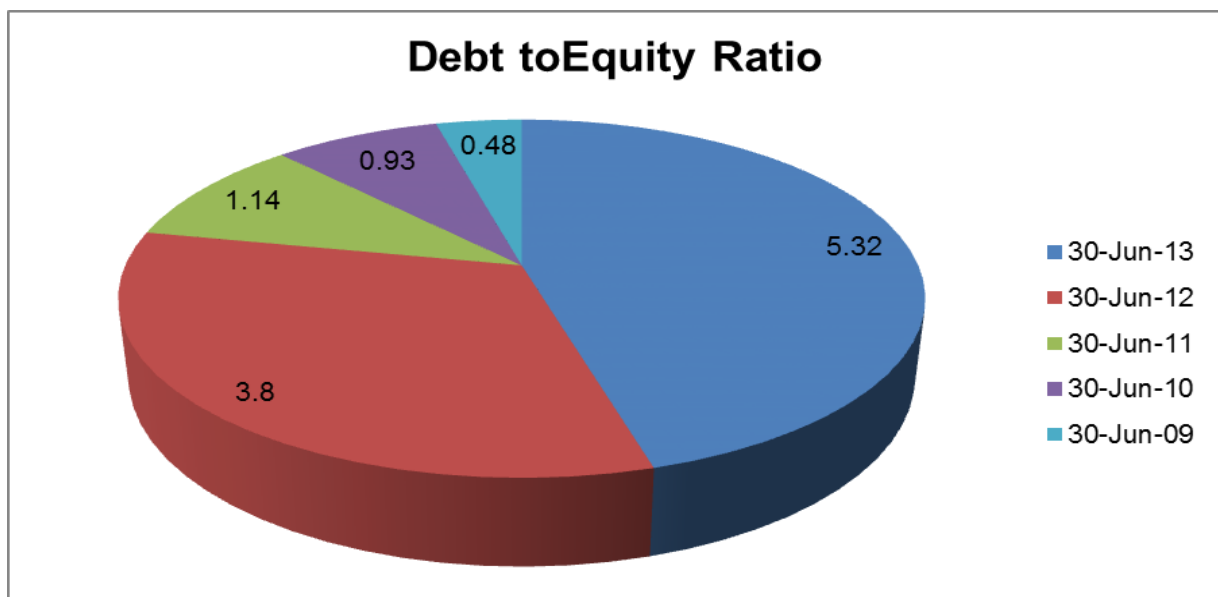


Figure 45: Debt to Equity Ratio of Biman

The debt equity ratio measures how much money a company should safely be able to borrow over long periods of time. A high debt equity ratio generally means that a company has been aggressive in financing its growth with debt. If a lot of debt is used to finance increased operations (high debt to equity), the company could potentially generate more earnings than it would have without this outside financing. If this were to increase earnings by a greater amount than the debt cost (interest), then the shareholders benefit as more earnings are being spread among the same amount of shareholders.

Due to continuous loss, Biman's Debt to equity ratio was too much alarming. For heavy loss, Biman made its equity negative. In FY2006-07 Bangladesh Government subscribe BDT150 crore, that is why equity increased. Actually the rapid change



Accounting and Reporting System of Airlines Industry

happened in FY 2007-08. In FY 2007-08, liabilities to M/s Padma and M/s CAAB for BDT 1,700 crore (approx.) was converted into equity with government order. After that every year debt to equity ratio is increasing. In FY 2012-13, this ratio was highest than others years.

Average Collection Period:

The Accounts receivable turnover and Average Collection Period ratios are used to measure how quickly credit sales are converted into cash. These two ratios calculation methods are:

Accounts receivable turnover = $\text{Sales on account} / \text{Average accounts receivable balance}$

Average Collection Period = $365 \text{ days} / \text{Accounts receivable Turnover}$

A long collection period may result from having too many old uncollectible accounts; failing to bill promptly or follow up on late accounts, tax credit checks, and so on. Average collection period is good or bad, depends on the credit terms of the company. In practice, Average collection periods ranging all the way from 10 days to 180 days are common, depending on the company or firm or industry.

The Average collection Period of Biman (from 27days to 30 days) for last five years is showing in good position, in the figure.

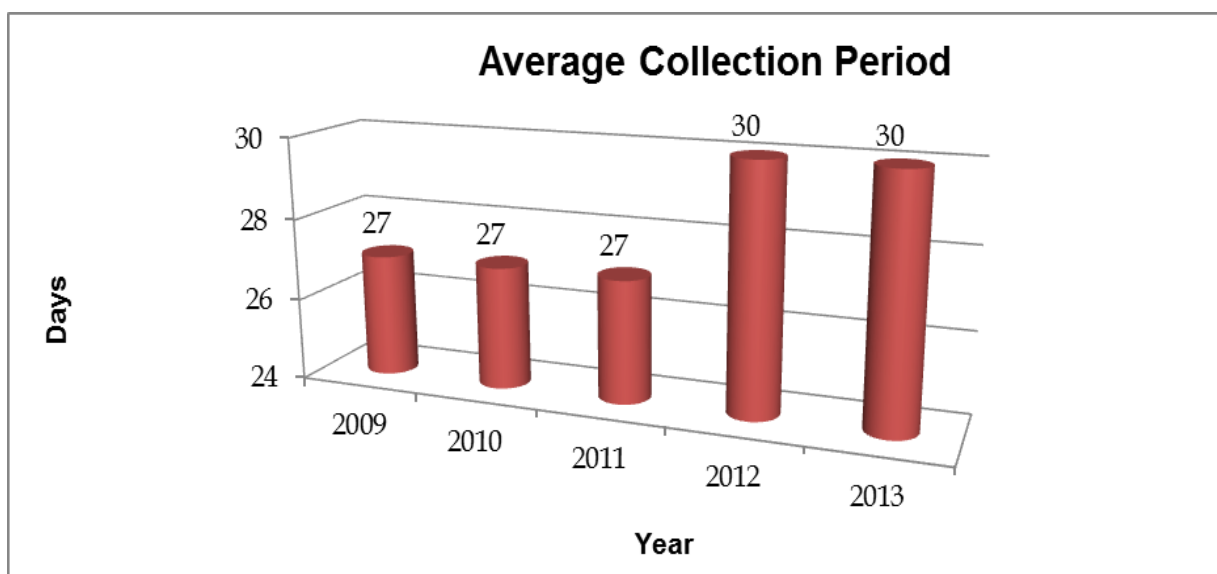


Figure 46: Average collection Period of Biman



Accounting and Reporting System of Airlines Industry

Operational Performance

Operational performance of Biman depends on some key indicators. The stated table of previous page is showing the all key performance indicators in details. After analyzing all matters, we can understand better that Biman's operational performances are not in good position. To compete with other airlines of the world and to enter in the profit, Biman should improve its operational activities.

For better understanding of the following KPIs table we must know some definition of Airline Terms, like-

Capacity or Available Ton-Kilometer (ATK): This is a measure of airline output; ATK are obtained by multiplying the payload capacity on a flight by the stage distance flown.

Revenue Passenger-Kilometer (RPK): The number of passenger on a flight multiplied by the stage distance; passenger-kilometers are normally converted to revenue or passenger ton-kilometers by assuming that one passenger with baggage equals 90 kg.

Revenue Ton-Kilometer (RTK or Ton-Kilometers Performed or Carried): This measure the output actually sold; RTKs are obtained by multiplying the number of tons carried on a flight by the stage distance.

Available Seat-Kilometer: This is obtained by multiplying the seats available on a flight by the stage distance (distance flown in km).

Passenger Load Factor or Seat Factor: On a single sector this is obtained by expressing the passengers carried as a percentage of the seats available for sale; on a network of routes the seat factor is obtained by expressing the total passenger-kilometers as a percentage of the total seat-kilometers available.

Block Hour or Block Time: This is the time for each stage between engines being switched on at departure and off on arrival.

Overall Load: Total of aircraft capacity available for the carriage of passengers, baggage, cargo or mail; measured in tons multiplying by the stage distance (distance flown in km)



Accounting and Reporting System of Airlines Industry

Table 43: Key Performance Indicators (KPIs)

	2013-14	2012-13	2011-12	2010-11	2009-10
AVAILABLE SEAT KILOMETER (ASK) IN LAKH:					
DOMESTIC	192	240	596	506	503
INTERNATIONAL	73,155	69,931	72,562	71,951	68,285
TOTAL	73,347	70,171	73,157	72,457	68,788
REVENUE PASSENGER KILOMETER (RPK) IN LAKH:					
DOMESTIC	103	156	389	306	276
INTERNATIONAL	51,967	52,759	55,246	52,721	49,996
TOTAL	52,070	52,915	55,635	53,027	50,272
NUMBER OF PASSENGERS:					
DOMESTIC	50,930	76,010	1,85,511	1,46,974	1,13,813
INTERNATIONAL	15,19,973	14,96,698	15,89,956	15,96,277	12,97,676
TOTAL	15,70,903	15,72,708	17,73,467	17,43,251	14,29,489
CABIN FACTOR IN PERCENTAGE:					
DOMESTIC	54%	65%	65%	60%	55%
INTERNATIONAL	71%	75%	76%	73%	73%
TOTAL	71%	75%	76%	73%	73%
AVAILABLE TON KILOMETER (ATK) IN LAKH:					
DOMESTIC	27	33	103	89	61
INTERNATIONAL	11,452	10,658	10,774	10631	10,532
TOTAL	11,479	10,691	10,877	10,720	10,593
REVENUE TON KILOMETER (RTK) IN LAKH:					
DOMESTIC	12	17	37	29	30
INTERNATIONAL	7,417	7,040	6,807	6896	6,690
TOTAL	7,429	7,057	6,844	6,925	6,720
LOAD FACTOR IN PERCENTAGE:					
DOMESTIC	44%	51%	36%	32%	49%
INTERNATIONAL	65%	66%	63%	65%	64%
TOTAL	65%	66%	63%	65%	63%
CARGO CARRIED (CGO & MAIL) IN TON:					
DOMESTIC	408	527	739	797	97
INTERNATIONAL	32,528	32,907	22,926	31239	28,651
TOTAL	32,936	33,434	23665	32036	28,748
NUMBER OF FLIGHTS:					
DOMESTIC	488	592	2,284	1934	2,222
INTERNATIONAL	7,027	6,734	7,488	7355	6,292
TOTAL	7,515	7,326	9,772	9,289	8,514
BLOCK HOUR:					
DOMESTIC	369	482	1,762	1408	1456
INTERNATIONAL	32,960	32,381	34,263	33,675	29,823
TOTAL	33,329	32,863	36,025	35,083	31,280



Accounting and Reporting System of Airlines Industry

Source: *Biman*

Revenue passenger-km = Number of passengers carried x distance flown (in km)

Available seat-km = Number of available seats x distance flown (in km)

Passenger load factor = Revenue passenger-km expressed as a percentage of available seat-km

Cargo load = Cargo and mail load carried (in tons) x distance flown (in km)

Gross capacity = Cargo capacity production (in tons) x distance flown (in km)

Cargo load factor = Cargo and mail load (in tons-km) expressed as a percentage of gross capacity (in ton-km)

Overall load = Total load carried (in tons) x distance flown (in km)

Overall capacity = Total capacity production (in tons) x distance flown (in km)

Overall load factor = Overall load (in ton-km) expressed as percentage of overall capacity (in ton-km)

.4.5 Auditing of accounts in Biman

4.5.1 Appointment of auditors

As per the provisions of the Companies Act 1994, 'M/s ACNABIN, Chartered Accountants, BDBL Bhaban (13th Floor), 12 Kawran Bazar C/A, Dhaka-1215' and 'M/s Rahman Mostafa Alam & Co., Chartered Accountants, Paramount Heights (7th Floor-D2), Box Culvert Road, 65/2/1 Purana Paltan, Dhaka-1000 were appointed as the Auditors for the year 2012-2013 of the Company by the Board of Directors at a Remuneration of Tk. 500,000 (excluding Tax & Vat). They have carried out their duties and responsibilities property. They have also expressed their interest to be re-appointed for the next term. The financial statements of Biman Bangladesh Airlines Ltd for the year ended 30th June, 2014 were audited jointly by Syful Shamsul Alam & Co. Chartered Accountants and Ahmed Zaker & Co. Chartered Accounts.

4.5.2 Different types of audit

After the preparation of accounts, it is needed to be audited. Before conversion to PLC, Biman was governed by the provision of the Bangladesh Biman Corporation Ordinance 1977. Under the mentioned ordinance three types of audit are being conducted in Biman- i) Interim Audit ii) Statutory Audit iii) Government Audit.

Interim Audit: The internal audit department of Biman carries out internal audit. The head of this department reports to the Managing Director of Biman. The responsibilities of this department are:-



Accounting and Reporting System of Airlines Industry

- To ensure regular and systematic audit of financial records and transactions, revenue documents, final settlement, pension case and inventory.
- To ensure the rules on financial matters are correctly implemented.
- To suggest regarding formulation/ implementation/ amendment of rules and regulations for effective control.

Statutory Audit: Pursuant to the provisions of the Bangladesh Biman Corporation Ordinance 1977, Biman appointed two audit firms to conduct the audit of its Financial Statements. Two firms conduct the audit jointly through mutual understanding. One firm carried out audit on assets side of the Balance Sheet and Income side of the Profit and Loss Account and another firm on Liabilities side of Balance Sheet and Expenditure side of profit and Loss Account. They were usually given one month to perform the assigned audit work. The given time frame is hardly complied. The volume of transactions forced them to extend the audit work to three months. The audit firms conduct the audit in accordance with Bangladesh Standards of Auditing. They planned and performed the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement as required by the mentioned standards. They review and assess the internal control environment of Biman with a view to establish a basis for placing reliance thereon for determining the nature, timing and extent of testing in connection with the said auditing.

Governmental Audit: A team consisting of officials and staffs of office of the Controller and Auditor General of Bangladesh conducted audit on Biman. They mainly carried out revenue and expenditure audit as well as compliance audit. Capital expenditures, appreciable amount of revenue expenditures, revenues and collection procedures of Accounts receivables are thoroughly checked and reviewed by the government auditors.

4.5.3 Auditors' Responsibility

Auditors' responsibility is to express an opinion on financial statements based on their audit. Auditors' conducted their audit in accordance with Bangladesh Standards on Auditing (BSA). Those standards required that they comply with ethical



Accounting and Reporting System of Airlines Industry

requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statement, whether due to fraud or error. In making those risks of assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

4.6 Budget preparation and presentation in Biman

Financial planning is the process whereby an airline's corporate goals, and the strategies designed to meet those goals, are translated into numbers. These numbers cover forecasts of market growth and airline market share, and estimates of resources required to achieve this share. Financial planning ranges from the short-term preparation of budgets to long-term planning, the latter often in conjunction with fleet planning. Its main longer term financial aims are:

1. The evaluation of the expected future financial condition of the company.
2. The estimation of likely future requirements for finance.

4.6.1 Budget and Budgetary control

Simply, Budget is the organization's operating plan, translated into financial terms. It is both planning and control. Budget can be defined as quantitative expression of management objectives and a means of monitoring progress toward achievement of those objectives prepared in advance. Budget is generally prepared for the financial year ahead by month and often also quarter. For airlines, like Biman Bangladesh Airlines, costs are reported on a monthly basis, while the less controllable traffic and revenue side is examined on a daily basis, such as passenger and cargo



Accounting and Reporting System of Airlines Industry

reservations, and traffic levels, and as frequently as accounting systems allow for yields.

The format of the budget may be broadly similar to that of the longer term corporate or fleet plan. Biman's budgets are generally coordinated by the finance department, but their preparation involves a high degree of co-operation between departments:

- Marketing (Passenger and market share forecasts)
- Cargo (Cargo forecasts)
- Marketing/Finance (Yield and revenue projections)
- Marketing, Operating, Engineering (Schedules planning)
- All departments (Resource and manpower planning)
- All departments (Cost estimates)
- Finance (Budget finalization)

Budgets therefore help the co-ordination between the various parts of the airline. For example, flight operations or scheduling need to liaise closely with engineering on maintenance planning and scheduling.

Budgetary control can be defined as the establishments of budgets relating the responsibility of managers of the requirements of a policy, and the continuous comparison of actual with budgeted result. There are some characteristics of budgetary control of Biman, these are:

- Management responsibility
- Control can be exercised where there is a plan
- The budgetary control process is an integral part of both planning and control
- To be successful requires top management support, co-operative and motivated middle managers and staff and well-organized reporting systems
- Important communication tools between top and middle management and line staff



Accounting and Reporting System of Airlines Industry

Budgetary control consists of comparing the estimates of revenues and costs contained in the monthly budgets with the actual revenues earned and costs incurred. Control will also be exercised through the cash and working capital budgets. The variation between forecasts/estimates and actuals will be calculated, and any significant differences highlighted. The likely causes of such differences should be identified and any necessary action taken.

4.6.2 Budget preparation and presentation

For an existing firm, budgets are often prepared with reference to the previous years' experience. Zero-based budgets, on the other hand, take nothing as given, and consider the most effective way of achieving output targets. The format of the budget may be broadly similar to that of the longer term corporate or fleet plan.

Basis of preparation of Budget in Biman:

1. Operating plan
2. Traffic forecast
3. Yield rates – Passenger, Cargo
4. Rate of different expenses
5. Repayment schedules of loans
6. Estimates submitted by different Directorates/Shops and Stations

Step of preparation of Biman Budget:

1. Budget Proforma 2. Operating Plan 3. Revenue yield rates
4. Marketing & Sales – Traffic forecast and Revenue estimates
5. Engineering, Flight Operations & Customer Services – Expenditure estimates
6. Budget Proposal from Shops & Stations
7. Head wise comparison of Budget comparison with actual
8. Discussion with representatives of different directorates



Accounting and Reporting System of Airlines Industry

9. Projections for revised budget and budget for next year

10. Budget discussion with ED – BOD for finalization and approval

For an airline, like Biman, capacity plans are converted into a schedule, for example, this may be for the coming summer or winter season. This is determined by, and is checked against, passenger and cargo traffic forecasts. Then the resources are estimated in order to be able to operate the schedule most effectively, but at a desired level of service. A chart of the daily rotation of each aircraft in the fleet is determined by the requirements of the market, and optimized to take into account curfews, maintenance and crew schedules and estimates for turnaround times at airports. Slot constraints are also becoming more important for some airlines. Allowance will be made for contingencies such as flight diversions and delays. Budget can be for the airline as a whole, by department or by route.

There are some differences between actual figures and budget figures which will be due to factors beyond the control of management. For example, bad weather at the home base airport or an unexpected increase in fuel price. A difference should therefore be drawn between controllable and non-controllable costs.

Budgets are the basis for expenditure limits within a particular department or division for a particular period, usually the financial year.

Tables, mentioned below, showing the summary of Budgeted Profit & Loss Account, Budgeted Profit & Loss Account of BFCC, Summary of Cash Budget and Area-Wise Earned Revenue Estimates of Biman Bangladesh Airlines as example. These are all information about budget of Biman very much confidential.



Accounting and Reporting System of Airlines Industry

Table 44: Summary of Budgeted Profit & Loss Account of Biman

BIMAN BANGLADESH AIRLINES SUMMARY OF BUDGETED PROFIT & LOSS ACCOUNT INCLUDING BIMAN, BFCC & BPC (Taka in Lakh)						
Particulars	BUDGET 2009-2010	REVISED BUDGET 2008-2009	DIFFERE NCE	ORIGINAL BUDGET 2008-2009	ESTIMATED JUL'08-DEC'08	PROVISIONAL 2007-2008
01	02	03	04=02-03	05	06	07
REVENUE INCOME	360,221.73	323,684.65	36,537.08	404,726.97	193,912.93	301,839.70
EXPENSES	353,516.95	323,259.51	30,257.45	398,201.95	192,113.59	299,848.25
PROFIT/(LOSS)	6,704.78	425.14	6,279.64	6,525.02	1,799.34	1,991.45

Table 45: Budgeted Profit & Loss Account of BFCC

BIMAN BANGLADESH AIRLINES BREAKUP OF BUDGETED PROFIT & LOSS ACCOUNT BFCC (Taka in Lakh)						
Particulars	BUDGET 2009-2010	REVISED BUDGET 2008-2009	DIFFERE NCE	ORIGINAL BUDGET 2008-2009	ESTIMATED JUL'08-DEC'08	PROVISIONAL 2007-2008
01	02	03	04=02-03	05	06	07
REVENUE INCOME	7000.00	6,302.60	697.40	4,771.39	3,151.30	6,026.30
EXPENSES	4,768.00	4,346.57	421.43	4,024.76	2,173.29	3,956.01
PROFIT/(LOSS)	2,232.00	1,956.03	275.97	746.63	978.02	2,070.29

Accounting and Reporting System of Airlines Industry

Table 46: Area-Wise Earned Revenue Estimates of Biman

BIMAN BANGLADESH AIRLINES			
AREA_WISE EARNED REVENUE ESTIMATES			
FOR BUDGET 2009-2010			
(TAKA IN LAKH)			
PARTICULARS	DOMESTIC	INTERNATIONAL	TOTAL
OPERITING REVENUE			
PASSENGER	5,853.78	246,401.92	252,255.70
CARGO	3.86	28,399.45	28,403.31
EXCESS BAGGAGE	7.73	6,069.19	6,076.92
MAIL	-	242.80	242.80
TOTAL OPERATING REVENUE	5,865.37	281,113.36	286,978.73
NON-OPERATING REVENUE			
INCOME FROM GROUND HANDLING (PAX & TECHNICAL) SERVICES PROVIDED TO OTHER AIRLINES			29,966.01
BAR SALES			375.67
OTHER NON-OPERATING INCOME			34,965.40
TOTAL NON-OPERATING REVENUE OF BIMAN			65,307.07
TOTAL REVENUE FOR BIMAN			352,285.80
CATERING SALES (BFCC) TO BIMAN, FOREIGN AIRLINES, OUTSIDE PARTIES			7,000.00
POULTRY SALES (BPC)			935.93
TOTAL NON-OPERATING REVENUE OTHER THAN BIMAN			7,935.93
TOTAL NON-OPERATING INCOME			73,243.00
TOTAL REVENUE INCOME			360,221.73

Accounting and Reporting System of Airlines Industry

Table 47: Summary of Cash Budget of Biman

BIMAN BANGLADESH AIRLINES			
SUMMARY OF CASH BUDGET			
Taka in Lakh			
Particular	Budget 2009-10	Rev. Budget 2008-09	Org. Budget 2008-09
Revenue Earnings	360,221.73	323,684.65	404,726.97
Expenses other than Interest and Depreciation	354,254,.44	315,899.21	393,017.40
Interest	1,377.98	2,175.75	-
Depreciation	6,884.54	5,184.54	5,184.54
Total Expenses	353,516.95	323,259.51	398,201.95
Net profit/(Loss)	6,704.78	425.14	6,525.02
Add-Back Depreciation and Amortization (non-cash Expenses)	27,307.41	26,400.79	26,400.79
Cash Surplus/(Deficit) from Operation	34,012.19	26,825.93	32,925.81
Opening Cash Balance	32,612.76	30,404.72	25,000.00
Total Cash Available	66,624.95	57,230.65	57,925.81
Less:			
Capital Expenses	19,639.29	1,092.96	11,005.24
Repayment of Principal and Others	2,131.60	-	9,497.97
Payment for D Check	2,100.00	-	-
Payment for Engine O/H	22,260.00	3,924.85	9,297.97
Total Use of Cash	46,130.89	5,017.81	29,801.18
Add/(Less)			
Increase or Decrease of Working Capital	12,838.79	(19,600.08)	10,133.37
Net Cash Surplus/(deficit) for the Year	33,332.85	32,612.76	38,258.00



Accounting and Reporting System of Airlines Industry

4.7 Factors affecting financial results and financial ratios in Biman

4.7.1 Factors affecting financial results

Airline financial results are highly sensitive to small changes in either costs or revenues because of the historically high level of financial gearing that has overcome. Once the relatively high interest charges have been covered, increases in revenues or reductions in costs flow through to large improvements in net results, and vice versa. Financial gearing might be expected to decline somewhat in the future, as more assets are financed by operating leases, rather than with debt.

World's most airlines also display high operational gearing. This is caused by the fixed nature of operating expenses and relatively small margins on sales, these results in large swings in operating results. The degree to which operating costs are fixed depends on the timescale. There are three periods can be identified: a) the medium term: Once the schedule has been determined, the costs associated with operating flights are relatively fixed, for example, aircraft related costs (capital), flying, technical and other skilled staff and general overheads. b) The short-term: Once the airline has committed to operate the flight, all the medium term costs are fixed, as well as airport charges, fuel, ATC and certain flight related variable costs, for example, wear and tear on landing gear and tires. C) The very short-term: Once the airline has committed to carry passengers on the flight, additional costs become fixed, for example, ticketing materials, in-flight food, agent commissions and fuel required to lift extra payload.

The additional costs in b) are often described as variable costs, while the additional costs in c) marginal or incremental costs. As long as the flight is not full, traffic and revenues can be increased at very little extra cost, but once additional flights need to be scheduled, costs start to escalate. So world financial results reflect the difference between the break-even and actual load factors. The former can be described as the ratio of unit costs to unit revenues.

4.7.2 Factors affecting financial ratios

There are so many ratios calculated by different airlines of the world as well as Biman also. The results of different ratios are affected by some important factors like:



Accounting and Reporting System of Airlines Industry

Distortion of comparative data: Inflation affects comparative profitability, primarily through depreciation, which is usually based on the historic cost of assets. Seasonal factors will also distort ratio analysis, and many balance sheet amounts will be sensitive to the choice of financial year end in relation to the point in the seasonal cycle. Low season, which means that many ratios will be lower than previous year's results.

Difference in accounting treatment: Different depreciation periods affect the comparability of ratios, as well as whether aircraft leases are on or off balance sheet. Writing off route right or slot acquisitions against reserves will increase the debt/equity ratio. Other distortions are the capitalization of interest payment or turning an expense into an asset, and different treatment of foreign exchange gains and losses. Earnings per share can be distorted by the definition of extraordinary items, and the way taxation is accounted for will affect in particular the debt/equity ratio. There are three areas of major concern:

Asset lives and cost, and residual values used for depreciation.

Treatment of leased aircraft, or more generally whether aircraft financing is on or off-balance sheet.

Accounting for foreign exchange gains and losses, and the treatment of foreign exchange hedging and foreign operations.

These and other possible distortions affect most of the ratios to a greater or lesser degree, although some, such as interest cover, will be less affected than others, such as debt/equity ratio.

Ratio analysis used to assist judgment: It is impossible to generalize as to whether one particular ratio by itself is good or bad. For example, a high quick ratio shows a strong liquidity position, but the firm may not be earning a high enough return on its total assets.

Window dressing: Balance sheets are only a snapshot on a particular date and firms can employ techniques to make their position look better on that day. Sometimes profit and loss accounts can be made to look worse.



Accounting and Reporting System of Airlines Industry

The Biman Bangladesh Airlines analyst should therefore use a number of ratios together to evaluate the performance of the airline over the year, for example asset growth, equity growth, market to book value, return on capital, return on equity, return on sales etc.

4.8 Costs Structure and Cost Accounting Procedure followed by Biman

The costs of supplying airline services are an essential input to many decisions taken by any airline managers. The way that an airline's costs are broken down and categorized will depend on the purpose for which airline being used. In Biman planning cost information is required for three purposes:

- 1) Airlines require an overall breakdown of their total expenditure into different cost categories as a general management and accounting tool. They need a general management and accounting tool. They need a general breakdown of costs to show cost trends over time, to measure the cost efficiency of particular functional areas such as flight operations or passenger services, and ultimately to enable them measure their operating and non-operating profit or loss.
- 2) An assessment of costs is essential in any evaluation of investments either in new aircraft or in new routes or services.
- 3) Cost identification is crucial in the development of pricing policies and pricing decisions.

A single cost categorization is not capable of satisfying all of these three management requirements of airlines simultaneously. A cost breakdown developed for general management purposes may be useless as a guide to pricing strategy. As a result most of the airlines, breakdown their costs in two or more different ways in order to use for different aspects of management, as well as Biman also. While the approach to cost categorization used by each airlines is strongly influenced by accounting practices in its home country, it is also influenced by the cost classification adopted by ICAO. So worldwide throughout the airline industry and Biman Bangladesh Airlines, there tends to be a fairly standard approach to the categorization of costs for general management use.



Accounting and Reporting System of Airlines Industry

Cost Accounting is the ascertainment of costing of manufacturing a product, costing of giving of service and the way in which costs can be controlled. Cost control has some objectives:

1. To disclose profitable and unprofitable activities to enable management to take corrective action as required
2. To provide information for comparison as required
3. To analyze expenses incurred so that wastage can be traced and economies effected
4. To indicate the precise nature of an increase or decrease in the results disclosed by the financial accounts

4.8.1 The traditional approach to airline costs

Operating and Non-Operating Items: It is normal practice to divide airline accounts into operating and non-operating categories. The aim is to identify and separate out as non-operating items all those costs and revenues not directly associated with the operation of an airlines own air services. There are five non-operating items in airline costs, these are:

- 1) The gains or losses arising from the retirement of property or equipment, both aeronautical and non-aeronautical
- 2) Interest paid on loans, as well as any interest received from bank or other deposits
- 3) Direct government subsidies or other government payments – In the case of some airlines subsidies are substantial.
- 4) All profits or losses arising from an airline's affiliated companies – In some cases this item may be of some importance in the overall financial performance of an airline.
- 5) Losses or gains arising from foreign exchange transactions or from sales of shares or securities – In recent year airlines have from time to time made large losses or profits as a result of sudden marked fluctuations in exchange rates.



Accounting and Reporting System of Airlines Industry

For some airlines non-operating items may have a major impact on their financial results. Since the nature of each airline's non-operating costs and revenues is probably unique, in that many non-operating items are influenced by circumstances which are very particular to each airline, inter-airline comparisons of total non-operating costs are of little value.

On the operating side, airline accounts are divided into operating revenues and operating costs. Operating costs can be further subdivided into direct operating and indirect operating costs. Direct operating costs should include all flying expenses, such as flight crew salaries, fuel and oil, all maintenance and overhaul costs and all aircraft depreciation costs. Non-operating costs are all those costs which will remain unaffected by a change of aircraft type because they are not directly dependent on aircraft operation. They include areas of expenditure which are passenger related rather than aircraft related, such as passenger service costs, costs of ticketing and sales, and station and ground costs as well as general administrative costs. In practice, however, the distinction between direct and indirect operating costs is not always clear cut. There are certain cost items, such as maintenance administration or costs of cabin staff, which are categorized as direct costs by some airlines and as indirect costs by others.

There are some possible ways to minimize Operating Cost of an Airline:

- Fuel hedging – Forward purchase
- Efficient fuel tinkering – Price differentials
- Homogenous types of Aircraft – Modern generation A/C
- Utilization of Aircraft – Per day
- Composition of Aircraft – Short-haul and long-haul
- Aircraft configuration – Seating capacity
- Hub Operation – HUB and SPOKE
- Outsourcing – Subcontracting
- Benchmarking – Best practices in the industry



Accounting and Reporting System of Airlines Industry

- BPR (Business Process Re-engineering)

The main categories of airlines operating costs are shown in the following table. The cost categories shown are those currently accepted and used, with some modification by the ICAO, by the British CAA and by the American CAB. Similar cost categories are used by Biman Bangladesh Airlines and the majority of airlines round the world.

Table 48: Structure of Operating Costs of Airlines

DIRECT OPERATING COSTS (DOC)
1. Flight Operations
Flight crew salaries and expenses
Fuel and Oil
Airport and en-route charges
Insurance
Rental of flight equipment and/or crews
2. Maintenance and Overhead
3. Depreciation and amortizations
Flight equipment
Group equipment and property (could be IOC)
Extra depreciation (in excess of costs)
Amortization of development costs and crew training
INDIRECT OPERATING COSTS (IOC)
4. Station and ground expenses
5. Passenger Services
Cabin crew salaries and expenses (could be DOC)
Other passenger service costs
6. Ticketing, sales and promotion
7. General and administrative
8. Other operating costs



Accounting and Reporting System of Airlines Industry

Direct Operating Costs:

Cost of flight operations: This is absolutely the largest single element of operating costs. It includes, in the first place, all costs associated with flight crew. Such costs cover not only direct salaries and travelling and stopover expenses but also allowances, pensions, insurance and any other social welfare payment. Flight crew costs can be directly calculated on a route-by-route basis or, more usually, they are expressed as an hourly cost for a particular route or service can be calculated by multiplying the hourly flight crew costs of the aircraft type being operated on that route by the block time for the route.

The second main cost element of flight operations is fuel. Fuel consumption varies considerably from route to route in relation to the sector lengths, the aircraft weight, wind conditions, the cruise altitude and so on. Fuel costs include all relevant taxes and duties, such as taxes on fuel or oil, levied by governments, or fuel throughput charges levied by some airport authorities on the volume of fuel uplifted.

Another significant element of flight operation costs is made up of airport and en-route charges. Airport charges normally have two elements: a landing fee related to the weight of the aircraft and a passenger charge levied on the number of passengers boarded at that airport, occasionally it is calculated on the number of disembarked passengers. Since landing and en-route charges vary by individual airport and country they must be separately calculated for each flight or route.

A relatively smaller cost in flight operation is that of the insurance of the flight equipment. The insurance premium paid by an airline for each aircraft is calculated as a percentage of the full purchase price. The annual premium is converted into an hourly insurance cost by dividing it by the projected annual aircraft utilization, that is, by the total number of block hours that each aircraft is expected to fly during the year.

There are some costs related to flight operations, such as, flight crew training, or of route development, rental charges for the hiring or leasing of aircraft or crews from other airlines. These are usually considered as part of flight operation costs.

Maintenance and Overhaul costs: Total maintenance costs cover a whole series of separate costs, related to different aspects of maintenance and overhaul, which



Accounting and Reporting System of Airlines Industry

ideally must to be treated separately. In practice there are so many joint costs in the separate maintenance areas that it is difficult if not impossible for many airlines to break down total maintenance costs into separate cost categories.

This item covers not only routine maintenance and maintenance checks but also periodic overhauls and repairs. It includes labor costs and expenses related to all grades of staff involved directly or indirectly in maintenance work. Where possible costs of maintenance staff at outstations should be separated out from station costs and included under maintenance. The costs of components and spare parts consumed are also included, as are the costs of workshops, maintenance hangers and offices. If an airline is subcontracting out any of the maintenance done on its own aircraft then the charges it pays for any such work should be allocated to the maintenance and overhaul category.

Individual airlines, like Biman, having estimated the total maintenance costs for one particular aircraft type, may then convert these costs into an hourly maintenance cost by dividing them by the total number of block hours flown by all the aircraft of that particular type operated by the airline.

Depreciation and amortization: Depreciation of flight equipment is the third component of direct operating costs. Airline tend to use the straight line depreciation over a given number of years with a residual value of zero to 15 per cent. Airlines throughout world and Biman have tended to lengthen the depreciation period of their large wide-bodied jets to 14-16 years with a residual value of around 10 per cent. For smaller short-haul aircraft depreciation periods are shorter, generally 8-10 years.

The annual depreciation charge or cost of a particular aircraft in an airline's fleet depends on the depreciation period adopted and the residual value assumed.

$\text{Annual depreciation} = \frac{\text{Price of aircraft \& spares} - \text{Residual value}}{\text{Depreciation period}}$
--

The hourly depreciation cost of each aircraft in any one year can be established by dividing its annual depreciation cost by the aircraft's annual utilization, that is the number of block hours flown in that year. It is obvious that any any changes in the depreciation period, in the residual value or the annual utilization will all affect the hourly depreciation cost.



Accounting and Reporting System of Airlines Industry

Many airlines amortize the costs of flight crew training as well as any development and pre –operating costs related to the development of new routes or the introduction of new aircraft. In essence this means that such costs, instead of being debited in total to the year in which they occur, are spread out over a number of years. Such amortization costs are grouped together with depreciation.

Indirect Operating costs:

Station and ground expenses: Station and ground costs are all those costs incurred in providing an airline's services at an airport other than the cost of landing fees and other airport charges. Such costs include the salaries and expenses of all airline staff located at the airport and engaged in the handling and servicing of aircraft passengers or flight. In addition there will be the cost of ground handling equipment, of ground transport, of buildings offices and associated facilities such as telex machines, telephones and so on. There is also be a cost arising from the maintenance and insurance of each station's building and equipment.

Some aircraft maintenance may be done at an aircraft's outstations and the costs arising from such maintenance work should ideally be included as a direct operating cost under the 'maintenance and overhau'l category. But maintenance expenditure re frequently difficult to disentangle from other station costs and are in many cases left as part of 'station and ground' costs.

Costs of passenger service: the largest single element of costs arising from passenger services is the pay, allowances and other expenses directly related to aircraft cabin staff and other passenger service personnel. As the number and grading of cabin staff vary by aircraft type, some airlines consider cabin staff costs as an element of flight operations costs; that is, as a direct operating cost.

Another passenger service costs are those directly related to the passengers. They include the costs of in-flight catering, the costs of accommodation provided for transit passengers, the cost of meals and other facilities provided on the ground for the comfort of passengers and expenses incurred as a result of delayed or cancelled flights.

Lastly, premium paid by the airline for passenger liability insurance and passenger accident insurance also include here.



Accounting and Reporting System of Airlines Industry

Ticketing, Sales and Promotion costs: Such costs include all expenditure, pay, allowances, etc., related to staff engaged in ticketing, sales and promotion activities as well as office and accommodation costs arising through these activities. The cost of retail ticket offices or shops, whether at home or abroad, also included. The costs of advertising and of any other form of promotion also fall under this heading. Finally, commission or fees paid to agencies for ticket sales would normally be included here.

General and Administrative costs: General and administrative costs are usually a relatively small element of an airline's total operating costs. General and administrative costs should include only those cost elements which are truly general to the airline or which cannot readily be allocated to a particular activity. Inter-airline comparison of these general costs is of little value since airlines follow different accounting practices. Some airlines try to allocate their central costs to different cost centers as much as possible.

Fixed and Variable Direct Operating Costs:

Fixed or Standing costs: Fixed or standing costs are those DOC's which in the short run do not vary with particular flights or even a series of flights. They are costs which in the short or medium term are not escapable. They are certainly not escapable within one scheduling period.

Variable or Flying costs: Variable or flying costs are costs which are escapable in the short run. They are those costs which would be avoided if a flight or a series of flights was cancelled. They are immediately escapable costs, such as fuel, flight crew overtime and other crew expenses arising in flying particular services, landing charges, the costs of passenger meals, and so on.

The high proportion of variable costs has important implications for airline operations planning and for pricing. It shows that significant savings can be achieved in the short term. Variable costs are those that are immediately escapable. In the medium term, that is, within a period of a year or so, many costs previously considered fixed start to become variable. Aircraft can be sold, cutting depreciation costs; staff numbers can be run down or staff redeployed; sales office shut; headquarters



Accounting and Reporting System of Airlines Industry

buildings sold off. Elements of both fixed direct costs and indirect costs are avoidable in the medium term.

One possible division of direct operating costs between fixed and variable costs are shown in the following table:

Table 49: Cost Structure based on fixed and variable direct operating costs

<u>Variable direct operating costs</u>	<u>Fixed or standing direct operating costs</u>	<u>Indirect operating costs</u>
<u>1. Fuel costs</u> Fuel Oil consumed Water methanol	<u>7. Aircraft standing charges</u> Depreciation or rental Insurance	<u>11. Station and ground expenses</u>
<u>2. Variable flight crew costs</u> Flight crew subsistence and bonuses	<u>8. Annual flight crew costs</u> Fixed salaries and other expenses unrelated to amount of flying done	<u>12. Passenger services</u> Passenger service staff Passenger insurance
<u>3. Variable cabin crew costs</u> Cabin crew subsistence and bonuses	Flight crew administration	<u>13. Ticketing, sales and promotion</u>
<u>4. Direct engineering costs</u> Related to number of flight cycles Related to number of flying hours	<u>9. Annual cabin crew costs</u> Fixed salaries and other expenses unrelated to amount of flying done Cabin crew administration	<u>14. General and administrative</u>
<u>5. Airport and en-route charges</u> Landing fees and other airport charges En-route navigation charges	<u>10. Engineering overheads</u> Fixed engineering staff costs unrelated to aircraft utilization Maintenance administration and other overheads	
<u>6. Passenger service costs</u> Passenger meals/hotel expenses		

Labor Costs:

Labor cost is a major input cost of any airlines. Labor costs are disaggregated and appear as parts of different cost categories such as flight operations, maintenance or ticketing and sales. In so far as most airlines do identify staff costs as a separate cost within each of these cost categories it is possible to assess the total labor costs



Accounting and Reporting System of Airlines Industry

of each airline as well as Biman also. It is generally assumed within the airline industry that total labor costs, that is, the gross wage costs of all groups' of workers together with bonuses, travel expenses and other allowances, amount to about one-third of any scheduled airline's total operating costs.

4.8.2 Determinants of Airline Costs

Airline managers' prime objective is to match the supply of air services, which they control, with the demand, over which they have much less control, in such a way as to be both competitive and profitable. There are some factors or determinants of airline costs as well as Biman Bangladesh Airlines also.

Overall costs are broadly determined by the level of supply that is the volume of output, decided upon by the management. The numerous factors which affect airline operating costs can be grouped into three broad categories according to the degree to which they can be influenced by management.

First, one can identify a number of external economic factor over which airline have little control. Such factors include the prevailing wage levels, fuel prices and airport and navigation user charges. An airline has to accept these as more or less given and can only marginally their impact through negotiations with unions or fuel suppliers. The levels and patterns of demand that an international airline is trying to satisfy are also largely externally determined by economic and geographical factors beyond its control.

Secondly, there are two major determinants of costs over which airlines have somewhat great but still limited control. There are the type of aircraft used and the pattern of operations for which the aircraft are used. While both of these might seem to be entirely at the discretion of airline management, in practice managements' hands are tied to some extent by factors beyond their control. The geographical location of an airline's home base, the bilateral air services agreements signed by its government, the traffic density on its routes and other such factors will strongly influence the type of aircraft required and the network operated. Management does not have an entirely free hand to do as it wishes. This is particularly so of national airlines in countries with only one flag carrier.



Accounting and Reporting System of Airlines Industry

Table 50: Determinants of Airline Costs

<p>➤ <i>Externally determined input costs:</i></p> <p>Prevailing Wage Level</p> <p>Price of Aviation Fuel</p> <p>User Charges</p> <p>➤ <i>Aircraft type and characteristics:</i></p> <p>Aircraft Size</p> <p>Aircraft Speed</p> <p>Take-Off Performance and Range</p> <p>Engine Performance</p> <p>➤ <i>Marketing Policy:</i></p> <p>Product Quality</p> <p>Sales and Promotion Activity</p>	<p>➤ <i>Financial Policies:</i></p> <p>Depreciation policy</p> <p>Current or Historic cost Accounting</p> <p>Methods of Finance</p> <p>➤ <i>Pattern of Operations:</i></p> <p>Stage Length</p> <p>Frequency of Services</p> <p>Length of Passenger Haul</p> <p>Airline and Fleet Size</p>
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The third category of cost determinants is that over which management more or less total controls have. Marketing, product planning and financial policy fall into this category. In the final analysis one must also consider managerial efficiency as a cost determinant. It is critical in that if determinants the degree to which the impact of the other factors mentioned above, whether favorable or unfavorable, can be modified to the benefit of the airline concerned.

In practice no airline management is likely to be equally efficient or inefficient in all areas of management. It may well be efficient in one area, such as flight scheduling, but relatively inefficient in the organization of maintenance procedures. Thus the total unit cost of an airline may mask wide variations of performance in discrete areas of activity such as flight operations or maintenance management. Preferably, inter-airline comparison should be on a disaggregate basis, looking at such discrete areas separately.



Accounting and Reporting System of Airlines Industry

The Company (Biman Bangladesh Airlines Limited) operates Biman Bangladesh Airlines (BBA), Biman Poultry Complex (BPC) and Biman Flight Catering Center (BFCC), Bangladesh Airlines Training Center (BATC) and as such the accounts of these three units (BBA, BFCC, and BPC) have been consolidated as the Company Accounts. Biman as a whole follow the above cost structure for determining the airline costs and accounts.

Biman has two distinct profit centers as subsidiaries: Biman Flight Catering Center (BFCC) and Biman Poultry Complex (BPC). Both make positive financial contributions to the company. BFCC and BPC have been remaining the profit making center of Biman. Though BFCC and BPC are the profit making centers of Biman, but do not affect the net profit or net loss of the company. Honestly, the proportion of profit of BFCC and BPC cannot change the Biman's net profit or loss position.

4.8.3 A detail Proforma of Route Profitability Analysis of any Flight of Biman

Biman Bangladesh airlines do the profitability analysis Route-wise, flight wise and aircraft wise. This is a continuous process for any airlines that is daily, weekly, monthly then yearly. In Biman, 'Cost, budget and FMIS Department' is analyzing the profitability of all aircrafts, all flights and all routes separately regularly. There are some proforma for route profitability analysis of Biman is followed.

Table 51: Statement of any Route Profitability per Flight (like DAC-CGP-CXB-DAC) -(Proforma)

SL	ELEMENTS	AMOUNT IN BDT	AMOUNT IN USD
01	REVENUE		
02	VARIABLE COST		
03=01-02	CONTRIBUTION MARGIN		
04	FIXED COSTS		
05	FINANCING COST		
06=02+04+05	TOTAL COST		
	NET PROFIT/(LOSS)		
07	NUMBER OF FLIGHT		



Accounting and Reporting System of Airlines Industry

08	CONTRIBUTION MARGIN PER FLIGHT		
09=(01-06)/07	NET PROFIT/(LOSS) PER FLIGHT		
	CABIN FACTOR		
	LOAD FACTOR BLOCK HOUR		
	REVENUE PER B/H		
	VARIABLE COST PER B/H		
	FIXED COST PER B/H		

Table 51 is expressing the route profitability of any route of Biman Bangladesh Airlines in brief. After this table, another table is expressing the summary revenue income of any aircraft of any route of Biman like DAC-CGP-CXB-DAC route means from Dhaka to Chittagong to Cox's Bazar to Dhaka.

Table 52: Route wise Revenue Income for Any Aircraft (Proforma)

SL NO	ELEMENTS	ANY ROUTE OR ROUTE NAME (LIKE DAC-CGP-CXB-DAC)	
		AMOUNT	
		BDT	USD
REVENUE INCOME			
1	PASSENGER		
2	EXCESS BAGGAGE		
3	CARGO		
4	MAIL		
5	INSURANCE SURCHARGE		
6	FUEL SURCHARGE		
7	NON-TRANSPORT INCOME		
	TOTAL REVENUE INCOME		

A detail route wise costing for any aircraft of Biman is mentioned below. From this table or structure we can understand that, how any airlines like Biman calculate their profitability of any route, any aircraft for any day or week or month and lastly for one year.



Accounting and Reporting System of Airlines Industry

Table 53: Route wise Costing for any aircraft or Aircraft Name (Prorma)

SL	COST ELEMENTS	ROUTE NAME	
		AMOUNT	
		BDT	USD
FLIGHT OPERATION COST:			
1	FUEL AND OIL FOR AIRCRAFT		
2	LANDING CHARGES		
3	OVER FLYING CHARGE		
4	PARKING CHARGES		
5	COCKPIT CREW MEAL, ALL AND LAYOVER		
6	SECURITY CHARGES		
7	FLIGHT PLAN		
8= (1...+7...)	SUB TOTAL		
ENGINEERING MAINTENANCE COST:			
9	MAINTENANCE OF AIRCRAF		
10	DIRECT MATERIAL		
11	INDIRECT MATERIAL		
12	TECHNICAL HANDLING		
13	MAINTENANCE RESERVE-LEASE A/C		
14	TEST/RETURN/FERRY		
15= (9...+.14)	SUB-TOTAL		
SALES & SERVICE COST:			
16	TRAFFIC HANDLING		
17	PAX RELATED CHARGES		
18	PAX MEAL BIMAN CATERING		
19	PAX MEAL UPLIFTED		
20	PAX SUPPLIES & FREE ISSUE		
21	PAX MEAL GROUND		



Accounting and Reporting System of Airlines Industry

22	CABIN CREW LAYOVER		
23	PAX LAYOVER		
24	SALES COMMISSION		
25	INCENTIVE COMMISSION		
26	PRINTING OF TICKET		
27	CREW TRANSPORT HIRED		
28= (16..+..27)	SUB-TOTAL		
29= (8+15+28)	TOTAL VARIABLE COST		
AIRCRAFT STANDING CHARGES:			
30	AIRCRAFT DEPRECIATION		
31	INSURANCE OF AIRCRAFT		
32	DRY LEASE RENT OF AIRCRAFT		
33= (30..+..32)	SUB-TOTAL		
DIRECT FIXED COST:			
34	COCKPIT CREW SALARY		
35	SALARY ALLOWANCE-PAX SERVICE		
36	DIRECT LABOR-ENGINEERING		
37	ADVERTISING & PROMOTION EXPENSES		
38	TRAINING COST-COCKPIT CREW		
39	MAINTENANCE GROUND EQUIPMENT		
40= (34..+..39)	SUB-TOTAL		
41=(29+33+40)	TOTAL DIRECT OPERATING COST		
INDIRECT COST:			
42	INTEREST ON COMMERCIAL LOAN		
43	DEPRECIATION OTHER THAN AIRCRAFT		
44	FIXED STATION COST		
45	FIXED OVERHEAD COST		
46	TOTAL INDIRECT COST		



Accounting and Reporting System of Airlines Industry

47	TOTAL FIXED COST		
48	5% MAKE-UP ON FIXED COST		
49	TOTAL OPERATING COST		
50	FINANCING COST: INTEREST ON A/C LOAN		
51	NON-TRANSPORT EXPENSES		
52= (49..+..51)	TOTAL COST		
TRAFFIC DATA (KPIs):			
53	TOTAL REVENUE BLOCK HOUR		
54	COST PER REVENUE BLOCK HOUR		
55	NUMBER OF FLIGHT(ROUND TRIP)		
56	FLYING HOUR		
57	NUMBER OF PAX		
58	REVENUE PAX KM (IN LAKH)		
59	AVAILABLE SEAT KM (IN LAKH)		
60	CABIN FACTOR		
61	REVENUE TON KM (IN LAKH)		
62	AVAILABLE TON KM (IN LAKH)		
63	LOAD FACTOR		

So airlines costing and profitability analysis is not so easy, it is a critical and continuous process. Biman's Cost, Budget and FMIS department do all these jobs by using different software and so many competent and qualified professionals to help the high officials to take efficient and appropriate decision for Biman's profitable.

4.9 Rout profitability analysis with minimum break-even capacity

Break-even point indicates the point at which the company neither makes a profit nor suffers a loss. It can be determined directly by mathematical computation or by the graphic form named as break-even chart. Graphic form or break-even chart not only shows management the point at which neither a profit nor a loss occurs but also indicates the possibilities associated with changes in cost or sales.



Accounting and Reporting System of Airlines Industry

Break-Even Load Factors: Every airline has break-even load factor. That is the percentage of the seats the airline has in service that it must sell at a given yield, or price level, to cover its costs. Since revenue and costs vary from one airline to another, so does the break-even load factor. Escalating costs push up the break-even load factor, while increasing prices for airline services have just the opposite effect, pushing it lower. Overall, the break-even load factor for the industry in recent years has been approximately 66 percent.

Data for break-even analysis cannot be taken directly from the conventional or full-costing income statement. The form of the statement and the manner in which the data are represented do not permit a convenient and practical analysis for planning, policy making and profit determination. Therefore, each expense shown in the conventional income statement must be analyzed to determine its fixed, semi variable and variable- the semi variable expenses must be separated into their fixed and variable components.

Biman is considering break-even point only for cabin factor. Break-even analyses for sales with respect to particular route or for total route are not use in Biman. Biman Bangladesh Airlines typically operate very close to their break-even load factor. The sale of just one or two more seats on each flight can mean the difference between profit and loss for an airline.

For example, for route of DAC-DXB-FRA-LON-FRA-DAC: Estimated Pax Revenue=Tk. 167.76, Estimated Pax related Cost=Tk. 302.54, estimated Cabin Factor for this Route=54.84%.

So, Break-even Cabin Factor= $\frac{\text{Cabin Factor}}{\text{Revenue}} \times \text{Cost}$

Break-even Cabin Factor= $54.84\% / 167.76 \times 302.54 = 104.31\%$

There are some tables given below which are expressing and presenting the Biman's profitability analysis procedures. These information are very much confidential for Biman and any other airlines. Airlines do not disclose this type of information. Biman usually analyze its profitability daily or weekly or monthly or two months or three months, six months or lastly one year. Another detailed table is given in *Appendix no. 13* about the Profitability Analysis of different routes of 777-300ER Aircraft's, Revenue and Cost element wise.



Accounting and Reporting System of Airlines Industry

After analyzing all tables we can understand how Biman or any airline does its profitability analysis extensively. These are all important works for airlines to make profitable of the company.

Table 54: Estimated Profit/(Loss) Statement for two months of Biman

ESTIMATED PROFIT/(LOSS) STATEMENT FOR THE PERIOD OF JUL-AUG'14			<u>BDT IN LAKH</u>
PARTICULARS			JUL-AUG'14
A	REVENUE	PASSENGER	56,865.14
		EXCESS BAGGAGE	1,389.69
		CARGO	7,232.77
		MAIL	7.22
		NON TRANSPORT INCOME	12,561.52
TOTAL REVENUE			78,056.34
B	VARIABLE COST	FLIGHT OPERATION	38,476.97
		ENGINEERING MAINTENANCE	6,344.76
		SALES AND SERVICE	9,078.35
TOTAL VARIABLE COST			53,900.07
A-B	CONTRIBUTION MARGIN		24,156.27
C	FIXED COST	AIRCRAFT DEPRECIATION	4,040.97
		INSURANCE OF AIRCRAFT	1,638.20
		DRY LEASE RENT OF AIRCRAFT	2,543.92
		OTHERS	7,751.62
		FIXED STATION COST	1,924.31
		FIXED OVERHEAD COST	5,664.69
TOTAL FIXED COST			23,563.71
B+C	TOTAL COST		77,463.78
A-(B+C)	PROFIT/(LOSS)		592.56



Accounting and Reporting System of Airlines Industry

Table 55: Profit /(Loss) Statement for one month of Biman

**PROFIT/(LOSS) STATEMENT FOR THE PERIOD OF
JUL-AUG'14**

PARTICULARS		BDT IN LAKH JUL-AUG'14	
BIMAN :			
A	REVENUE	PASSENGER	56,865.14
		EXCESS BAGGAGE	1,389.69
		CARGO	7,232.77
		MAIL	7.22
		NON TRANSPORT INCOME	12,561.52
TOTAL REVENUE		78,056.34	
B	VARIABLE COST	FLIGHT OPERATION	38,476.97
		ENGINEERING MAINTENANCE	6,344.76
		SALES AND SERVICE	9,078.35
TOTAL VARIABLE COST		53,900.07	
A-B	CONTRIBUTION MARGIN		24,156.27
C	FIXED COST	AIRCRAFT DEPRECIATION	4,040.97
		INSURANCE OF AIRCRAFT	1,638.20
		DRY LEASE RENT OF AIRCRAFT	2,543.92
		OTHERS	7,751.62
		FIXED STATION COST	1,924.31
		FIXED OVERHEAD COST	5,664.69
TOTAL FIXED COST		23,563.71	
B+C	TOTAL COST		77,463.78
A-(B+C)	PROFIT/(LOSS)		592.56
BFCC :			
01.	REVENUE INCOME	1,546.73	
02.	EXPENSES	1,196.48	
03=01-02	PROFIT/(LOSS)		350.25
BIMAN POULTRY COMPLEX (BPC) :			
01.	REVENUE INCOME	279.35	
02.	EXPENSES	208.08	
03=01-02	PROFIT/(LOSS)		71.28
GRAND TOTAL :			
01.	REVENUE INCOME	79882.42	
02.	EXPENSES	78868.33	
03=01-02	PROFIT/(LOSS)		1,014.09



Accounting and Reporting System of Airlines Industry

Table 56: Route-wise Profitability Analysis for two months of Biman

ROUTE WISE PROFITABILITY FOR THE PERIOD OF

JUL-AUG' 14BDT IN LAKH

SL NO	ROUTE	REVENUE	DIRECT OPERATING COST	CONTRIBUTION MARGIN	FIXED COST	TOTAL COST	PROFIT/(LOSS)	NO. OF FLIGHT	CABIN FACTOR
01	02	03	04	05=03-04	06	07=04+06	08=03-07	09	10
1.	DAC-LON-DAC	568.98	545.39	23.60	116.52	661.91	(92.93)	2	66.82%
2.	DAC-LON-ZYL-DAC	8,585.37	7,129.41	1,455.95	1,493.58	8,622.99	(37.63)	25	75.58%
3.	LON FLIGHT	9,154.35	7,674.80	1,479.55	1,610.10	9,284.90	(130.55)	27	74.95%
4.	DAC-FRA-ROM-DAC	3,212.27	3,942.64	(730.37)	679.30	4,621.94	(1,409.67)	17	59.06%
5.	ROM FLIGHT	3,212.27	3,942.64	(730.37)	679.30	4,621.94	(1,409.67)	17	59.06%
6.	TOTAL EUROPE FLIGHT	12,366.62	11,617.44	749.18	2,289.40	13,906.84	(1,540.22)	44	69.88%
7.	DAC-MCT-CGP	95.93	70.89	25.04	12.07	82.97	12.96	1	89.45%
8.	DAC-CGP-MCT-CGP	166.56	135.72	30.84	22.84	158.56	8.00	2	87.13%
9.	DAC-CGP-MCT-CGP-DAC	962.25	667.35	294.90	138.19	805.54	156.71	6	87.02%
10.	DAC-CGP-MCT-DAC	1,585.71	1,117.32	468.39	231.06	1,348.38	237.32	10	79.79%
11.	DAC-MCT-CGP-DAC	2,605.89	1,905.35	700.54	366.63	2,271.98	333.91	18	79.81%
12.	MCT FLIGHT	5,416.34	3,896.63	1,519.70	770.80	4,667.43	748.90	37	81.43%
13.	DAC-CGP-AUH-CGP-DAC	4,071.50	3,493.45	578.05	719.57	4,213.02	(141.52)	26	73.03%
14.	DAC-CGP-AUH-ZYL-DAC	2,771.88	2,370.76	401.12	495.84	2,866.60	(94.72)	18	74.27%

Accounting and Reporting System of Airlines Industry

15.	AUH FLIGHT	6,843.38	5,864.21	979.16	1,215.40	7,079.62	(236.24)	44	73.53%
16.	DAC-DOH-ZYL-DAC	693.77	811.71	(117.93)	152.02	963.72	(269.95)	8	57.44%
17.	DAC-DOH-CGP-DAC	1,039.84	946.48	93.36	181.13	1,127.61	(87.77)	9	72.67%
18.	DOH FLIGHT	1,733.61	1,758.18	(24.57)	333.15	2,091.33	(357.72)	17	65.72%
19.	CGP-DXB-CGP-DAC	226.35	229.94	(3.60)	38.46	268.40	(42.05)	3	88.13%
20.	DAC-CGP-DXB-CGP-DAC	3,725.57	3,965.46	(239.89)	662.00	4,627.46	(901.90)	33	68.69%
21.	DAC-DXB-ZYL-DAC	1,214.12	1,049.69	164.44	214.42	1,264.11	(49.99)	9	75.41%
22.	DAC-CGP-DXB-DAC	198.38	172.14	26.24	31.99	204.13	(5.75)	2	81.82%
23.	DAC-DXB-CGP-DAC	315.34	341.12	(25.78)	69.72	410.84	(95.49)	3	54.61%
24.	DXB FLIGHT	5,679.76	5,758.34	(78.59)	1,016.59	6,774.93	(1,095.17)	50	70.20%
25.	DAC-CGP-JED-CGP-DAC	4,941.68	3,418.08	1,523.60	696.63	4,114.71	826.97	17	85.38%
26.	DAC-JED-CGP-DAC	182.48	174.35	8.13	39.17	213.52	(31.04)	1	55.62%
27.	DAC-JED-DAC	4,383.78	3,004.91	1,378.87	647.14	3,652.05	731.73	17	85.59%
28.	DAC-JED-ZYL-DAC	2,343.54	1,619.36	724.18	355.58	1,974.93	368.60	9	79.98%
29.	JED FLIGHT	11,851.48	8,216.70	3,634.78	1,738.51	9,955.21	1,896.26	44	83.68%
30.	DAC-JED-DAC HAJJ	4,929.54	2,997.75	1,931.79	735.42	3,733.17	1,196.37	20	49.53%
31.	HAJJ FLIGHT	4,929.54	2,997.75	1,931.79	735.42	3,733.17	1,196.37	20	50%
32.	DAC-DMM-DAC	3,475.20	3,052.00	423.20	535.12	3,587.11	(111.91)	27	73.23%
33.	DAC-RUH-DAC	8,858.35	6,443.39	2,414.97	1,335.52	7,778.91	1,079.45	44	78.24%
34.	RUH/DMM FLIGHT	12,333.55	9,495.39	2,838.17	1,870.64	11,366.02	967.53	71	76.73%
35.	DAC-KWI-CGP-DAC	740.28	778.64	(38.36)	136.53	915.17	(174.89)	8	76.34%
36.	DAC-KWI-DAC	2,446.52	2,513.10	(66.58)	455.79	2,968.88	(522.36)	28	80.60%

Accounting and Reporting System of Airlines Industry

37.	KWI FLIGHT	3,186.80	3,291.74	(104.94)	592.32	3,884.06	(697.26)	36	79.62%
38.	TOTAL MIDDLE EAST FLIGHT	51,974.45	41,278.95	10,695.50	8,272.82	49,551.77	2,422.68	319	74.67%
39.	DAC-BKK-DAC	1,062.69	1,059.34	3.35	157.85	1,217.19	(154.50)	35	73.41%
40.	DAC-CCU-DAC	532.80	649.40	(116.60)	40.87	690.27	(157.47)	59	63.64%
41.	DAC-DEL-DAC	234.68	329.32	(94.64)	53.34	382.66	(147.98)	13	36.45%
42.	DAC-HKG-DAC	806.60	748.35	58.25	119.64	867.99	(61.39)	15	63.46%
43.	DAC-KUL-SIN-DAC	100.15	101.40	(1.25)	16.70	118.10	(17.95)	2	76.46%
44.	DAC-KTM-DAC	1,234.92	1,232.51	2.41	128.65	1,361.17	(126.24)	53	54.48%
45.	DAC-KUL-DAC	6,522.25	4,726.26	1,795.98	921.07	5,647.34	874.91	62	84.30%
46.	DAC-RGN-DAC	294.03	287.83	6.20	44.58	332.41	(38.38)	16	31.43%
47.	DAC-SIN-DAC	2,524.40	2,520.66	3.74	434.00	2,954.66	(430.26)	49	73.84%
48.	ASIA PACIFIC	13,312.52	11,655.07	1,657.45	1,916.70	13,571.78	(259.25)	304	74.91%
49.	DAC-CGP-DAC	8.43	20.15	(11.72)	2.17	22.32	(13.89)	2	18.18%
50.	DAC-ZYL-DAC	394.32	370.80	23.52	40.27	411.07	(16.75)	61	51.51%
51.	DOMESTIC FLIGHT	402.75	390.95	11.80	42.44	433.39	(30.65)	63	49.86%
52.	GRAND TOTAL	78,056.34	64,942.41	13,113.93	12,521.37	77,463.78	592.56	730	73.74%

Accounting and Reporting System of Airlines Industry

Table 57: Statement of Profitability for two months of Biman (Revenue and Cost Elements Wise)

STATEMENT OF PROFITABILITY FOR THE PERIOD OF JUL-AUG' 14
REVENUE AND COST ELEMENTS WISE

BDT IN LAKH

SL NO.	PARTICULARS	777-200	777-300ER	A 310-300	737-800	TOTAL
REVENUE INCOME:						
01	PASSENGER	8,929.05	27,811.57	3,980.86	3,177.32	43,898.80
02	EXCESS BAGGAGE	277.35	851.68	173.54	87.12	1,389.69
03	CARGO	1,572.63	4,877.88	566.71	215.55	7,232.77
04	MAIL	1.90	0.92	0.02	4.38	7.22
05	INSURANCE SURCHARGE	259.03	648.12	169.71	191.95	1,268.81
06	FUEL SURCHARGE	2,532.69	6,608.54	1,194.64	1,361.66	11,697.53
07	NON-TRANSPORT INCOME	2,797.57	7,703.91	1,202.23	857.81	12,561.52
08=01+..07	TOTAL REVENUE INCOME	16,370.21	48,502.62	7,287.71	5,895.79	78,056.34
<u>VARIABLE COST :</u>						
<u>FLIGHT OPERATION COST:</u>						
09	FUEL & OIL FOR AIRCRAFT	8,261.35	18,880.53	4,023.96	2,314.93	33,480.77
10	LANDING CHARGES	538.57	1,364.56	259.83	227.56	2,390.52

Accounting and Reporting System of Airlines Industry

11	OVERFLYING CHARGES	494.03	1,150.96	278.37	150.04	2,073.40
12	PARKING CHARGES	-	2.25	-	-	2.25
13	COCKPIT CREW LAYOVER	47.34	92.60	13.32	3.09	156.35
14	COCKPIT CREW MEAL ALL	-	-	-	-	-
15	SECURITY CHARGES	77.19	196.41	34.27	43.07	350.95
16	FLIGHT PLAN	5.09	9.42	2.88	5.35	22.73
17	ACMI COST	-	-	-	-	-
18=9+..+17	SUB-TOTAL	9,423.57	21,696.73	4,612.63	2,744.04	38,476.97

ENGINEERING MAINTENANCE COST:

19	MAINTENANCE OF AIRCRAFT PER B/H		2,458.39	898.16		3,356.56
20	DIRECT MATERIAL	192.62	387.73	121.62	139.94	841.91
21	INDIRECT MATERIAL	26.77	53.56	16.20	19.41	115.93
22	TECHNICAL HANDLING	48.43	89.26	28.78	56.23	222.70
23	MAINTENANCE RESERVE-LEASE A/C	1,444.34	-	-	332.21	1,776.55
24	TEST/RETURN/FERRY	5.92	3.74	16.41	5.03	31.10
25=19+..+24	SUB-TOTAL	1,718.08	2,992.68	1,081.17	552.82	6,344.76

SALES & SERVICE COST:

25	TRAFFIC HANDLING	338.84	630.56	421.97	350.14	1,741.51
26	PAX RELATED CHARGES					-

Accounting and Reporting System of Airlines Industry

		-	-	-	-	
27	PAX MEAL BIMAN CATERING	120.37	294.62	70.59	55.16	540.73
28	PAX MEAL UPLIFTED	31.94	258.32	17.61	54.24	362.11
29	PAX SUPPLIES & FREE ISSUE	94.89	267.90	39.77	28.24	430.80
30	PAX MEAL GROUND	28.26	79.75	12.07	8.40	128.48
31	CABIN CREW LAYOVER	66.26	176.47	33.66	3.81	280.20
32	PAX LAYOVER	19.65	55.40	8.73	5.82	89.60
33	SALES COMMISSION	646.13	1,786.84	287.09	219.27	2,939.33
34	INCENTIVE COMMISSION	174.37	511.49	77.56	60.86	824.28
35	RESERVATION & COMPUTER RENT	376.64	1,058.51	192.64	109.92	1,737.71
36	CREW TRANSPORT HIRED	-	3.60	-	-	3.60
37=25+..+36	SUB-TOTAL	1,897.36	5,123.45	1,161.69	895.84	9,078.35
38=18+25+37	TOTAL VARIABLE COST (VC)	13,039.01	29,812.86	6,855.49	4,192.70	53,900.07
39=08-38	CONTRIBUTION MARGIN	3,331.20	18,689.75	432.22	1,703.09	24,156.27

DIRECT FIXED COST:

40	AIRCRAFT DEPRECIATION	-	3,722.03	318.94	-	4,040.97
42	INSURANCE OF AIRCRAFT	353.20	814.99	253.82	216.19	1,638.20
42	INTEREST ON AIRCRAFT LOAN	-	1,197.82	-	378.97	1,576.79
43	DRY LEASE RENT OF AIRCRAFT	1,831.84	-	-	712.08	2,543.92

Accounting and Reporting System of Airlines Industry

44	COCKPIT CREW SALARY	149.58	866.69	130.26	95.93	1,242.46
45=40+..+44	TOTAL DIRECT FIXED COST	2,334.63	6,601.53	703.01	1,403.16	11,042.34
46=38+45	DIRECT OPERATING COST (DOC)	15,373.64	36,414.40	7,558.51	5,595.87	64,942.41
47=08-46	PROFIT/(LOSS) CONSIDERING DOC	996.58	12,088.22	(270.80)	299.93	13,113.93

INDIREC FIXED COST:

48	SALARY ALLOWANCE-PAX SERVICE	262.30	718.92	108.25	79.55	1,169.02
49	DIRECT LABOUR-ENGINEERING	239.84	658.79	100.31	72.77	1,071.70
50	ADVERTISING & PROM.EXPENSES	5.69	15.12	1.91	1.72	24.43
51	TRAINING COST - COCKPIT CREW	58.42	762.62	152.86	99.75	1,073.65
52	MAINT. GROUND EQUIPMENT	2.14	291.34	0.69	31.41	325.59
53	INTEREST ON COMMERCIAL LOAN	-	-	-	-	-
54	DEPRECIATION OTHER THAN AIRCRAFT	285.21	780.11	116.19	86.47	1,267.98
55	FIXED STATION COST	432.06	1,183.55	177.67	131.03	1,924.31
56	FIXED OVERHEAD COST	1,285.45	3,490.24	499.74	389.26	5,664.69
57=48+..+56	TOTAL INDIRECT FIXED COST	2,571.11	7,900.69	1,157.61	891.96	12,521.37
58=45+57	TOTAL FIXED COST (FC)	4,905.73	14,502.22	1,860.63	2,295.13	23,563.71
59=58 x 5%	PROVISION FOR UNSEEN EXP (5% MARK-UP ON FC)		-	-	-	-
60=38+58+59	TOTAL COST	17,944.75	44,315.08	8,716.12	6,487.83	77,463.78
61=08-60	NET PROFIT/LOSS	(1,574.53)	4,187.54	(1,428.41)	(592.03)	592.56

Accounting and Reporting System of Airlines Industry

**TRAFFIC
DATA:**

62	TOTAL REVENUE BLOCK HOUR	1,414.93	2,843.25	883.06	1,027.35	6,168.59
63	COST PER REVENUE BLOCK HR	12.68	15.59	9.87	6.32	12.56
64	NO OF FLIGHT (ROUND TRIP)	123.00	232	141	234	730.00
65	NO. OF CYCLE	356.00	645	309	476	1,786.00
66	FLYING HOUR	1,279.64	2,609.32	784.58	873.18	5,546.72
67	NUMBER OF PAX	66,109.00	165,574	43,624	48,821	324,128.00
68	REVENUE PAX K.M.(IN LAKH)	2,392.23	6,748.75	1,039.16	709.57	10,889.71
69	AVAILABLE SEAT K.M.(IN LAKH)	3,315.05	9,082.29	1,364.48	1,005.37	14,767.19
70	CABIN FACTOR	72.16%	74.31%	76.16%	70.58%	73.74%
71	CARGO IN KG	1,425,832.00	4,651,047	654,268	270,769	7,001,916.00
72	REVENUE TON K.M.(IN LAKH)	340.89	1,020.69	139.68	76.75	1,578.01
73	AVAILABLE TON K.M.(IN LAKH)	548.26	1,560.07	198.99	109.50	2,416.82
74	LOAD FACTOR	62.18%	65.43%	70.19%	70.09%	65.29%
75	FUEL CONSUMPTION IN USG	3,163,405.00	7,129,348	1,538,404	881,735	12,712,892.00

Accounting and Reporting System of Airlines Industry

4.10 Contribution analysis before opening new route in Biman

Every airline wants to open new route in airline business. It is a general process or procedure for expanding the airline business. Biman Bangladesh Airlines also open new route for expanding its international and domestic network in a profitable way. So Biman has taken an expansion program both its fleet and network. To succeed the growth, Biman is in the process of expanding its international network in a profitable way. In this regards, the airline is concentrating on new international destinations where there are existing and potential traffic demands, possibilities of profitability and prospects for best utilization of available resources.

For example, Biman Bangladesh Airlines Ltd. Is in the process of expanding its international route and network to serve the growing aviation market demand in a profitable way to and from Bangladesh. As a part of this expansion program, the airline has been working on operating its scheduled services to Guangzhou and Kunming two lucrative destinations in China. A three-member Biman team conducted a Market Survey in Guangzhou and Kunming in China, to explore the market and determine the potentiality of Biman's commercial operations to these Chinese points during November 2014. At present China is number one economy in the world. Massive passenger and cargo movement to and from china to all over the world is going on and the same will be continued. Bangladesh is one of the largest importers of China. Frequent and vast movement of businessmen and air consignment made the country a prospective one for Biman. As such, it is very significant for Biman to spread its wing and bring China under its network immediately. Bangladesh-China air traffic market is growing very significantly. So the following discussions are about the proposed new Dhaka to Guangzhou to Dhaka route.

Route Contribution Analysis of Dhaka-Guanzhou-Dhaka (DAC-CAN-DAC)

China is a very big country with many big cities having large amount of economic activities and also significant travel market. Before determine the route contribution analysis, Airline Company should analyze the Market Situation, Demand and Supply of the new route. Considering the prospect of passenger and air cargo demands on Dhaka-Guangzhou-Dhaka (DAC-CAN-DAC), it is necessary to determine the route



Accounting and Reporting System of Airlines Industry

contribution based on estimated Passenger and Cargo demand, available capacity and competition in the market.

Estimation of Weekly Average Load: With considerable efforts, Biman can easily achieve a weekly load of 576 passengers just by carrying to Guangzhou destination with additional load of at least 15% of beyond passengers travelling beyond Guangzhou to different Chinese domestic destinations through interline partners with suitable Special Prorated Agreement (SPA).

Biman can also carry significant number of beyond point passengers via Guangzhou (CAN) to other countries especially to Seoul of South Korea, Japan and Los Angeles, San Fransisco, Seattle and other cities of west coast of the USA. A good number of Bangladeshi residents/Workers are living there.

In total, Biman can manage to achieve around 600 passengers per week for its out-bound flight and 700 passengers per week for in-bound flight. All Chinese carriers give only one piece checked baggage with 23 kg baggage allowance. There is no restriction carrying two pieces of checked baggage in biman if the total weight falls within FBA (Free Baggage Allowances) entitlement.

The probability of picking up passenger that is creating the demand for offering of Biman depends on the Number of Frequency and also the Days of operation. Hence, Biman should operate at least Thrice Weekly Flight to Guangzhou keeping Tuesday, Sunday or Friday on days of operation. Biman should not operate flight on Saturday as next day is Sunday which is weekly holiday at Guangzhou and passengers do not prefer to travel on that day.

The acceptance of the offering (flight schedule) depends upon the minimum number of flight frequency matching with the overall offering (flight schedule) of the direct competitor. The less is flight frequency the less is level of acceptance. As per above logic parameter, if Biman operates Once Weekly Flight on Tuesday the possible demand may be around 20%-30% total expected demand but under no circumstances it will not be more than 42%. For two Frequencies, on Tuesday and Sunday, the possible weekly demand will be around 60% of total estimated weekly demand of Biman.



Accounting and Reporting System of Airlines Industry

Aircraft/Flight-wise Load Distribution: Three types of aircrafts, such as B737-800, B777-200ER and A310-300, have been taken into consideration for deployment as they are available for operation. With the projected weekly demand, Biman can operate up to five flights per week with b737-800 aircraft having at least 70% cabin factor. In case of thrice weekly flight, Biman will be able to cater small number of 6th freedom passengers to/from Kolkata, Kathmandu and Dubai due to low yield. Here, Biman should cater only high yield 3rd and 4th freedom and some beyond point passengers to maximize its revenue.

The distribution of traffic into flight, from thrice weekly to five weekly, has been done to maximize the revenue. Like the practice of other airlines as per Revenue Management, high yield passengers will come first and then other low yield passengers according to their yield rates. Biman should resume its operation to Guangzhou with at least three flights per week to cater the market demand with a competitive offering.

55% cabin factor can be achieved based upon estimated weekly average load by operating maximum thrice weekly flights with 8777-200ER aircraft. But this aircraft is not the perfect size of aircraft to operate flight between Dhaka and Guangzhou points. With the projected load, Biman can operate up to five flights per week with viable load with A310-300 aircraft. To cater the extra growth of the market, Biman can be done by operating large capacity of aircrafts keeping the number of frequency intact or by increasing the number of frequency. So Route Profitability Analysis is required to determine the most profitable options among three types of aircrafts. The most profitable option should be suggested after conducting the Route Profitability Analysis based upon above assumptions.

Estimation of Cargo Carriage: Average cargo movement on CAN-DAC around is 300 tons per month or 70,000 kg per week and on DAC-CAN is below 100 tons per month or 23,310 kg per week.

Competitive Tariff (Fare): With the induction of Biman,s flight to Guangzhou, the total supply of seats in the market will increase significantly. It is assumed that with additional supply of seats the average fare will go 10% to 15% down from present market level. T be conservative, the survey team has assumed the Average Fare for profitability analysis 15% less than present market fare. The Estimated Cargo Rate is



Accounting and Reporting System of Airlines Industry

taken from respective department, such as Biman Cargo Complex (BCC) and Biman's Cargo GSA at Guangzhou.

Route Profitability Analysis of Dhaka-Guangzhou-Dhaka (DAC-CAN-DAC)

The Route Profitability Analysis is the most important task to open a new route in airline business. So the Route Profitability Analysis on Dhaka-Guangzhou-Dhaka route is conducted on three types of aircraft, such as B737-800, B777-200ER and A310-300. It is found in the study that the flight to Guangzhou will be profitable with B737-800 and A310-300 types of aircraft. B777-200ER will not be the profitable aircraft to operate in the route now unless demand is increased significantly to match its capacity. The Route Profitability Analysis is conducted on following assumptions:

1. For Passenger Revenue Assumption, 85% of market fare is considered.
2. For Cargo Revenue Assumption-Market rate is considered.
3. No Excess Baggage Revenue Earnings is considered.
4. Maximum 70% of Passenger Load Factor is considered.
5. Network-wise Revenue Earnings with the increase of 6th Freedom Passenger.

Route Profitability Analysis of DAC-CAN-DAC with B737-800, B777-200ER and A310-300:

Profitability Analysis with B737-800 Aircraft:

Assumptions and Findings:

- a. Starting from weekly 3 frequencies to maximum weekly 5 frequencies.
- b. 85% Of market fare for passenger revenue estimation.
- c. First two options are profitable on basis of Net Profit with weekly 3 or 4 frequencies. But all three options are also profitable Network-wise after considering Income from 6th freedom passengers being carried by other BG flights.
- d. The most profitable option is with weekly 4 frequencies.
- e. It has the highest Net Profit per flight amounting to USD 3,925 and also Network-wise Total Income Which is USD 21,268.



Accounting and Reporting System of Airlines Industry

Table 58: Rout profitability analysis of DAC-CAN-DAC with B737-800 aircraft

Amount in US\$

Aircraft B737-800	3 FRQ/Week	4 FRQ/Week	5 FRQ/Week
	Day 2,4 or 5,7	Day 2,4,5,7	Day 1,2,4,5,7
Pax Revenue (@85% of Market Fare)	47,663	48,078	45,431
Cargo Revenue	1,989	1,989	1,989
Excess baggage Revenue	0	0	0
Insurance Surcharge	960	975	820
Fuel Surcharge	8,961	8,873	7,106
A. Total Revenue	59,573	59,915	55,346
B. Total Variable Cost	40,591	40,655	40,428
Contribution Margin (CM)	18,982	19,260	14,918
C.Traceable Fixed Cost	10,507	10,507	10,507
Profit/Loss after Direct Operating Cost	8,475	8,753	4,411
D.Total Other Fixed Costs	4,828	4,828	4,828
Net Profit/Loss per Flight	3,647	3,925	(417)
E. Net profit/Loss - Total	10,942	15,701	(2,086)
Additional 6 th Freedom Pax (In number)	76	123	308
Additional income from other sources	6,696	9,718	31,600
Less, Related Variable Cost-per flight			
Pax Meal @ USD13.94/Pax	1,059	1,715	4,294
GDS Cost @ USD 12.70/Pax	965	1,562	3,912
Sales Commission @ 9%	603	875	2,844
Total Related Variable Cost	2,627	4,151	11,049
Total Additional Income From 6th Freedom Pax After Adjustment of Total variable Costs	4,069	5,567	20,551
F.(+/-) Network wise Income	15,011	21,268	18,465
Note: 1=Monday, 2=Tue, 3=Wed, 4=Thu,5=Fri, 6=Sat & 7=Sun			



Accounting and Reporting System of Airlines Industry

Profitability Analysis with B777-200ER Aircraft:

Table 59: Rout profitability analysis of DAC-CAN-DAC with B777-200ER aircraft

Amount in US\$

Aircraft B777-200ER	2 FRQ/Week	3 FRQ/Week	4 FRQ/Week
	Day 2, 5 or 7	Day 2,4 or 5,7	Day 2,4,5,7
Pax Revenue (@85% of Market Fare)	63,593	75,310	65,015
Cargo Revenue	25,698	19,612	14,708
Excess baggage Revenue	0	0	0
Insurance Surcharge	1,045	1,205	1,010
Fuel Surcharge	8,525	10,495	9,045
A. Total Revenue	98,861	106,622	89,778
B. Total Variable Cost	94,051	95,630	94,013
Contribution Margin (CM)	4,810	10,992	(4,235)
D.Traceable Fixed Cost	14,537	14,537	14,537
Profit/Loss after Direct Operating Cost	(9,727)	(3,545)	(18,772)
D.Total Other Fixed Costs	9,508	9,508	9,508
Net Profit/Loss per Flight	3,647	3,925	(417)
E. Net profit/Loss - Total	(19,235)	(13,053)	(28,280)
Additional 6 th Freedom Pax (In number)	272	447	544
Additional income from other sources	31,012	55,368	71,198
Less, Related Variable Cost-per flight			
Pax Meal @ USD14.11/Pax	3,838	6,307	7,676
GDS Cost @ USD 12.70/Pax	3,454	5,677	6,909
Sales Commission @ 9%	2,791	4,983	6,408
Total Related Variable Cost	10,083	16,967	20,992
Total Additional Income From 6 th Freedom Pax After Adjustment of Total variable Costs	20,929	38,401	50,206
F.(+/-) Network wise Income	(17,541)	(758)	(62,914)
Note: 1=Mon, 2=Tue, 3=Wed, 4=Thu,5=Fri, 6=Sat & 7=Sun			



Accounting and Reporting System of Airlines Industry

Assumptions and Findings:

- a. Starting from weekly 2 frequencies to maximum weekly 4 frequencies.
- b. 85% of Market Fare for passenger revenue estimation.
- c. All options are showing loss with B777-200ER type aircraft.
- d. However, option of weekly 3 frequencies will deliver minimum Net Loss which is USD 13,053 per Flight and Network-wise the Total Loss is USD 758 only after adjustment of Income from 6th Freedom passengers.

Profitability Analysis with A310-300 Aircraft:

Table 60: Rout profitability analysis of DAC-CAN-DAC with A310-300 aircraft

Amount in US\$

Aircraft B737-800	2 FRQ/Week	3 FRQ/Week	4 FRQ/Week
	Day 2,5 or 7	Day 2,4 or 5,7	Day 2,4,5,7
Pax Revenue (@85% of Market Fare)	56,204	57,987	59,121
Cargo Revenue	25,698	19,612	14,708
Excess baggage Revenue	0	0	0
Insurance Surcharge	1,045	1,065	1,010
Fuel Surcharge	8,525	9,375	9,045
A. Total Revenue	91,472	88,040	83,884
B. Total Variable Cost	72,060	72,107	72,290
Contribution Margin (CM)	19,412	15,933	11,594
C. Traceable Fixed Cost	4,052	4,052	4,052
Profit/Loss after Direct Operating Cost	15,360	11,881	7,542
D. Total Other Fixed Costs	6,706	6,706	6,706
Net Profit/Loss per Flight	8,654	5,175	836
E. Net profit/Loss - Total	17,308	15,524	3,345
Additional 6 th Freedom Pax (In number)	174	240	388
Additional income from other sources	14,737	22,646	43,501
Less, Related Variable Cost-per flight			



Accounting and Reporting System of Airlines Industry

Pax Meal @ USD13.92/Pax	2,422	3,341	5,401
GDS Cost @ USD 12.70/Pax	2,210	3,048	4,928
Sales Commission @ 9%	1,326	2,038	3,915
Total Related Variable Cost	5,958	8,427	14,244
Total Additional Income From 6 th Freedom Pax After Adjustment of Total variable Costs	8,779	14,219	29,257
F.(+/-) Network wise Income	26,087	29,743	32,603
Note: 1=Mon, 2=Tue, 3=Wed, 4=Thu,5=Fri, 6=Sat & 7=Sun			

Assumptions and Findings:

- a. Starting from weekly 2 frequencies to maximum weekly 4 frequencies.
- b. 85% of Market Fare for passenger revenue estimation.
- c. All options are profitable.
- d. The most profitable option in terms of Net Profit per flight is option one with weekly 2 frequencies. The Net Profit amount is USD 8,654 per flight.
- e. But as per Network-wise Income the last option with weekly 4 frequencies will generate maximum amount of profit amounting to USD 32, 603 in total.

As per Route Profitability Analysis and considering the aircraft availability it is suggested to start operation in Guangzhou by A310-300 aircraft with minimum three frequencies per week. The estimated financial result will be as follows:

Table 61: Estimated Financial Results of A310-300 aircraft

Aircraft A310-300	2 FRQ/Week	3 FRQ/Week	4 FRQ/Week
	Day 2, 5 or 7	Day 2,4 or 5,7	Day 2, 4,5,7
Net Profit/Loss per Flight (In USD)	8,654	5,175	836
Total Net Profit/Loss (In USD)	17,308	15,524	3,345
Network-wise Total Income (In USD)	26,087	29,743	32,603



Accounting and Reporting System of Airlines Industry

The existing international air traffic movement between to/from Guangzhou is very high. For operating flight to Guangzhou, Biman will have to face stiff competition with China Southern Airlines in terms of service, Schedule regularity and onward connection. It is advised to set the initial offering for satisfactory positioning the airline's products in the existing air travel market between Dhaka and Guangzhou.

As per provision in the existing Air Service Agreement (ASA) between Bangladesh and China, none of the designated airlines can exercise 5th freedom traffic rights using intermediate and Beyond Points. It is assumed that Biman will be able to grasp a sizeable market of the fast growing air travel market of China if provision for 5th freedom traffic rights is incorporated in the Bangladesh-China ASA. Biman shall be able to generate a good number of 6th freedom traffic to/from Guangzhou via Dhaka subject to offering competitive fares, maintaining satisfactory schedule regularity and possible immediate connections.



5. CONCLUSION AND RECOMMENDATION

5.1 Some significant achievements and future plan

Some significant achievements during the period of last two financial year and future plan of the activities of the company are given below:

5.1.1 Technological Advantages:

Hajj operation: Biman is honored to have the opportunity to serve the Hajj pilgrims. In addition to offering scheduled flights to domestic, regional and international destinations, Biman has also been operating Hajj flights since 1973 – just one year after the airline came into the existence. During the fiscal year 2011-12, it has successfully transported 25,400 Hajj pilgrims to Saudi Arabia through operation of 65 Hajj flights from Dhaka, Chittagong and Sylhet. During the previous year, Biman had transported 44,616 Hajj pilgrims through operation of 85 Hajj pilgrims and 42 scheduled flights.

In 2012, Biman deployed its two 777-300 ER aircraft and one DC10-30 from its existing fleet to carry out the transportation of the Hajjis. Biman has operated 105 dedicated pre-hajj flights and transported more than 54 thousand pilgrims, which was approximately 50% of the overall pilgrims. The remaining pilgrims were ferried by Saudia Airlines and NSA.

Table 62: Biman Hajj Operation of Last six years

	2008	2009	2010	2011	2012	2013
Total Pilgrims	48,865	59,029	91,553	106,062	110,552	
Biman Transported	29,536	32,184	44,592	25,417	54,179	42,575
% of Total Pilgrims	60%	55%	49%	24%	49%	
Revenue Earned in Million BDT	2771.20	2907.82	4213.94	2755.50	6552.95	2820.7



Accounting and Reporting System of Airlines Industry

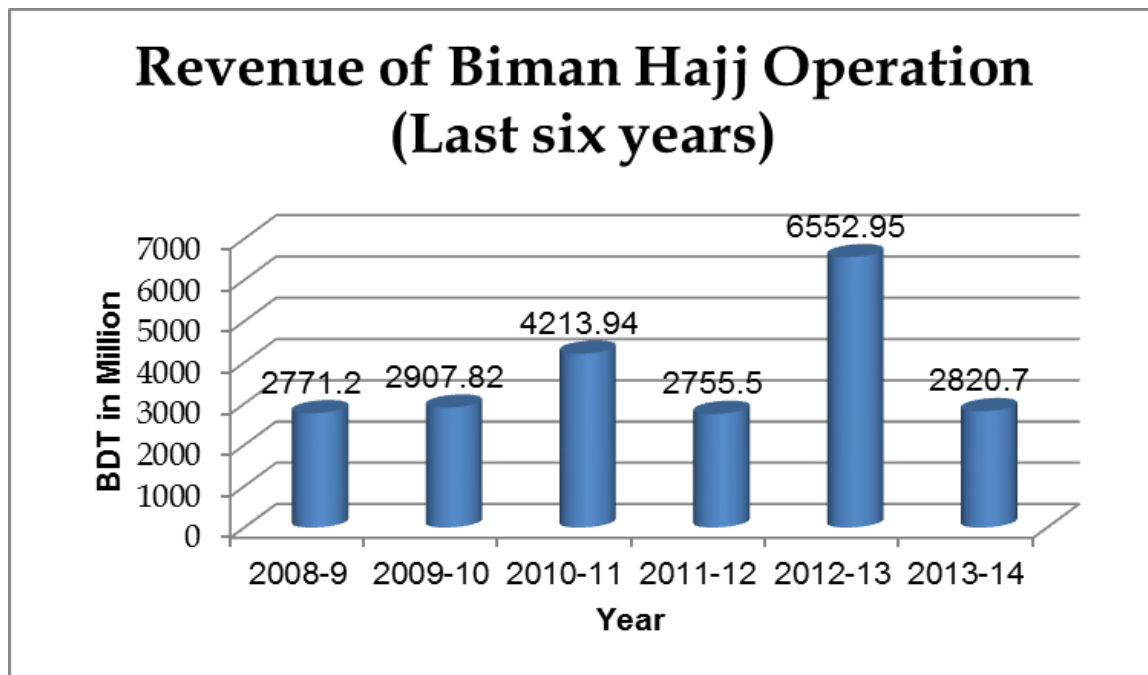


Figure 47: Revenue from Hajj Operation of last six years

During the fiscal year 2013-14 Biman has successfully transported 42,575 Hajj Pilgrims to Saudi Arabia through operation of 103 hajj flights from Dhaka and Chittagong. During the previous year 2012-13, Biman had transported 54,179 Hajj Pilgrims.

Electronics Miscellaneous Document (EMD): Electronics Miscellaneous Document stand-alone (EMD-S) was implemented on 01 June 2013 only in Bangladesh market as per IATA guideline. As per IATA dead line Biman also implemented the same in its whole network from June 2014 through Biman host system as well as in GDS. The most desirable one for EMD is EMD-A (Associated) with the ticketing database will be implemented by March 2015.

Introduction of new Routes: As of February 2014, Biman serves 21 cities in 15 countries. However, the carrier has air service agreements with 43 countries leaving room for expansion for which it lacks aircraft. The airline operates flights to several destinations in the Middle East, some destinations in South and South East Asia; London and Rome in Europe.

Biman is resuming services to New York City via Birmingham, and other terminated destinations in Europe including Frankfurt, after it receives its third and fourth Boeing



Accounting and Reporting System of Airlines Industry

777-300ER aircraft. The carrier is also launching flights to Guwahati in July 2014; it also plans to commence flights to Guangzhou and Kunming in China.

London-Dubai-Sylhet Direct Flight: To meet the longstanding demand of ethnic Bangladeshi passengers, Biman operated flights on route Dhaka-Sylhet-Dubai-London-Dubai- Sylhet-Dhaka with Airbus B777-300 aircraft three times in a week. Due to increased demand it was possible to improve yield and earn increased revenue. Considering market demand, Biman has started its fourth frequency in November'2014.

Introduction of new services on Dhaka-London-Manchester-Dhaka route: Biman introduced direct flights on Dhaka-London- Dhaka route in February 2010 using a leased 777-200ER aircraft. However, the direct flights had to be suspended temporarily in February 2011. After induction of 777-200ER aircraft into the fleet, Biman started operating twice-weekly flights on Dhaka-London-Manchester-Dhaka route from November 2011.

Introduction of new services on Dhaka-Rome-Milan-Dhaka route: Biman introduced direct flights on Dhaka-Rome-Dhaka route in February 2010 using a leased 777-200ER aircraft. However, the direct flights had to be suspended temporarily in February in February 2011. Biman started operating twice-weekly flights on Dhaka-Rome-Milan-Dhaka route from November 2011 using its own 777-300ER aircraft.

London-Dhaka and Sylhet Direct Flight: To meet longstanding demand of Bangladeshi ethnic passengers, Biman has started operation of flights on route Dhaka-London-Sylhet-Dhaka with B-777 300ER aircraft. Due to increased demand it was possible to improve yield and earn increased revenue.

Resumption of services on Dhaka-Hong Kong-Dhaka route: Biman has re-introduced flights on Dhaka Hong Kong route on 13 May 2013 using a leased 737-800NG aircraft. The operation in this route was suspended temporarily on 17 September, 2012.

Revenue Management: Revenue Management in any airline is primarily a business discipline. This includes a Revenue Management Solution (RMS), which is an I.T. System that captures current booked passenger loads, forecasts future unconstrained passenger demand, incorporates anticipated no-shows and



Accounting and Reporting System of Airlines Industry

cancellations, and then processes this data utilizing a sophisticated mathematical algorithm which optimizes the inventory controls in order to maximize the airline's revenue.

Biman is now in the process of implementing automated Revenue Management System (RMS) for its business discipline. Presently Biman is doing the Revenue Management task through manual control. Manual control RMS has several limitations. Biman has selected a company for its Revenue Management System. With the introduction of automated RMS, which is an I.T. system that will capture current booked passenger loads, forecasts future unconstrained passenger demand, incorporates anticipated no-shows and cancellations, and then processes this data utilizing a sophisticated mathematical algorithm which will optimize the inventory controls in order to maximize the revenue. This will help Biman to sell the right product to right customer at a right time with right rate. It will optimize the resource utilization by ensuring inventory availability to willingness to pay from the entire customer base. Through implementation of Revenue management System total revenue from passenger sales will have 5-9% incremental revenue gains.

Biman launched its long desired Revenue Management System (RMS) on 1st September, 2014. With the help of RMS, Biman will earn more revenue with the same products and services. It will help Biman for nesting the saleable seats in higher class of services according to the demand in the market. It is a big challenge of Biman to introduce the RMS. The system will also help Biman for Airlines Pricing, Seat allocation, forecasting, Optimization of Revenue etc.

Frequent Flyer Programs (FFP): Biman currently has a manual process of Frequent Flyer Program (FFP) for its valuable customers i.e. any passenger who has completed ten round trip journeys on any of Biman's international routes will be awarded with one free round-trip ticket. Biman is in the process of implementing an electronic FFP. It is an 'earn and burn' program for the passenger. Under the program mileage will be added to the passenger membership account after travel. Using this mileage passenger can enjoy different services of Biman at free of cost.

With effect from November 05th, 2013, Biman introduced FFP, Namely, Biman Loyalty Club. FFP is a loyalty program for its valued passenger who travel frequently with Biman's flight. Till now, around fifteen thousand passengers have enrolled in



Accounting and Reporting System of Airlines Industry

this program, where number of active members is approximately fourteen hundred. There are three tiers for FFP, namely; Green, Silver and Gold. In future, if Biman enters into a code share program with any other airlines, then passenger will earn their mileage from flying code share flight also. Biman Bangladesh Airlines may share its FFP program with some hotels, Banks and Transport Companies for redemption of mileage.

Sales and Distribution: Biman's passenger seats are distributed globally through the major Global Distribution Systems (GDS), i.e. Amadeus, Travel port, Abacus and SABRE; through its local sales offices/GSA's all over the network through GABRIEL, Biman's own Computer Reservation System (CRS) which is a multi-host CRS provided and supported by SITA; through on-line (Internet Booking Engine) and Call Center. A portion of total revenue also comes from Inter-line sales worldwide. A GDS Unit has already been formed to monitor and control reservation activities of the travel agents for better utilization of aircraft seats and also to control costs for GDS.

Biman has international sales offices in the following locations: Abu Dhabi-UAE; Manama-Bahrain; Bangkok-Thailand; Delhi-India; Dubai-UAE; Doha-Qatar; Kuala Lumpur-Malaysia; Kuwait City-Kuwait, London-U.K; Manchester-U.K; Muscat-Oman; New York City-U.S.A; Dammam-Saudi Arabia; Hong Kong; Jeddah-Saudi Arabia; Karachi- Pakistan; Katmandu-Nepal; Kolkata-India; Singapore; Toronto-Canada; Riyadh-Saudi Arabia; Rome-Italy.

Because such a small percentage of the people in Bangladesh have internet access, internet bookings are few. Ninety-nine percent of bookings are made by agents through GDS. Agents are typically paid a seven percent commission in Bangladesh. Biman has a call center located in Dhaka. Biman would like to bring in more passengers via direct sales but this is difficult due to lack of credit card facilities and internet access in Bangladesh. However, recently Biman has arranged with SABRE (GDS) to open its passenger sales on line under an Internet Booking Engine (IBE) package. Biman launched its online booking and ticketing system on November 1, 2010. Now passenger can make booking and purchase tickets directly from Biman website with a credit card. However, Biman is now under process of acquiring even a better internet booking system. Almost 99% of Biman's sales made through agents at home and abroad are accounted for under IATA's Billing Settlement Plan (BSP).



Accounting and Reporting System of Airlines Industry

All types of Biman special fares and published fares are made available in every market through the four participating GDSs as well as through GABRIEL. All fares are guaranteed and agents can issue tickets from their GDS on auto-ratification. One hundred percent tickets are e-tickets.

Network: Till October 2011, Biman had 19 international and 04 Domestic destinations including Dhaka, the base of the airlines. With the newly inducted 777-300ER, Biman resumed its operation to Manchester, UK and started scheduled flights to Milan, Italy in November 2011. Till November 2013, Biman had 17 International and 03 domestic destinations. This year Biman has resumed flights to Delhi and Hong Kong. Till November, 2014, Biman had 18 International and 03 Domestic destinations including Dhaka. Biman is expecting to resume its services to New York, Los Angeles and Toronto in the near future. The year line is also planning to commence its services to Sydney, Colombo, Male and Guangzhou. Resumption of domestic flights is under process, which is scheduled to commence by March 2015. Beside Biman is also exploring the possibilities of operating dedicated freighter flights to international destinations to and from Bangladesh.

Web-site and Internet Booking Engine (E-Ticketing): E-ticketing was implemented in March 2007, within the IATA deadline; Biman continued to achieve improvement in this area. Through implementation of Departure Control System in RUH, JED and CGP, travels with e-tickets from those stations were made smoother. Biman introduced Internet Booking Engine (IBE) for the airline's reservation and ticketing system. Internet Booking Engine (IBE) is an application, which helps the travel and tourism industry support reservation through the internet. It helps the customers to book flights, hotels, holiday packages, insurance and other services online. This is a much needed application for the aviation industry as it has become one of the fastest growing sales channels.

Biman has updated its Web-site and Internet Booking Engine for the airlines reservation and ticketing system from 01 July, 2013 in collaboration with Zapways Inc. with the help IBE passengers are now able to book their flights through internet from anywhere at any time. Initially web sales were 0.5% of the total sale, which is increased now up to 3.5% of the total sales. Biman has a target to increase the IBE sale up to 10% by 2016.



Accounting and Reporting System of Airlines Industry

With the help of IBE, passengers are now able to purchase their tickets by using their credit/debit card. Currently this system is capable of accepting Visa and Master debit/credit card. Through IBE, Biman Bangladesh airlines have extended its market globally. With the introduction of Internet Booking Engine, the airlines, at long last, has been able to make direct exposure to customers. Again IBE will help Biman to cut off extra expenses and to support instant booking and payment.

Migration of Reservation and SITATEX services: Biman used Dumb Terminals for its reservation services for the last two decades. In addition, older version of SITATEX played an important role for messaging services. To upgrade the services, Biman entered into New Generation Network and replaced Dumb Terminals and older PCs for entire network. For doing so, Biman introduced IP-VPN (Internet protocol-Virtual Private Network) for network side and replaced desktops by branded PCs. This migration resulted in access to high-speed data transfer. At present, we possess a world standard reservation and SITATEX services.

AIRLOGICA (Data Mining Technology): Working in partnership with GDS companies is very important. It is equally important to maintain GDS cost at a rational level. Biman has signed an agreement with AIRLOGICA. It uses sophisticated data mining techniques to assist airlines to fully appreciate Global Distribution System costs by allowing the user to choose specific reports and perform ad hoc queries.

Billing & Settlement Plan (BSP): In 2008-2009, Biman initiated efforts to bring its stations under BSP. Today all stations are under BSP. BSP is a system designed to facilitate and simplify the selling, reporting and remitting procedures of IATA Accredited go spots Passenger Sales Agents, as well as to improve financial control and cash flow for BSP Airlines. A truly worldwide system, there are 88BSP's, covering 160 countries and territories serving 400 countries. BSP simplifies total distribution burdens of the airlines as agents issue one Sales Report and remit one amount to a central point, airline receive one settlement covering all agents and most importantly agents' sales are reported electronically. This has earned savings both for Biman and its agents. Biman not only participated in BSP but also made it mandatory for all its agents are dealing with Biman in a more secured environment with reduced financial risk exposure.



Accounting and Reporting System of Airlines Industry

Cargo spot: Biman's cargo sales, Cargo reservations and ULD Management were automated in 1996 with SITA's software/network "CHAMP" which by now has become ineffective and required overhauling. Biman Cargo is now migrating from 'CHAMP's Air Cargo Manager (ACM), the cargo sales/reporting/reservation software platform, and ULD Manager Platform (software for tracking ULD movement and also inventory of ULD) to SITA's advanced new generation "CARGOSPOT Solution". CARGOSPOT Solution will enable Biman cargo to run its cargo affairs (both as an airline as well as handling agent) on 512kbps transmission line instead of present day 212kbps; thereby ensuring faster process of documents, monitoring, sales, reservation, reporting, pricing platform, accounts receivables, ULD tracking and inventory etc. CARGOSPOT, in addition to Airlines and Handling Module, will also offer Revenue Module and Business intelligence Module in near future.

Air Way Bill (AWB): Biman is in the process of introducing neutral AWB for its counter and agent sell. By end December 2014, Neutral AWB will be introduced. Already London, Rome and Dubai station has started using the Neutral AWB. Once neutral AWB is introduced, there will be no manual AWB in Biman.

Cargo Accounts Settlement System (CASS): Biman has also been among the pioneering airlines to introduce Cargo Accounts Settlement System (CASS), designed to simplify the billing and settlement of accounts between airlines and freight forwarders. It operates through CASS link, an advanced global web-enabled e-billing solution. CASS yields a two-fold solution as it replaces:

- a) Airlines' traditional paper based invoicing.
- b) Agents' manual controlling of those invoices, benefitting from the enhanced financial control and improved cash flow. CASS rate of success in collecting funds is virtually 100%.

CASS has been fully in operation this year with 27 Freight Forwarders and 4 Airlines members. As per IATA Mandate, E-freight is to be 100% implemented globally. Bangladesh needs to sign the Montreal Protocol 1999 (MC99) or Montreal Protocol 2004 immediately to introduce E-freight in Bangladesh this year.

Passenger Intelligence Services (PaxIS): At the beginning of 2008 Biman took the initiative of implementing PaxIS, a product developed by IATA Business intelligence



Accounting and Reporting System of Airlines Industry

Service, is the most comprehensive airline passenger market intelligence database available today, with more accurate, reliable data captured through IATA Billing and Settlement Plan (BSP). PaxIS report issued ticket information from more than 400 airlines covering 82 BSP offices. The product is presently being extensively used for Network planning, Fleet planning, Marketing planning and Agency monitoring and Performance analysis.

Point of Sale (POS): Biman started accepting debit/credit card through POS terminal from 31st March, 2011 throughout the Biman domestic locations. Passenger now can buy ticket using their credit/debit card.

BEFTN-Bangladesh Electronic Fund Transfer Network (BEFTN) for Salary disbursement: Biman has been using Bangladesh Electronic Fund Transfer Network (BEFTN) platform since June 2012 to disburse its salary of all the employees in Bangladesh as per guideline of Bangladesh Bank. This paperless payment system has brought significant changes in the interbank fund transfer mechanism of its network. With this highly secured, efficient-paperless and automated fund transfer and payment system optimizes cash flow management and working capital cycle of Biman. The software of S2B (straight to bank) reduces bank charges as well as saves time to process payment and transfer of fund and salary.

Travel Agent Portal (TAP): Biman Bangladesh airlines have started 'Travel Agent Portal (TAP), through internet for sale by travel agents. By using TAP travel agents will be able to sales Biman's flight from anywhere at any time. It will reduce GDS cost. TAP has been implemented in October 2013. Biman has started TAP in October 2014 as a point scheme in Dhaka and Chittagong. From December 2014 it will be open for all the travel agents.

Through Check-in: Biman has introduced 'Through Check-in' through its DCS. Now Biman is able to issue the boarding passes for entire journey of a passenger. By through check-in, passenger can collect all the way boarding pass from 1st check-in point for a multi sector journey.

Call Center: Biman has introduced a Call Center for general information and a separate Call Center for Frequent Flyer where customers can get answer to their quires. Biman also allocated an e-mail address customerrelations@bdbiman.com to



Accounting and Reporting System of Airlines Industry

receive complain/suggestions from customers. Call Center for general information is maintaining from its own resources but the Call Center for Frequent Flyer is maintaining from outsourcing.

Short Message Service (SMS): Biman Bangladesh Airlines has introduced Short Message Service (SMS) for informing its valued passengers regarding schedule change (flights delay/early cancel). Now a day everybody uses mobile phones, therefore, SMS is a very common service for informing mass people in a single application. It will also help Biman to forecast promotions, services, special offers to its existing customers.

International Payment Gateway (IPG) for Web Booking Sale: Biman has implemented two payment gateways for web booking sale e.g. K-Bank payment Gateway for THB, US\$ & GBP currency settlement of all world-wide web sale. Recently, Biman signed an agreement on 1st August 2013 with DBBL (Dutch Bangla Bang Ltd.) for 2nd payment gateway service for settlement of all BDT transactions of local and international debit/credit cards in Bangladesh. This facilitates to accept all VISA/Master Card for our valuable passenger to look, book and purchase ticket through Biman web-site.

Upgrade of Pricing Structure: To set Biman Pricing Structure in both WEB and GDS in line with standard airline practice. Biman has made an agreement with ATPCO on June 15th, 2014, Biman has started working with ATPCO by which interline fare, net fare, negotiated fare, deal fare, corporate fare are being now filed and distributed to WEB and GDS in cost saving manner. Moreover Biman is in the process of implementing ARR (Auto reissue and refund) in January 2015 in its network.

5.1.2 Automation of Revenue Accounting:

Revenue Accounting Proration Interline billing & Decision support (RAPID): After initial hiccup for implementation of SITA-Passenger Revenue Accounting (SITA-PRA) for three years' from 2007, Biman has successfully for coupon wise Revenue Accounting using SITA-PRA since July 2010. In 2013, Sita informed that they are going to stop implementation. Development and support of the software and declared to sunset the product by December 2014. As a consequence of that Biman



Accounting and Reporting System of Airlines Industry

has opted and signed an agreement with **Mercator (Emirates Group)** leading revenue accounting vendor for implementation of the state-of-the-art Airline Revenue Accounting (RA) solutions for – '**RAPID-Passenger**'. **RAPID** stands for Revenue Accounting Proration Interline billing & Decision support.

Really, Biman has taken a giant leap for selecting this RA solution. RAPID is currently being used by more than 54 airlines in the world e.g. RAPID Passenger is a complete end-to-end solution for packed with powerful functionality to automate the life cycle of each and every passenger coupon to generate financial and management information near to real time, guarantees the protection of revenue leakage in passenger earnings. The date of migration and cut over to production for RAPID is on 06 May 2014 as per project schedule.

Passenger Revenue Accounting (PRA): Passenger Revenue Accounting (PRA) automation has been introduced to generate coupon wise accounting and to keep record of ticket issuance and utilization. The system was solicited in the year 2007 from SITA and implemented in the year July 2010. Lift Module, Sales Module and Interline Module with SIS complaint have already been commissioned. Since SITA is going to sunset the PRA system by the year 2014 and due to inherent limitations in the system. Biman has recently signed an agreement with Mercator, leading passenger revenue accounting vendor in the airline industry, for implementation of the 'RAPID Passenger' which is the state-of-the-art technology for automation of passenger revenue accounting. Biman has taken a giant leap forward selecting this PRA solutions 'RAPID' currently used by more than 50 airlines in the world e.g. Qatar Airways, Malaysia Airlines, Oman Air, Emirates, Gulf Air, Jet Airways, JetBlue Airways, South African Airways, Garuda Indonesia etc. 'RAPID Passenger is a complete, end-to-end solution packed with powerful functionality and designed crystal clear view of how business is performing, also helps to build comprehensive business model and boost competitive advantage. This tried, tested and proven solution transforms the critical data for each and every passenger coupons, into a single stream of valuable financial and management information and guarantees the protection and enhancement of the bottom line. When stepping over to Mercator (RAPID), processes is streamlined, costs slashed and efficiency lifted to new levels. This will replace the existing SITA-PRA system which is going to sunset by 2014.



Accounting and Reporting System of Airlines Industry

Cargo Revenue Accounting (CRA): Automation of CRA using Champs Cargo System is in process of implementation. Biman has signed an agreement on 19 May 2013 with Champs Cargo System-SITA to implement automation of Cargo sales & revenue accounting, IATA-CASS reporting and billing, Interline accounting of course also to raise invoices for all the SIS Cargo charge categories. This will facilitate automation of Cash receipt (CR) for the first time of its nature in Biman,s Cargo Operations. CR automation through Champs Cargo System has already been cut over with effect from 01 April, 2014. CRA team is dedicated engaged to automate Export of Cargo Operations. On the other hand, the automation of AWB (Air way Bill) is also going in full swing to issue and report of System generated AWB or natural AWBs and expected implement in the first quarter of 2014

Simplified Interlines Settlement (SIS) for Interline Billing: Previously all interline billing system for Passenger; Cargo and Miscellaneous matters were involved and billed to IATA through manual system. As per IATA guideline by April 2013, manual billing system is being obsoleted and billing is required to be processed in the IATA SIS platform. Accordingly, Biman Bangladesh Airlines Ltd. has implemented IATA SIS (Simplified Interline Settlement) billing system through IATA Clearing House (ICH) for Revenue Interlines Section. Under the scheme, SIS – Passenger billing is being done through SITA-PRA and SIS-MISC billing with Finessed MBS. Currently, SIS – Cargo billing is being done through SIS-WEB platform. Later on, it will be shifted to Champs Cargo System. SIS – Cargo Billing is being done through Champs Cargo System.

Revenue Integrity (RI): Biman Bangladesh Airlines also implemented Revenue Integrity (RI) on September 01st, 2014 to protect its revenue. Travel agents usually made fake, fictitious booking with some false names or make duplicate bookings in the same or different flights. RI will detect such type of bookings in a single comment and by cancelling such bookings Biman will be able to make available seat for sale and will maximize revenue.

Improvement Programs:

Improvement of yields: Considering the different markets, passenger demands, seasonality and competitors' activities, Biman's fares have been re-fixed on many sectors on higher side, after proper review from time to time, which yielded positive



Accounting and Reporting System of Airlines Industry

results. In line with practice of reputed airlines, Biman has also introduced different RBD's (various fare structures in same Class, depending on the time of making reservations). This has helped in improving yield and total revenue.

Improvement of Incentive plans: Productivity Incentive Plans, Bonus and kick-back schemes for travel agents of various markets motivated them to sell more on Biman and travelling passengers also took advantage of these schemes. Introduction of Group Fares for certain sectors also clicked in Biman,s favor.

Improvement of Cargo rates: Cargo rates have been improved on many sectors. The bulk courier baggage ex-Hong Kong and Bangkok carried by Calcutta-originated passengers and the huge house-hold console shipments from London destined for Sylhet generated substantial revenue.

Abacus NMC Bangladesh: Biman through an innovative approach started GDS marketing in Bangladesh. Biman Bangladesh Airlines and Abacus International formed a national Marketing Company (NMC) for Bangladesh on 09 July; 2002.Certification of incorporation was issued by the Registrar of Joint Stock Companies on 23 July 2003. In Abacus NMC Biman Bangladesh Airlines holds 51 percent share. Abacus NMC, s Bangladesh business is generated from agents booking on Abacus for all the operating airlines in Bangladesh. It earned substantial profit every year since inception. During the financial year 2011-2012 and 2012-13 Biman received dividend from Abacus from its previous year income. In the year 2011-12 Biman's other comprehensive income increased after inclusion of 51% of Biman's share from Abacus retained earnings. During the FY 2013-14, Biman received dividend from Abacus amounting to BDT 29,376,000.

5.1.3 Information Technology:

The Biman Bangladesh Airlines IT Infrastructure Project was initiated by Boeing IT Team in 2008 and in collaboration with CMIS, Biman; it was completed on June 28, 2010. After handover, all 13 of Biman's building, that include Balaka, all airport facilities, as well as the Motijheel sales office, are functional under a single network.

There are two data Center that support the network infrastructure, one in the Balaka building and the other in the hanger complex. At each Data Center are installed two A/C units, voltage stabilizers and fire alarm systems to support full time cooling and



Accounting and Reporting System of Airlines Industry

fire protection requirements. To support continuous operations at the Balaka Data Center, two 110KVA generators are installed.

In order to support data storage, data sharing, share point sites, Exchange/email, systems management and distribution, firewall web-proxy services, enterprise anti-virus, web-monitoring and web-filtering, data back-up, Windows applications and internet access, 12 servers were installed in total. Also two UNIX/AIX based servers were installed to run all COBOL and Oracle based applications. To seamlessly run Trax (IMMS) by the engineering an additional server is installed. At present there are 13 servers running on Microsoft Windows platform and two servers running on UNIX (AIX) platform.

To support interconnectivity between Biman's buildings, the project installed 19,000 meters of fiber optic cable and to support 750 devices on the network the project also installed over 40,000 meters of UTP copper wire. The network supports Biman's connectivity to My Boeing Fleet or any other web-based portals. During implementation of the of the IT project, 277 personal computers, 29 laptop computers, 27 printers, 4 projectors and 1 plotter were delivered to Biman departments. After the end of project till now, further 165 PCs, 1 laptop, 28 Laser Printers, 65 Dot matrix printers and 13 scanners are procedure for Biman establishments in Bangladesh Approvals are also provided to purchase PC related items at foreign offices. 6-ipads are also purchased for Flight Operations to download and use operational data for B777, B737 etc.

The Biman's CMIS (IT) personnel are trained on the respective area of expertise and responsibility that includes Microsoft Systems and application training, as well as Cisco network configuration and maintenance support training, etc. Personnel of CMIS also received training on database management using Oracle 10g. These training were conducted as part of the IT project. Some user level training was also provided by the BATC for officers and other users of Biman.

Biman now use AIRCOM server for cockpit to ground data link services. AIRCOM Server functions from within SITA network which connects Biman users to AIRCOM server from Biman network. It is now being used for B777.



Accounting and Reporting System of Airlines Industry

The Trax is IMMS (Integrated Maintenance management System) software. It is now in the process of implementation. When implemented, it will efficiently provide maintenance management solutions.

CMIS of Biman has the responsibility to provide daily operations support and maintenance of the network infrastructure. A contract was made during the project with a third-party company, Spectrum Engineering Consortium Ltd. to provide additional technical support of up to 400 hours of service. Besides providing support for network, web, email, database, etc., CMIS also develops and maintain in-house software applications like Payroll, Provident fund, personal Info, Location/District wise information reports and statistics, Pax Revenue, Interline Billing, Fuel Cost Analysis, etc.

5.1.4 Aircraft Maintenance Facilities:

Biman has built its own ancillary and maintenance facilities at Hazrat Shahjalal International Airport in Dhaka which is its main base Maintenance facility. The main base is the station where the aircraft is based and which is equipped to undertake minor, major overhaul/repair and modification work. Generally, all scheduled and unscheduled maintenance service is to be performed at the Biman base station at Dhaka. The hanger is approximately 100 meters in length with a clear span of 87 meters and is capable of housing four aircraft at any particular time. The combination may be two wide-body (747-400 or DC 10-300) and two relatively small aircraft (F-28) at a time. The hanger is equipped with the necessary ground equipment, including electrical power, pneumatic power, hydraulic power, steps, trestles and aircraft jacking devices. A two-storied administrative building and support shops ensure the physical infrastructure of maintenance and engineering. As a safety measure automatic and manual modes of fire detection and extinguishing system is another built in feature of this hanger and the system is regularly inspected, maintained and recorded.

The associated 10,000 square meter workshop complex is a two-storied reinforced concrete structure which houses all the repair and maintenance shops and related administrative and management offices. For purpose of repair, overhaul and servicing of the aeronautical parts, there are different workshops and overhaul shops within the complex. Each shop is equipped with sufficient tools and test equipment to



Accounting and Reporting System of Airlines Industry

repair and overhaul the components up to its capability. Each shop maintains its capability list updated in correspondence with the scope of approval issued by the CAAB. Other maintenance work is provided at outlying facilities by Biman or approved service providers.

Biman is in a bid to build up a second Hanger Complex to enhance maintenance capability with the increase of fleet which is already in the master plan. The second Hanger Complex is planned to be built on BOT (Build, Operate and Transfer) basis for ten years.

5.1.5 Fleet Modernization:

During the FY 2013-14, Biman operated with a mixed fleet of DC-10-30, A310-300, 737-800, 777-200ER and 777-300ER aircraft to serve domestic and international destinations. The last DC10-30 aircraft was phased out in February, 2014. Biman acquired two new 777-300ER aircraft from Boeing in February/March 2014. Biman also acquired two 777-200ER aircraft on 5 years lease in March/May 2014. Biman procured one 747-400 aircraft on wet lease from Kabo Air for Hajj operation in 2013. Another one 767-300 aircraft was also leased from MIAT Mongolian Airlines for three months ACMI basis to maintain Biman's flight schedule during Hajj operation 2013.

5.2 Corporate Social Responsibilities

Biman's social responsibility is embedded in its mission and vision. In a disaster-prone country like Bangladesh there had been continuous flow of relief materials. Biman on case to case basis, for such humanitarian relief gives exemption of handling and storage charge. Biman being sponsor of Biman Cricket Club is also contributing for the development of the most favorite sports of the country. During 2009 Biman Cricket Club won the runners up in the Premier Division Cricket League of Bangladesh. Biman Chess Team became champion in the National Chess Competition and also Biman Badminton Team won the championship title in the national Badminton Tournament.

In spite of its limited capabilities Biman operated special flights to off-line stations like Djerba and Alexandria to airlift Bangladeshi nationals during the crisis in Egypt and



Accounting and Reporting System of Airlines Industry

Libya. Biman also carry the dead body of any labor class Bangladeshi from any operating country by free of cost.

5.3 Contribution to the National Economy

As a national flag carrier and the largest airlines service provider of the country, Biman has an important role in exporting manpower in the world market, through which it contributes in foreign exchange earnings. During the FY2011-2012, the Company collected on behalf of the Government Tk. 31,264,080/- as Advance Income Tax, Tk. 42, 723, 448/- as VAT and Tk. 1,866,404,792/- as Domestic and Foreign Air Travel Tax, Excise duty and deposited the same into the Government Treasury. Salary tax Tk. 196,273,286/- was also deposited into the Government Treasury. It is also to mention here that the tax deducted at source by different banks against Interest Income and by party in the FY 2011-2012 amounts to Tk. 6,976,497/-. So, Bimans total direct contribution to the national economy during the period 2011-2012 is Tk. 2,143,642,103/-.

During the FY 2012-13, the company collected on behalf of the Government Tk. 90,499,787.00 as advance income Tax, Tk. 163,949,293 as VAT and Tk. 1,715,393,559 as Domestic and Foreign Air Travel Tax & excise duty and deposited the same into the Government Treasury. Salary tax Tk. 131,855,614 was also deposited into the Government Treasury. It is also to mention here that the tax deducted at source by different banks against Interest Income and by party in the FY 2012-13 amounts to Tk. 24,587,076. So Biman's total direct contribution to the national economy during the period 2012-13 is Tk. 2,126,285,329.

Although Biman incurred a financial loss of Tk. 198.81 crore in FY 2013-14, it contributed Tk. 197.21 crore to the national exchequer during the year on account of VAT, Excise duty, Travel Tax and Tax at source.

The Economy: The economy of Bangladesh has performed better than many others in the region in the recent past due to its lack of integration with global financial markets as well as the nature of its garment and labor exports, which are targeted mainly at the low end of the market (a segment that was less affected during the early stages of the crisis).



Accounting and Reporting System of Airlines Industry

The GDP growth rate of the country in constant prices of last few years are as follows:

Table 63: GDP growth rate (%) of the country (Bangladesh)

Indicators	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
GDP growth (%) in 1995-96 Base Year Price	4.42	5.26	6.27	5.96	6.63	6.43	6.19	5.74	6.07	6.66	6.32

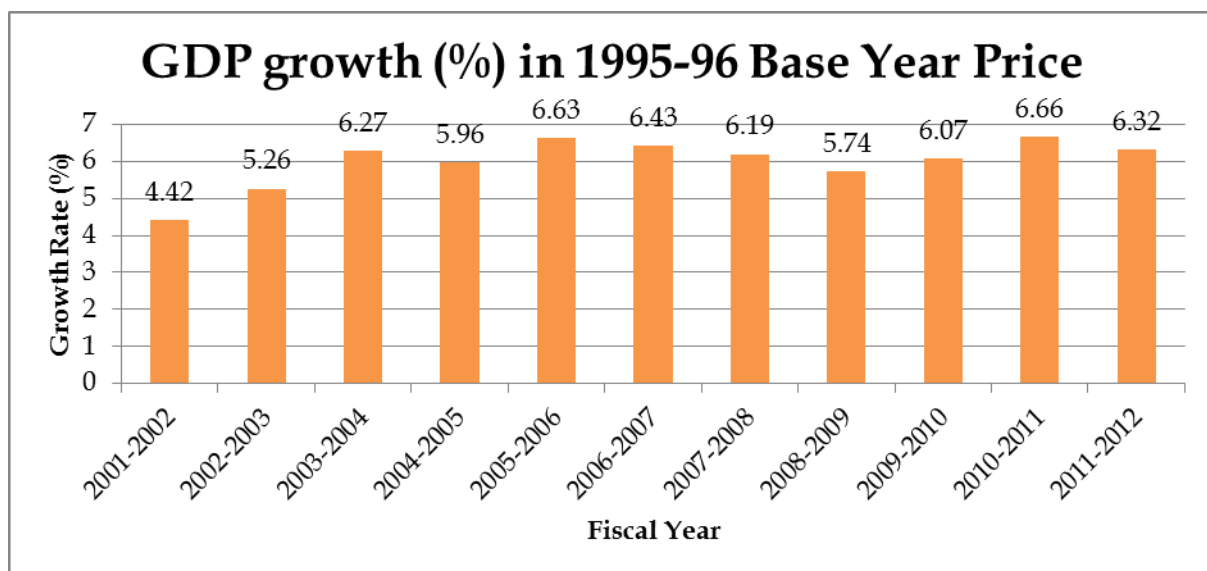


Figure 48: GDP growth rate (%) of Bangladesh (Base Year 1995-96)

Although Bangladesh both indigenous and imported raw materials have been set up. Among these are is predominantly an agricultural country, a growing number of large-scale industries based on ready-made garments, cotton textile, pharmaceuticals, fertilizer, wood product and others. The manufacturing sector contributes about 17 percent of GDP. The growth rate in manufacturing is dominated by ready-made garments. Bangladesh is the fifth largest exporter to the European Union and among the top ten apparel suppliers to the U.S. In the past two decades Bangladesh has emerged as a very successful manufacturer and exporter of ready-



Accounting and Reporting System of Airlines Industry

made garments. Growth of Industry sector is estimated to be 9.51% and its contribution to the country's GDP is 18.41% in FY 2010-11. Sectors like Wholesale & Retail Trade contribute 14.27% and Transport & Communication contributes 10.91% to GDP of the country per estimates in FY 2010-11. Average growth of Export and Import in terms of value during FY 2000-01 to 2010-11 has been recorded.

5.4 Biman's Ethics

Biman Bangladesh Airlines showed its profound commitment to fundamental values of integrity, transparency and accountability by signing the partnering against corruption initiative (PACI). It puts Biman amongst the rank of enterprises committed to Anti-corruption doctrines reflecting the fact that corruption and bribery have been recognized as corrosive to economic progress.

5.5 Identification of Biman's Problems and Recommendations

A. Problems

a. Administrative Limitations

Biman's Difficulties: Biman is obliged, by legislation, to priorities national interest over commercial ones, and not to be a purely commercial airliner. The government is exercising the power as given by the ordinance in its activities. In this context, the government is utilizing Biman to render services for the nation, e.g. operating government VVIP flights, relief flights and hajj flight, and carrying perishable items at cheaper rates. In practice, the government is, on the one hand, receiving these services from Biman, but, on the other, creating an environment which dictates that Biman should run itself on its own finances by making profits. While it is passing through the most difficult period in terms of a financial crunch in its history of 35 years, to judge Biman's performance on profitability alone, without giving any consideration to the wider service it has rendered for the national interest and at the behest of its owner, would not only be biased and partial, but also a great travesty of justice. Due to this dilemma Biman cannot operate itself distinctively either as commercial organization or as service organization.



Accounting and Reporting System of Airlines Industry

Lack of Authority and Accountability of the Executive Body: The Board is not accountable to a higher authority because the Minister of Aviation, who is the designated chief of the organization, is the Chairman of the Board himself. Therefore, the Board is neither directly accountable to any other body, nor is it under obligation to report to any other authority for its activities and performance. This existing hierarchy creates problem in delegating the duties for the Managing Director, CEO of Biman.

Lack of Aviation Experts in the Authoritative bodies: It is noteworthy that there is no aviation expert in the Board who can guide Biman to operate in an efficient and effective manner in its technical as well as commercial aspects. Biman has never seen a professional as its CEO.

Political Influence: As a consequence of being a state-owned corporation, Biman has suffered from being politicized in many aspects. It has been politicized in the following manners.

- Operating domestic flights with wide bodied aircraft
- Continuing flights in loss-making routes
- Political Intervention in Recruitment and Promotions
- Decision-making under political influence

b. Corruption

Corruption in different sectors of Biman is another significant barrier that is making it difficult for the organization to break away from loss making ways. Incidents of corruption are evident in purchase and leasing of aircraft, store and purchase of spare parts, in the tender process and in ticketing and reconfirmation.

Corruption in Purchase and Lease of Aircrafts: Corruption and irregularities in leasing process of Biman leads excess payment of US\$ 45 million (estimated) in last five years. The following anomalies have been identified:

- Decisions arbitrarily taken by the Chairman
- Technical personnel not involved in the tender preparing process
- Due to lack of skill and expertise technical and legal sides not ensured
- Lack of planning



Accounting and Reporting System of Airlines Industry

- Lack of scope of the board members and CEO to get involved in the leasing and purchase process

Corruption in repair and maintenance: Corruption in repair and maintenance of aircrafts leads to huge loss of Biman every year, e.g. in last four years, the cost of repair and maintenance went up more than double from Tk 214.525 crore to Tk 489.08 crore even though the numbers of aircraft has fallen from 17 to 13, and total flight hour decreased by 25%. Over the last 10-12 years, the repair orders mostly were given to 1 or 2 agencies which provide evidence of nepotism and significant political influences in the processes. Findings also reveals that, if the cost of component repair is to the tune of Tk 90 crore per year, then, out of this amount, around Tk 50 crore is wasted by corruption.

In addition following irregularities found research team during study period in store and purchase:

- Most of the agents take certification giving bribe to CAAB
- Agents use fake name and address
- No engineer in store and purchase to receive spare parts ensuring quality
- Store has never been scrutinized/adjusted since its inception
- ICAO certification are not checked during tender process
- Unnecessary spare parts are purchased which will never be used

Corruption in relating to outstations of Biman: Every on-line station has Employees posted from many sections like sales, finance, operations, traffic and field service. However, bulk of the services can be outsourced. In addition following irregularities revealed during study period:

- Posting on outstation made on political consideration
- Allegation of misappropriation of money by country managers
- Never investigated any irregularities of out station
- Over staffing in out stations
- Large set up of outstation – which is not cost effective
- Office station exist even the route is closed

Corruption in tender process: Irregularities in tender process of Biman include lack of transparency in tender process, political influence to bag illogical and



Accounting and Reporting System of Airlines Industry

unauthorized commissions, tainting of selection process in every sort of tender by political influences. These are well-known in such extent that no reputed airline manufacturer wants to get involved with these tender processes.

Corruption in buying tickets and reconfirmation: One third of the passengers (37.6%) who reconfirmed/purchased tickets from Biman sales centers reported about encountering problems. Major problems faced during reconfirmation and purchase are wasting time (59.4%), take extra money for reconfirming/ticketing (21%), creating artificial ticket crisis (15.1%). In addition, some travel agents are illegally favored, the Travel agents' purchased amount of money is not deposited to Biman and submission of everyday statement and money deposit on weekly basis is not maintained by the travel agents properly.

c. Institutional Capacity: Problem of Human Resource

Biman's Man-Equipment Ratio (MER) at present is 1:367, while the international acceptable standard ratio is 1:200. Compared to other airlines, the number of Biman staff is fairly high but their remuneration is fairly low. Biman does not recruit any staff directly (i.e. from external qualified candidates) in officer level. Maximum of them are promoted from lower positions. As a result, the scope of getting quality staff for Biman becomes lower. Hence in all directorates external efficient candidates are deprived, no competitive environment among the staff prevails, the existing staff remains reluctant as they feel that they will be promoted somehow. The promotions that occur are mostly executed through political lobby, which also deter internal competitions. Moreover, it has been alleged that Biman does not want to equip their staff with modern technologies, thus making their productivity even lower.

d. Lack of Planning

Biman is an organization with no vision and mission. Every professional airline has a master plan for at least plan for five years but Biman does not have any plan at all. There are significant gaps in planning in the following arena.

- Corporate vision and strategy
- Improvement of procedures
- Employee productivity



Accounting and Reporting System of Airlines Industry

- Improved information technology
- Image of the airline
- Revenue enhancement
- Increase market share and improve yield
- Product improvement driven by total customer satisfaction
- Expense reduction
- Increase in-house capability in maintenance and engineering
- Phased fleet renewal

As a consequence, the corporation is lacking in proper implementation and monitoring of planned and routine activities for its existence and improvement. Biman does not follow the strategic route planning for its existing routes and for opening new routes. In the past, Biman opened many domestic and international routes without doing any cost-benefit analysis, which is unbelievable especially in a business sector that faces fierce and often cut-throat competition. Sometimes routes were operated on political intentions knowing that it is quite non-viable.

e. Poor Financial Situation

Biman incurred losses of BDT 594.21 crore and BDT 191.58 crore in the fiscal years 2011-12 and 2012-13 respectively. Biman is lacking its capital base and eventually also does not get sufficient finance from the Government to fill the deficit. Being an airline with a very narrow capital base, Biman was forced to borrow externally. These borrowings resulted in payment of huge amount of interest every year, draining a substantial portion of its income. Biman incurred losses from its inception, and its debt burden is payable to different organizations and now become unable for debt servicing and it cannot manage its spending without help from the government.

During the period 2013-14 (first six months), Biman incurred loss of BDT 222.00 crore and also will make loss in the rest of six months.

f. Flight Schedule Delay

According to the survey results, about 75% of the respondents had experienced flight delay during their last travel by Biman. This gives an indication of the large amount of funds that have to be spent by the airliner on a regular basis to



Accounting and Reporting System of Airlines Industry

compensate waiting passengers. Moreover, such schedule disruption creates negative impact on Biman's commercial viability and the members of the traveling public tend to choose other airlines.

g. Flights with Old Aircrafts

Old aircrafts cause higher maintenance and operation costs, create scope of corruption, incident and accident, and impose higher insurance premium rate. It is very difficult to run an airline with old aircrafts. The operating cost of DC-10 is, according to an estimate, US\$ 1000 more per block hour than the new generation aircraft. It is calculated that if the new generation aircrafts are utilized 10 hours each per day, each aircraft will save US\$ 3,00,00 per month. Thus four new generation aircrafts will save Biman US\$ 1.2 million per month with regard to operation cost only. In addition, new aircraft and higher capacity are expected to generate higher revenue as well as much better schedule regularity. After buying new generation aircraft, operating cost must be low and Biman will save more.

h. Various Kinds of Aircrafts leading to Higher Operating Cost

Such a small fleet with only 13 aircrafts, Biman is comprised of three types of aircrafts manufactured by three different companies. To maintain this fleet, Biman needs to employ different categories of pilots, engineers and use various kinds of spare parts. This leads Biman into incurring higher operating cost.

i. Poor Quality of Customer Service

After assessing the service level of Biman in terms of the satisfaction of the passengers, majority of the respondents (72%) termed the service quality of Biman as poor. It has been revealed from the survey that about 85% of the respondents were not provided any information about flight delays. Furthermore, 77% of the respondents reported that during the flight delay no one from Biman came and wanted to know, if the passengers were having any problem or not. About 65% of the respondents termed Biman's in-flight services to be worsening than poor. Pre requisition of quality in-flight services is sufficient number of crew. Our analysis shows that 42% of the surveyed domestic flights moved with under compliment, 87% of the surveyed shuttle flights moved under complement, while 82% of the surveyed international flights moved with under compliment. In terms of routes, the highest



Accounting and Reporting System of Airlines Industry

portion of passengers who were found to be disinterested to fly with Biman in the future came from the East, Middle East and South East Asia (50%) while the lowest portion (15%) comes from Gulf and Middle East. Greater portion of passenger (49 and 39 percent respectively) mentioned schedule problem and mismanagement respectively as reasons for not flying in Biman next. The other significant reported reasons were quality of in-flight service is not good, problem with ticket reconfirmation. Due to the above-mentioned shortcomings Biman is now in a very bad shape. It has fallen into severe financial crisis. Furthermore, this organization is also suffering from lack of strategic planning to overcome all other drawbacks. Nevertheless, Biman is trying to solve all these problems to improve customer service.

j. Bad management is the key problem of Biman

After so many years of inefficiency, corruption and politicization of Biman Bangladesh Airlines, a top-ranking minister has finally put his foot down, declaring that if the airline continues in this manner, government financing will be stopped and it will be shut down. We thank the finance minister for taking a stand that should have been taken a long time ago.

Delays on a regular basis, unannounced cancellations, mechanical defects and poor service all characterize the state of our national flag carrier. So much so, that only the extremely patriotic -- but more often those with no other option -- fly Biman, and neither are they rewarded for their sentiments. This has resulted in huge losses in the last several years.

In all fairness, Biman has never been given a chance. It has always been highly politicized, starting from the appointment of its chairman based not on competence but on political considerations, which is clearly reflected in the performance of the organization. Without a restructuring of its top-heavy corporate structure and weeding out of inefficiency and corruption throughout the organization, things will not change. Biman must be given the autonomy to perform at its best and compete with local and international airlines.



Accounting and Reporting System of Airlines Industry

Air travel is now more lucrative than ever before, but whereas major airlines are increasing their flights to and from Dhaka to once or even twice daily, Biman's own flights are being cancelled one after the other. A one-member committee has been appointed to investigate the recent schedule chaos, but we would urge the authorities to take immediate measures -- drastic, if necessary -- towards a complete overhaul of the national carrier towards making it more efficient in terms of both performance and services. It is the only way to rescue it from its mess in the air

B. Recommendations

To help Biman move out from its old-fashioned way of management, to accommodate the future opportunities and to avert the current crisis and threats, it is extremely essential for Biman to undertake the following steps set forth as recommendations.

a. Policy Level

1. Biman should have a vision and mission statement.
2. The dilemmas in the governance system of Biman need to be settled down through bringing in necessary changes in the Ordinance.
3. To ensure accountability, the Board of Directors needs to be reformed. The Minister for Civil Aviation should not be the Chairman of the Board of Directors. The responsibilities of the members of the Board should be specified.
4. Experts on commercial airline and aviation industry must be included as members in the Board of Directors.
5. Biman should abide by the current business methodologies as used in world class airlines to make it successful and profitable.
6. The Annual Report should be made public. This report must include financial statements.
7. Biman should not be exploited in the name of national interest. It should not operate unprofitable flights.
8. Biman's existing procurement rules should be appropriately amended so that Biman can take its own business decisions.
9. Biman should operate by Biman people without any interference from the Ministry.



Accounting and Reporting System of Airlines Industry

b. Operational Level

Administrative:

1. Consultants should be hired with regard to finance and store and purchase.

Planning:

1. Biman should make a phased fleet renewal plan. Biman signed agreements for ten generation aircrafts and already delivered four.
2. Biman should develop and adopt a coping strategy addressing the market need. Leasing will reduce immediate capital requirements and will allow Biman to have flexibility in capacity which means that the airlines can scale-up or scale-down available seat capacity according to the market trend.
3. Biman should consider closing down the loss-making routes and divert the flights entirely to the profit-making ones.
4. Biman must discontinue operation of short sector flights by wide-bodied aircrafts.
5. Biman must operate with similar types of aircraft to reduce operating cost.

Human Resources:

1. Biman should recruit staff with required qualification directly at officer level and also should recruit cabin crew.
2. Analyzing current staff size and performing cost effective analysis, Biman should cut down its staff.
3. Recruitment, transfer, and promotion on political consideration must be stopped.

Corruption:

1. Biman needs to purchase new generation aircraft to save operation cost significantly. Purchased new aircrafts are joining with old fleet one by one. So operating cost also be reduced.
2. Leasing and purchase process of aircraft should be made transparent.
3. During procurement of spare parts, technical experts must be included in the process.
4. Disciplinary actions against corrupt staff of the in and out station of Biman must be taken.

Modernization of Biman:

1. Modern cost effective inventory control system should be introduced.



Accounting and Reporting System of Airlines Industry

2. Biman needs to keep its website continuously updated so that the clients can get the latest and complete information from the website.

3. Biman must go all out to introduce e-ticketing, e-reservation, and procurement of spare parts. E-ticketing was implemented in march 2007 and e-reservation also implemented in Biman.

Flight Schedule Delay: Delay analysis should be undertaken as a routine process and necessary steps should be taken to maintain the schedule in a tolerable delay range.

After joining the Biman's first foreign MD & CEO, Biman's flight schedule is now regular and should maintain this.

In-Flight Services: In-flight service must be improved. Steps may be undertaken to ensure full complement of cabin crew, professionalism among the cabin crew, and provision of proper flight crew training to ensure that quality service can be rendered by the cabin crew at all times.

Suggestions from Biman's first foreign MD and CEO about Biman:

The first foreign Managing director and Chief Executive Officer, Kevin Steele, resigned citing medical reasons in January 2014. Before leaving Dhaka on 19 April 2014, he has given some important suggestions for Biman. The prime advice for Biman is 'to stick to his plan and make Biman profitable in FY2014-15'. He had said it was not easy to work for Biman with a civil service unwilling to work. Biman is suffering with the lack of knowledge among the senior management, like the level of directors, general managers and deputy general managers. Steel had said there was no corruption at the Biman Board but he maintained that the Board's management at the micro level was an obstacle to efficiency. He also underlined that a lack of authority of the managing director was a problem. He suggested that someone who has experience working in the sub-continent be appointed as his successor.

Described above problems and suggestions by Kevin Steele are very significant for loss making Biman. Biman should exercise his different effective plans and steps to make Biman profitable.



Accounting and Reporting System of Airlines Industry

5.6 Conclusion

The global economy is still in red. The aviation industry has also not been able to fully recover from the crisis that engulfed it in the wake of the oil price hike and financial meltdown. In fact the oil price hike that resulted from Arab Spring in the Middle East still continues, which cast doubts on the ability of the aviation industry to return to profitability in the foreseeable future. Biman Bangladesh Airlines Limited continued to face exceptional challenges. Fuel prices remain constant as of last year highs. In addition, the markets Biman serve continued to be severely affected by overcapacity, falling yield and revenue resulting from the global economic crisis.

The aviation market is highly competitive and Biman, in spite of its limited resources, has to continue to compete. At one time Biman Bangladesh Airlines was the only carrier in Bangladesh operating domestic and international services, and had some advantages as the only Designated Airline of Bangladesh in various bilateral agreements with other countries. That has now changed. Private airlines have sprung up in the Bangladesh market and are competing with Biman, in addition to the foreign airlines with increased frequencies, as well as some budget airlines.

In 1991-92 Biman had a market share of 51% in passenger and 59% in cargo transportation compared to the foreign carriers. Biman's passenger market share has been reduced to 29% and cargo 20% in the year 2011-12. From 2000-01 to 2011-12, average annual growth of the air travel market in Bangladesh was 11.5% for passenger, whereas Biman's annual growth was recorded only 4.6%. During the same period, cargo market grew by 2.6% on an average, but Biman experienced a negative growth in absence of any dedicated freighter service, and shortage of capacity in belly hold.

The trend of growth in carriage and revenue is not raising rather it is stagnant. At the beginning of 90's there was an upward jump toward an increase of revenue. But that rate did not show any further increase, and ended in a static growth through the rest of the years. Although Biman is committed to become the customers' preferred global airlines in future, it is still the airlines for Bangladeshi diaspora worldwide. Amidst aggressive trend of Budget Carriers, Biman prides itself for being a full service carrier, engaged in almost all air transports related activities – from passenger and cargo transportation to aircraft and engine maintenance and in-flight catering services.



Accounting and Reporting System of Airlines Industry

Historically Biman had been operating services, mainly using old, fuel-inefficient aircraft resulting in poor operational and financial performance. More importantly, Biman could not provide the required capacity and frequency commensurate with market demand. As such, foreign carriers have taken advantage of tapping the market potential with increased frequencies under their Bilateral Air Services Agreements. However, in agreement with the Civil Aviation Authority of Bangladesh, further bilateral increases are now subject to commercial agreements with Biman, including Block Space and Code share agreements.

Bangladesh has a big labor market in the Gulf and Middle East, Malaysia, Singapore and elsewhere. In addition, a large number of Bangladeshi nationals are living in the UK, North America and other European countries. About 5.5 million Bangladeshi nationals are working/living abroad, a very significant Diaspora. There is also huge tourism potential in Bangladesh with an average annual growth of 5%.

The GDP of Bangladesh is growing at an average rate of 6%, so business travel as well as cargo, are growing rapidly. The opportunity for Biman to carry the ethnic passengers including a large number of high yield Hajj and Umrah passengers is dependent on adequate capacity to Jeddah (which will see major capacity and frequency growth). Note that Biman's traffic mix (Year 2011-12) constitutes 44% Guest worker, 35% VFR/Business, 10% religious traffic, 8% leisure traffic, 2% student and 1% medical.

Bangladesh has Bilateral Agreements with 47 countries and Biman Bangladesh Airlines, being the national carrier has ample traffic rights to extend its services to many new destinations by increasing fleet size. With the increase of fleet size, Biman will increase its flight frequency to existing profitable destinations and extend services gradually to many new destinations. As Biman is currently an airline with significant Fixed Costs, a considerable increase in capacity can be accommodated without increasing those fixed costs, resulting in a significant decrease in costs per ASK as capacity increases.

Biman will serve high density routes with a point-to-point operation, the most profitable way to operate any route. The lean routes may be operated under block space or code-sharing arrangement with other airlines, i.e. not with Biman metal, but with Biman enjoying financial benefit from such commercial arrangements. Biman, without having dedicated freighter aircraft, will exploit the potential of the cargo



Accounting and Reporting System of Airlines Industry

market under joint freighter agreements or block space agreements with various freighter operators, at no cost to Biman.

Biman will completely revamp its commercial operations, with new systems architecture, new website (with new fraud prevention techniques), Frequent Flyer Program to increase volumes in the business class, and most importantly a good revenue management system, which Biman currently does not have. This will drive a 7-8% increase in revenue, with zero increase in ASKs or cost. Biman will also increase its direct sales, moving from less than 5% at present, to 30% in 2 years, with major reductions in GDS costs and travel agents commission. Once Biman has a much improved product, this will be an opportunity for a major new re-launch of its brand.

Good corporate governance is a must for today's complex and dynamic business of environment to ensure long-term sustainability. So, it should be cultivated and practiced regularly within the current structure of the business. The accounting profession is integral affairs of any entity to different stakeholders at the end of a certain interval. It is defined as the language of business and can play a vital role for ensuring and continuing with Good corporate Governance (GCG). Accounting professionals are the primary providers of financial information to boards, executives, capital market participants and stakeholders. Users rely on others in the accounting profession when making their decision. Quality accounting provides better information for identifying good and bad investments, disciplining managers, and reducing adverse selection among investors. Good accounting leads to good corporate governance. And good corporate governance enhances the performance of corporations, by creating an environment that motivates managers to maximize returns on investment, enhance operational efficiency and ensure long-term productivity growth.

Today's international air transport organizations are increasingly facing acute competition. Given the fast changing, dynamic global economy and the increasing pressure of globalization, liberalization, consolidation and disintermediation, it is essential that Biman has a robust accounting system and procedures that are sensitive to these changes. To ensure Good Accounting, Biman's management further decided to go for comprehensive automated live accounting system and therefore, purchased latest version of well-known accounting software. So far, Biman



Accounting and Reporting System of Airlines Industry

has been able to manage its accounting system reasonably and skillfully and it will be able to satisfy stakeholder's interest.

From the establishment, Biman is updating day by day, but very slowly. To compete with first world airlines, Biman need to take rapid good decision. After the formation of PLC some Biman friendly decision has been taken, among those accounting related initiatives are automated passenger revenue accounting, accountability, development of human resources.

Going forward, Biman will focus on maximizing yield by increasing our front-end seat factor and pricing competitiveness, and expand network by forming more joint ventures with other airlines. The strategy of having more cooperation with other airlines, in the form of joint ventures as well as code sharing, will also prove to be useful in operating up new markets and enabling us to be more competitive.

The overall effect of cost reductions, revenue enhancements, and major improvements to customer service and punctuality, Biman is expected to return to profitability within 2 years. Biman is expected to earn a net profit as under:

Table 64: Biman's expected net profit from FY2013-14 to FY 2022-23

(Exchange rate USD1=BDT80.00)

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
USD in Million	6.49	15.11	27.39	39.08	34.43	41.44	42.00	43.77	90.87	114.24
BDT in Crore	51.94	120.84	219.15	312.64	275.43	331.54	335.97	350.18	726.96	913.90

Biman can make profit or over come from loss by operating extra flights from Jeddah (Saudi Arab) to Dhaka at the time of Hajj. Biman can carry only pilgrims but no other passengers. If the Saudi Government gives the permission and signed any agreement with Biman to carry normal passenger at the time of return, Biman can earn extra revenue from that flights. The airline should plans to maximize revenue by:

- a. Capitalizing on its competitive advantage in non-stop service to/from Dhaka
- b. Increasing premium yields in line with the upgraded Business Class product



Accounting and Reporting System of Airlines Industry

c. Enhancing revenue management practice and systems to maintain high load factors at acceptable yields

d. Attracting a greater proportion of passenger traffic through lower-cost internet booking channels

Biman prides itself for being a full service carrier, engaged in almost all air transport related activities – from passenger and cargo transportation to aircraft and engine maintenance and in-flight catering services Biman Bangladesh Airlines moves confidently into the future. Biman's goals are based on solid foundation. Biman has embarked on a number of technological initiatives which are aimed at increasing revenue, reducing revenue leakage, improving the efficiency of its operations and its branding.



Accounting and Reporting System of Airlines Industry

APPENDICES**Appendix 1**

Biman Bangladesh Airlines Limited									
Statement of Comprehensive Income									
For the year ended June 30, 2013,2012,2011,2010,2009									
Particulars			Amount in Taka						
			2012-13	2011-12	2010-11	2009-2010	2008-09	2007-2008	
Operating Revenue			38,937,683,641	37,343,245,975	32,886,249,154	29,134,472,736	30,128,213,627	29,551,481,690	
Operating Expenses			<u>(40,349,658,631)</u>	<u>(43,654,129,683)</u>	<u>(35,529,907,373)</u>	<u>(29,750,472,124)</u>	<u>(29,676,307,892)</u>	<u>(29,524,251,991)</u>	
Operating Profit/(Loss)			<u>(1,411,974,990)</u>	<u>(6,310,883,708)</u>	<u>(2,643,658,219)</u>	<u>(615,999,388)</u>	<u>451,905,735</u>	<u>27,229,699</u>	
Non-operating revenue			654,285,670	893,418,247	520,941,395	345,806,160	268,828,872	242,742,838	
Non-operating Expenses			<u>(528,998,634)</u>	<u>(45,021,529)</u>	<u>(739,757)</u>	<u>(44,964,903)</u>	<u>(326,428,402)</u>	<u>(46,704,301)</u>	
Non-operating Profit/(Loss)			<u>125,287,036</u>	<u>848,396,718</u>	<u>520,201,638</u>	<u>300,841,257</u>	<u>(57,599,530)</u>	<u>196,038,537</u>	
Profit/(Loss) before Interest			<u>(1,286,687,954)</u>	<u>(5,462,486,990)</u>	<u>(2,123,456,581)</u>	<u>(315,158,131)</u>	<u>394,306,205</u>	<u>223,268,236</u>	
Interest Expenses			<u>(555,593,895)</u>	<u>(445,594,033)</u>	<u>(150,268,008)</u>	<u>(145,050,000)</u>	<u>(145,050,000)</u>	<u>(124,760,444)</u>	
Net profit before Tax			<u>(1,842,281,849)</u>	<u>(5,908,081,023)</u>	<u>(2,273,724,589)</u>	<u>(460,208,131)</u>	249,256,205	<u>98,507,792</u>	
Provision for Taxation			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>(93,471,077)</u>	<u>(39,403,117)</u>	
Net-Profit/(Loss) for the year			<u>(1,842,281,849)</u>	<u>(5,908,081,023)</u>	<u>(2,273,724,589)</u>	<u>(460,208,131)</u>	<u>155,785,128</u>	<u>5,910,465</u>	
Other Comprehensive Income			<u>(73,570,448)</u>	<u>(34,034,262)</u>	<u>32,089,287</u>	<u>0</u>		0	
Accumulated Profit/Loss brought forward							<u>59,104,675</u>	<u>0</u>	
Total Comprehensive Income/(Loss) for the year			<u>(1,915,852,297)</u>	<u>(5,942,115,285)</u>	<u>(2,241,635,302)</u>	<u>(460,208,131)</u>	<u>214,889,803</u>	<u>59,104,675</u>	

Accounting and Reporting System of Airlines Industry

Appendix 2

Biman Bangladesh Airlines Limited					
Statement of Financial Position					
As at June 30, 2013, 2012, 2011, 2010, 2009					
Particulars	Amount in Taka				
	30.06.2013	30.06.2012	30.06.2011	30.06.2010	30.06.2009
ASSETS:					
Non-Current Assets:					
Property, Plant and Equipment (Cost-Accumulated Dep.)	39,604,676,516	42,725,624,501	16,738,249,401	17,211,618,188	17,564,668,507
Capital Work in Progress	218,077,060	17,053,321	449,606,216	22,369,916	20,969,916
Investment in Shares	83,488,616	93,041,336	63,946,029	54,806,742	9,180,000
Intangible Assets	5,556,167,338	5,556,167,338	5,556,167,338	5,556,167,338	5,556,167,338
Deferred Expenditure	<u>2,226,672,002</u>	<u>657,961,788</u>	<u>612,064,220</u>	<u>466,920,004</u>	<u>67,513,725</u>
	<u>47,689,081,532</u>	<u>49,049,848,284</u>	<u>23,420,033,206</u>	<u>23,311,882,188</u>	<u>23,218,499,486</u>
Non-current Assets Held for Sale	<u>343,499,044</u>	<u>2,999,572</u>			
Current Assets:					
Store and Spares	3,335,786,304	2,892,921,849	2,307,784,562	2,047,719,458	1,999,509,127
Sundry Debtors	2,678,952,772	3,825,682,885	2,229,714,589	2,555,542,818	1,757,449,136
Advances, Deposits and Prepayments	11,200,188,240	2,590,678,694	10,683,650,162	10,338,240,712	1,511,182,801
Tax Deducted in Source	108,663,377	84,076,301	67,093,769	46,772,475	38,376,454
Accrued Interest on FDR	41,363,573	27,567,508	23,827,005	26,905,789	15,613,076
Cash and Cash Equivalents	<u>1,758,691,962</u>	<u>1,690,829,115</u>	<u>841,338,813</u>	<u>1,687,338,280</u>	<u>2,635,857,803</u>
	<u>19,123,646,228</u>	<u>11,111,756,352</u>	<u>16,153,408,900</u>	<u>16,702,519,532</u>	<u>7,957,988,397</u>
Total Assets	<u>67,156,226,804</u>	<u>60,154,604,208</u>	<u>39,573,442,106</u>	<u>40,014,401,720</u>	<u>31,176,487,883</u>
EQUITIES & LIABILITIES:					
Equity:					
Share Capital	20,824,096,400	20,824,096,400	20,824,096,400	700	700
Equity of Government	101	101	101	20,824,095,801	20,824,095,801
Retained Earnings	<u>-10,194,663,007</u>	<u>-8,278,810,710</u>	<u>-2,336,695,425</u>	<u>-95,060,123</u>	<u>214,889,803</u>
	<u>10,629,433,494</u>	<u>12,545,285,791</u>	<u>18,487,401,076</u>	<u>20,729,036,378</u>	<u>21,038,986,304</u>
Non-current Liabilities:					
Long Term Loans	36,153,290,944	29,952,950,014	13,194,436,531	12,782,261,443	4,813,543,075
Deferred Liabilities	<u>3,282,851,325</u>	<u>2,774,497,000</u>	<u>2,012,299,001</u>	<u>2,007,332,826</u>	<u>1,975,831,137</u>
	<u>39,436,142,269</u>	<u>32,727,447,014</u>	<u>15,206,735,532</u>	<u>14,789,594,269</u>	<u>6,789,374,212</u>
Current Liabilities and Provisions:					
Accounts Payables & Accruals	15,867,970,111	13,105,765,721	5,407,757,400	3,963,076,487	2,296,802,237
Unearned Transportation Revenue	1,222,680,930	1,585,105,682	271,548,098	532,694,586	918,450,936
Short Term Loans	0	200,000,000	200,000,000	0	0
Provision for Taxation					<u>132,874,194</u>
	<u>17,090,651,041</u>	<u>14,891,871,403</u>	<u>5,879,305,498</u>	<u>4,495,771,073</u>	<u>3,348,127,367</u>
Total Equities and Liabilities	<u>67,156,226,804</u>	<u>60,164,604,208</u>	<u>39,573,442,106</u>	<u>40,014,401,720</u>	<u>31,176,487,883</u>



Accounting and Reporting System of Airlines Industry

Appendix 3

Biman Bangladesh Airlines Limited					
Statement of Cash Flow					
For the year ended June 30,2013,2012,2011,2010 and 2009					
Particulars	Amount in Taka				
	2012-13	2011-12	2010-11	2009-10	2008-09
A. Cash Flows from Operating Activities :					
Total Comprehensive Income/(Loss) for the year	-1,915,852,297	-5,942,115,285	-2,241,635,302		
Net Profit/(loss) after Tax				-460,208,131	155,785,128
Prior year Adjustment				150,258,205	
Adjustment for non-cash items and consideration elsewhere:					
Depreciation charged	1,910,890,372	1,928,405,395	817,157,771	815,903,231	795,470,110
Loss due to non current assets held for sale	107,622,728	88,374,569	23,327,136	0	
(Profit)/Loss on sale/ disposal of Fixed Assets	183,420,696	7,620,450	0	30,631,303	34,854,482
	286,081,499	-3,917,714,871	-1,401,150,395	536,584,608	986,109,720
Changes in Working Capital					
Decrease/(Increase) in Sundry Debtors	1,146,730,113	-1,595,968,296	325,828,229	-798,093,682	895,105,264
decrease/ (Increase) in Investment in shares	9,552,720	-29,095,307	-9,139,287	-45,626,742	
Decrease/(Increase) in Advances, Deposits and Prepayments	-8,609,509,546	8,092,914,467	-345,409,450	-8,827,057,914	-70,827,259
Decrease/(Increase) in stores and spares	-442,864,455	-585,137,287	-260,065,104	-48,210,331	-78,929,047
Increase in accrued interest on FDR	-13,769,065	-3,740,503	3,078,784	-11,292,713	671,641
Increase/(Decrease) in accounts Payable and Accruals	2,762,204,390	7,698,008,321	1,444,680,913	1,666,274,252	-1,239,120,823
Increase / (Decrease) in Provision for deferred liabilities	508,354,325	762,198,000	4,966,175	31,501,682	58,073,703
Decrease in work in progress	-201,023,739	432,552,897	-427,236,302	-1,400,000	0
Increase in provision for taxation				-132,874,194	93,471,077
Increase/(Decrease) in Un-earned Transportation Revenue	-363,424,752	1,314,557,583	-261,146,488	-385,756,350	-817,406,368
(Increase)/Decrease in Deferred Expenditure	-1,568,710,214	-45,897,568	-145,144,216	-399,406,279	-67,513,725
	-6,772,487,223	16,040,449,307	330,413,255	-8,951,942,261	1,226,475,537
Cash Generated from Operation	-6,486,405,724	12,122,734,436	-1,070,737,140	-8,415,357,653	-240,365,817
Income tax paid	-24,587,076	-16,982,531	-20,321,294	-8,396,021	-5,545,598
Net Cash Flow from Operating Activities	-6,510,992,800	12,105,751,905	(1,091,058,434)	-8,423,753,674	-245,911,415
B. Cash Flows from Investing Activities :					
Acquisition of fixed assets	-220,541,336	-25,677,490,626	-367,116,121	-493,484,216	-199,265,670
Sale value of fixed assets	0	0	0	0	0
Addition/adjustment of fixed assets due to exchange difference	799,056,053	-2,337,284,460	0	0	0
Net Cash used in Investing Activities	578,514,717	-28,014,775,086	-367,116,121	-493,484,216	-199,265,670
C. Cash Flows from Financing Activities :					
Increase/(Decrease) in Longterm Loan	6,200,340,930	16,758,513,483	412,175,088	7,968,718,368	(237,229,777)
Increase/(Decrease) in Short term Loan	-200,000,000	0	200,000,000	0	
Increase/(Decrease) in Equity of Government			-20,824,095,700	0	288,000,610
Increase/(Decrease) in Paid-up capital			20,824,095,700	0	
Loan of IFC Repayment	0	0	0	0	10,207,500
Net Cash used in Financing Activities	6,000,340,930	16,758,513,483	612,175,088	7,968,718,368	40,563,333
Net Cash Increase/(decrease) in Cash and					
Cash Equivalents during the year (A+B+C)	67,862,847	849,490,302	-845,999,467	-948,519,522	-404,613,752
Cash and cash equivalents at the beginning of the year	1,690,829,115	841,338,813	1,687,338,280	2,635,852,803	3,040,471,555
Cash and Cash Equivalent at the end of the year	1,758,691,962	1,690,829,115	841,338,813	1,687,338,280	2,635,857,803



Accounting and Reporting System of Airlines Industry

Appendix 4

Biman Bangladesh Airlines Limited					
Statement of Changes in Equity					
For the year ended June 30,2013,2012,2011,2010 and 2009					
Year	Particulars	Paid-up Capital	Government Equity	Accumulated Profit/(Loss)	Total
	Balance as at 01 July 2012	20,824,096,400	101	(8,278,810,710)	12,545,285,791
	Addition during the year			(1,915,852,297)	(1,915,852,297)
2013		<u>20,824,096,400</u>	<u>101</u>	<u>(10,194,663,007)</u>	<u>10,629,433,494</u>
	Adjustment during the period	-	-	-	-
	Balance as at 30 June 2013	<u>20,824,096,400</u>	<u>101</u>	<u>(10,194,663,007)</u>	<u>10,629,433,494</u>
Year	Particulars	Paid-up Capital	Government Equity	Accumulated Profit/(Loss)	Total
	Balance as at 01 July 2011	20,824,096,400	101	(2,336,695,425)	18,487,401,076
	Addition during the year			(6,059,505,719)	(6,059,505,719)
2012		<u>20,824,096,400</u>	<u>101</u>	<u>(8,396,201,144)</u>	<u>12,427,895,357</u>
	Adjustment during the period				
	Balance as at 30 June 2012	<u>20,824,096,400</u>	<u>101</u>	<u>(8,396,201,144)</u>	<u>12,427,895,357</u>
Year	Particulars	Paid-up Capital	Government Equity	Accumulated Profit/(Loss)	Total
	Balance as at 01 July 2010	700	20,824,095,801	(95,060,124)	20,729,036,377
	Addition during the year	20,824,095,700	1994917061	(1,994,917,061)	18,829,178,639
2011		<u>20,824,096,400</u>	<u>20,824,095,801</u>	<u>(2,089,977,185)</u>	<u>39,558,215,016</u>
	Adjustment during the period		(20,824,095,700)		(20,824,095,700)
	Balance as at 30 June 2011	<u>20,824,096,400</u>	<u>101</u>	<u>(2,089,977,185)</u>	<u>18,734,119,316</u>

Continued.....



Accounting and Reporting System of Airlines Industry

Biman Bangladesh Airlines Limited					
Statement of Changes in Equity					
For the year ended June 30,2013,2012,2011,2010 and 2009					

Year	Particulars	Paid-up Capital	Government Equity	Accumulated Profit/(Loss)	Total
	Balance as at 01 July 2009	700	20,824,095,801	214,889,803	21,038,986,304
	Addition during the year			(801,362,915)	(801,362,915)
		700	20,824,095,801	(586,473,112)	20,022,732,886
2010	Adjustment during the period			150,258,205	150,258,205
	Balance as at 30 June 2010	700	20,824,095,801	(436,214,907)	20,387,881,594

Year	Particulars	Paid-up Capital	Government Equity	Accumulated Profit/(Loss)	Total
	Balance as at 01 July 2008	700	2,850,706,572	59,104,675	2,909,811,947
			11,948,300,000		11,948,300,000
			5,737,088,619		5,737,088,619
2009	Addition during the year		288,000,610	155,785,128	443,785,738
		700	20,824,095,801	214,889,803	21,038,986,304
	Adjustment during the period	-	-	-	-
	Balance as at 30 June 2009	700	20,824,095,801	214,889,803	21,038,986,304

Year	Particulars	Paid-up capital	Government Equity	Retained Earnings	Total
	Balance at Opening	-	-	-	-
	Addition during the year				
	Paid-up capital	700	-	-	700
2008	Government Equity	-	2,850,706,572	-	2,850,706,572
	Conversion of Liabilities to M/S Padma Oil Company as Equity	-	11,948,300,000	-	11,948,300,000
	Conversion of Liabilities to CAAB as Equity	-	5,737,088,619	-	5,737,088,619
	Net Profit for the period	-	-	-	-
	Balance as at 30 June 2008	700	20,536,095,191	-	20,536,095,891



Accounting and Reporting System of Airlines Industry

Appendix 5

Biman Bangladesh Airlines Limited													
A statement showing the comparative Financial Results of FY 2012-13, 2011-12, 2010-11, 2009-10, 2008-09, 2007-08													
Particulars	2012-2013		2011-2012		2010-2011		2009-2010		2008-2009		2007-2008		
	Taka in	% of Total	Taka in	% of Total	Taka in	% of Total	Taka in	% of Total	Taka in	% of Total	Taka in	% of Total	
	Crece	Revenue	Crece	Revenue	Crece	Revenue	Crece	Revenue	Crece	Revenue	Crece	Revenue	
	3,893.77	98.53%	3,734.32	97.75%	3,288.62	98.35%	2,913.45	98.83%	3012.82	99.12%	2,955.15	99.19%	
B. Non-operating Revenue & Other Comprehensive	58.07	1.47%	85.94	2.25%	55.30	1.65%	34.58	1.17%	26.88	0.88%	24.27	0.81%	
C.Total Revenue	3,951.84	100.00%	3,820.26	100.00%	3,343.93	100.00%	2,948.03	100.00%	3039.70	100.00%	2,979.42	100.00%	
D. Operating expenses	4,034.96	102.10%	4,365.41	114.27%	3,552.99	106.25%	2,975.05	100.92%	2967.63	97.63%	2,952.43	99.09%	
D.1. Fuel cost	1,893.56	47.92%	2,108.00	55.18%	1,580.17	47.25%	1,222.21	41.46%	1346.71	44.30%	1,413.32	47.44%	
D.2. Maintenance,Landing, Parking & Aircraft Handl	612.32	15.49%	624.69	16.35%	517.80	15.48%	450.54	15.28%	490.60	16.14%	475.51	15.96%	
D.3. Selling, Administrative & Other Expenses	1,095.88	27.73%	1,207.30	31.60%	1,019.70	30.49%	934.47	31.70%	866.47	28.51%	838.43	28.14%	
D.4. Lease Rent	243.28	6.16%	233.73	6.12%	354.51	10.60%	287.00	9.74%	185.16	6.09%	152.61	5.12%	
D.5. Auditors' Fees	0.06	0.00%	0.06	0.00%	0.06	0.00%	0.06	0.00%	0.06	0.00%	0.06	0.00%	
D.6. Directors' Remuneration	0.17	0.00%	0.16	0.00%	0.22	0.01%	0.19	0.01%	0.07	0.00%	0.03	0.00%	
D.7. Depreciation expenses	189.69	4.80%	191..48	5.01%	80.53	2.41%	80.58	2.73%	78.56	2.58%	72.47	2.43%	
E. Non-operating Expenses	52.90	1.34%	4.50	0.12%	0.07	0.00%	4.50	0.15%	32.64	1.07%	4.67	0.16%	
F. Operating & Non-operating Expenses (D+E)	4,087.86	103.44%	4,369.92	114.39%	3,553.06	106.25%	2,979.54	101.07%	3000.27	98.70%	2,957.10	99.25%	
G. Operating profit/(Loss) (A-D)	-141.19	-3.57%	-631.09	-16.52%	-239.69	-7.17%	-61.60	-2.09%	45.19	1.49%	0.27	0.01%	
H. Non-operating Profit including other Com. Incom	12.53	32.00%	84.84	2.22%	55.23	1.65%	30.08	1.02%	-5.80	-0.19%	19.60	0.66%	
I. Profit before Interest & Tax (G+H)	-128.66	-3.26%	-546.25	-14.30%	-209.14	-6.25%	-31.52	-1.07%	39.43	1.30%	22.33	0.75%	
J.Interest Expenses	55.56	1.41%	44.56	1.18%	15.03	0.45%	14.51	0.49%	14.51	0.48%	12.48	0.42%	
K. Profit before Tax (I-J)	-184.22	-4.66%	-590.81	-15.47%	-224.16	-6.70%	-46.02	-1.56%	24.93	0.82%	9.85	0.33%	
L. Provision for Income tax	0.00		0.00		0.00		0.00		9.35	0.31%	3.94	0.13%	
M.Net Profit after Interest & tax (K-L)	-184.22	-4.66%	-590.81	-15.47%	-224.16	-6.70%	-46.02	-1.56%	15.58	0.51%	5.91	0.20%	
N. Dividend	0.00		0.00		0.00		0.00		0.00%	0.00	0.00%		
Transferred as Retained Earnings (M-N)	-191.59		-594.21		-224.16		-46.02		21.49	0.71%	5.91	0.20%	

Accounting and Reporting System of Airlines Industry

Appendix 6

Biman Bangladesh Airlines Limited					
Statement of allotment of share					
SI No.	Name	No of allotment of Transfer	Date of Allotment	No. of shares allotted	Value of share
1.	Secretary, Ministry of Civil Aviation & Tourism	008	12.08.2009	1	100.00
			24.01.2011	208,240,957	20,824,095,700.00
2.	Secretary, Cabinet Division, GOB	007	12.08.2009	1	100.00
3.	Secretary, Ministry of Power, Energy & Mineral Resources	009	12.08.2009	1	100.00
4.	Secretary, Ministry of Finance, GOB	011	12.08.2009	1	100.00
5.	Secretary, Ministry of Foreign Affairs, GOB	012	12.08.2009	1	100.00
6.	Joint Secretary, Ministry of Civil Aviation & Tourism, GOB	013	12.08.2009	1	100.00
7.	Secretary, Ministry of Commerce, GOB	014	26-08-2010	1	100.00
Total					20,824,096,400.00

Accounting and Reporting System of Airlines Industry

Appendix 7

Biman Bangladesh Airlines Limited

Ratio Analysis

Liquidity Ratio			
1. Working Capital:- (Current Assets - Current Liabilities)			
Year	Current Assets(TK)	Current Liabilities(TK)	Working Capital
2000-01	5,293,624,198	7,123,164,645	(1,829,540,447)
2001-02	5,796,872,672	8,767,634,910	(2,970,762,238)
2002-03	6,508,798,322	9,692,528,273	(3,183,729,951)
2003-04	7,203,880,099	10,199,101,034	(2,995,220,935)
2004-05	7,294,298,139	12,159,845,544	(4,865,547,405)
2005-06	7,140,237,842	16,232,993,270	(9,092,755,428)
2006-07	10,905,659,375	19,808,196,522	(8,902,537,147)
1-22.07.07	12,248,925,274	19,153,804,567	(6,904,879,293)
2007-08	9,103,077,150	5,311,183,481	3,791,893,669
2008-09	7,957,988,397	3,348,127,367	4,609,861,030
2009-10	16,702,519,532	4,495,771,073	12,206,748,459
2010-11	16,153,554,575	5,632,732,933	10,520,821,642
2.Current Ratio :- Current Assets : Current Liabilities			
Year	Current Assets(TK)	Current Liabilities(TK)	Ratio
2000-01	5,293,624,198	7,123,164,645	0.74 : 1.00
2001-02	5,796,872,672	8,767,634,910	0.66 : 1.00
2002-03	6,508,798,322	9,692,528,273	0.67 : 1.00
2003-04	7,203,880,099	10,199,101,034	0.71 : 1.00
2004-05	7,294,298,139	12,159,845,544	0.60 : 1.00
2005-06	7,140,237,842	16,232,993,270	0.44 : 1.00
2006-07	10,905,659,375	19,808,196,522	0.55 : 1.00
1-22.07.07	12,248,925,274	19,153,804,567	0.64 : 1.00
2007-08	9,103,077,150	5,311,183,481	1.71 : 1.00
2008-09	7,957,988,397	3,348,127,367	2.38 : 1.00
2009-10	16,702,519,532	4,495,771,073	3.72 : 1.00
2010-11	16,153,554,575	5,632,732,933	2.87 : 1.00

Continued.....



Accounting and Reporting System of Airlines Industry

3. Quick Ratio :- (Current Assets - Store & Spares) : Current Liabilities				
Year	(Current Assets - Stores & Spares)(TK)	Current Liabilities(TK)	Ratio	
2000-01	3,307,650,044	7,123,164,645	0.46 : 1.00	
2001-02	3,740,888,283	8,767,634,910	0.43 : 1.00	
2002-03	4,215,036,492	9,692,528,273	0.43 : 1.00	
2003-04	4,712,132,541	10,199,101,034	0.46 : 1.00	
2004-05	4,798,607,826	12,159,845,544	0.39 : 1.00	
2005-06	4,460,832,832	16,232,993,270	0.27 : 1.00	
2006-07	7,952,818,718	19,808,196,522	0.40 : 1.00	
1-22.07.07	9,499,718,230	19,153,804,567	0.50 : 1.00	
2007-08	7,182,497,070	5,311,183,481	1.35 : 1.00	
2008-09	5,958,479,270	3,348,127,367	1.78 : 1.00	
2009-10	14,654,800,074	4,495,771,073	3.26 : 1.00	
2010-11	13,845,770,013	5,632,732,933	2.46 : 1.00	
<u>Operating Ratio</u>				
4. Accounts Receivable Turnover Ratio :- Net Sales : Average gross receivable				
Year	Sales(TK)	Ave. Trade Debtors(TK)	Times	Days (Required)
2000-01	17,268,570,149	1,867,977,407	9.24	39.48
2001-02	18,453,610,176	1,994,204,489	9.25	39.44
2002-03	19,071,303,765	2,260,197,463	8.44	43.26
2003-04	21,958,591,995	2,501,855,466	8.78	41.59
2004-05	24,170,817,445	2,715,302,626	8.90	41.00
2005-06	26,285,925,616	2,666,984,216	9.86	37.03
2006-07	24,541,967,150	3,183,017,449	7.71	47.34
1-22.07.07	1,602,797,118	3,726,474,937	0.43	848.62
2007-08	29,551,481,690	3,123,290,066	9.46	38.58
2008-09	30,128,213,627	2,205,001,768	13.66	26.71
2009-10	29,134,472,736	2,156,495,977	13.51	27.02
2010-11	32,886,394,830	2,392,701,541	13.74	26.56

Continued.....



Accounting and Reporting System of Airlines Industry

5. Inventory Turnover Ratio :- Net Sales : Average Inventory			
Year	Sales(TK)	Average Inventory(TK)	Times
2000-01	17,268,570,149	1,940,213,469	8.90
2001-02	18,453,610,176	2,020,979,272	9.13
2002-03	19,071,303,765	2,174,873,110	8.77
2003-04	21,958,591,995	2,392,754,694	9.18
2004-05	24,170,817,445	2,493,718,936	9.69
2005-06	26,285,925,616	2,587,547,662	10.16
2006-07	24,541,967,150	2,816,122,834	8.71
1-22.07.07	1,602,797,118	2,851,023,851	0.56
2007-08	29,551,481,690	1,969,252,485	15.01
2008-09	30,128,213,627	1,960,044,604	15.37
2009-10	29,134,472,736	2,023,614,293	14.40
2010-11	32,886,394,830	2,177,752,010	15.10
6. Assets Turnover Ratio : Sales : Average Assets			
Year	Sales(TK)	Average Assets(TK)	Ratio
2000-01	17,268,570,149	16,127,449,459	1.07 : 1.00
2001-02	18,453,610,176	16,454,532,326	1.12 : 1.11
2002-03	19,071,303,765	16,462,758,067	1.16 : 1.00
2003-04	21,958,591,995	16,413,977,277	1.34 : 1.00
2004-05	24,170,817,445	16,172,725,257	1.49 : 1.00
2005-06	26,285,925,616	15,327,242,373	1.71 : 1.00
2006-07	24,541,967,150	15,879,271,722	1.55 : 1.00
1-22.07.07	1,602,797,118	17,643,486,497	0.09 : 1.00
2007-08	29,551,481,690	25,603,917,929	1.15 : 1.00
2008-09	30,128,213,627	32,030,804,859	0.94 : 1.00
2009-10	29,134,472,736	35,595,444,802	0.82 : 1.00
2010-11	32,886,394,830	39,793,994,751	0.83 : 1.00

Continued.....



Accounting and Reporting System of Airlines Industry

Profitability Ratio			
7. Return on Assets Ratio :- Net Income : Average Assets			
Year	Net Income(TK)	Average Assets(TK)	Ratio
2000-01	(930,619,587)	16,127,449,459	(0.06) : 1
2001-02	(737,280,079)	16,454,532,326	(0.04) : 1
2002-03	(442,868,540)	16,462,758,067	(0.03) : 1
2003-04	341,695,868	16,413,977,277	0.02 : 1
2004-05	(1,916,599,699)	16,172,725,257	(0.12) : 1
2005-06	(4,547,146,880)	15,327,242,373	(0.30) : 1
2006-07	(2,721,711,220)	15,879,271,722	(0.17) : 1
1-22.07.07	(107,215,957)	17,643,486,497	(0.01) : 1
2007-08	59,104,675	25,603,917,929	0.002 : 1
2008-09	155,785,128	32,030,804,859	0.005 : 1
2009-10	(460,208,131)	35,595,444,802	(0.013) : 1
2010-11	(1,994,917,061)	39,793,994,751	(0.050) : 1
8. Return on Fixed Assets Ratio :- Net Income : Fixed Assets			
Year	Net Income(TK)	Fixed Assets(TK)	Ratio
2000-01	(930,619,587)	9,154,470,930	(0.10) : 1
2001-02	(737,280,079)	8,784,632,845	(0.08) : 1
2002-03	(442,868,540)	8,067,312,580	(0.05) : 1
2003-04	341,695,868	7,420,828,004	0.05 : 1
2004-05	(1,916,599,699)	6,645,619,195	(0.29) : 1
2005-06	(4,547,146,880)	6,127,418,327	(0.74) : 1
2006-07	(2,721,711,220)	4,340,542,492	(0.63) : 1
1-22.07.07	(107,215,957)	4,305,540,153	(0.02) : 1
2007-08	59,104,675	18,195,727,430	0.003 : 1
2008-09	155,785,128	17,564,668,507	0.009 : 1
2009-10	(460,208,131)	17,211,618,188	(0.027) : 1
2010-11	(1,994,917,061)	16,738,249,401	(0.119) : 1

Continued.....



Accounting and Reporting System of Airlines Industry

9. Return on Equity Ratio :- Net Income : Total Shareholders' Equity			
Year	Net Income(TK)	Total Shareholders' Equity(TK)	Ratio
2000-01	(930,619,587)	3,094,411,185	(0.30) : 1
2001-02	(737,280,079)	2,268,889,191	(0.32) : 1
2002-03	(442,868,540)	1,749,384,535	(0.25) : 1
2003-04	341,695,868	2,002,545,189	0.17 : 1
2004-05	(1,916,599,699)	65,575,778	(29.23) : 1
2005-06	(4,547,146,880)	(4,492,326,513)	(1.01) : (1)
2006-07	(2,721,711,220)	(5,724,513,095)	(0.48) : (1)
1-22.07.07	(107,215,957)	(5,840,517,553)	(0.02) : (1)
2007-08	59,104,675	20,595,200,566	0.003 : 1
2008-09	155,785,128	21,038,986,304	0.007 : 1
2009-10	(460,208,131)	20,729,036,378	(0.022) : 1
2010-11	(1,994,917,061)	18,734,119,316	(0.106) : 1
10. Earnings per Share (EPS) :- Net Income : No of Share			
Year	Net Income(TK)	No. of Share	EPS
2000-01	(930,619,587)	38,251,315	(24.33)
2001-02	(737,280,079)	38,251,315	(19.27)
2002-03	(442,868,540)	38,251,315	(11.58)
2003-04	341,695,868	38,251,315	8.93
2004-05	(1,916,599,699)	38,251,315	(50.11)
2005-06	(4,547,146,880)	38,251,315	(118.88)
2006-07	(2,721,711,220)	53,251,315	(51.11)
1-22.07.07	(107,215,957)	53,251,315	(2.01)
2007-08	59,104,675	7	8,443,525.00
2008-09	155,785,128	7	22,255,018.29
2009-10	(460,208,131)	7	(65,744,018.71)
2010-11	(1,994,917,061)	208,240,964	(9.58)

Continued.....



Accounting and Reporting System of Airlines Industry

Solvency Ratio			
11. Times interest Earned Raio :- Operating Profit : Interest Expense			
Year	Operating Profit/(Loss)(TK)	Interest Expense(TK)	Ratio
2000-01	(730,460,846)	383,407,164	(1.91) : 1
2001-02	(775,201,070)	183,649,444	(4.22) : 1
2002-03	(556,747,440)	104,179,835	(5.34) : 1
2003-04	264,738,884	63,861,938	4.15 : 1
2004-05	(2,017,424,172)	45,510,303	(44.33) : 1
2005-06	(4,736,808,797)	31,840,508	(148.77) : 1
2006-07	(2,673,679,249)	1,696,701	(1,575.81) : 1
1-22.07.07	(144,184,226)	-	
2007-08	27,229,699	124,760,444	0.22 : 1
2008-09	451,905,735	145,050,000	3.12 : 1
2009-10	(615,999,388)	145,050,000	(4.25) : 1
2010-11	(2,396,939,978)	150,268,008	(15.95) : 1
12. Equity Ratio:- Owners Equity / Total Assets			
Year	Owners Equity (TK)	Total Assets (TK)	Ratio (%)
2000-01	3,094,411,185	16,326,252,832	18.95
2001-02	2,268,889,191	16,582,811,820	13.68
2002-03	1,749,384,535	16,342,704,314	10.70
2003-04	2,002,545,189	16,485,250,240	12.15
2004-05	65,575,778	15,860,200,274	0.41
2005-06	(4,492,326,513)	14,794,284,472	(30.37)
2006-07	(5,724,513,095)	16,964,258,971	(33.74)
1-22.07.07	(5,840,517,553)	18,322,714,023	(31.88)
2007-08	20,595,200,566	32,885,121,834	62.63
2008-09	21,038,986,304	31,176,487,883	67.48
2009-10	20,729,036,378	40,014,401,720	51.80
2010-11	18,734,119,316	39,573,587,781	47.34
13. Debt Ratio:- Total Debt / Total Assets			
Year	Total Debts (TK)	Total Assets (TK)	Ratio (%)
2000-01	13,231,841,647	16,326,252,832	81.05
2001-02	14,313,922,629	16,582,811,820	86.32
2002-03	14,593,319,779	16,342,704,314	89.30
2003-04	14,482,705,051	16,485,250,240	87.85
2004-05	15,794,624,496	15,860,200,274	99.59
2005-06	19,286,610,985	14,794,284,472	130.37
2006-07	22,688,772,066	16,964,258,971	133.74
1-22.07.07	24,163,231,576	18,322,714,023	131.88
2007-08	12,289,921,267	32,885,121,834	37.37
2008-09	10,137,501,579	31,176,487,883	32.52
2009-10	19,285,365,342	40,014,401,720	48.20
2010-11	20,839,468,465	39,573,587,781	52.66

Continued.....



Accounting and Reporting System of Airlines Industry

Appendix 8

NOTES ON ACCOUNTING SYSTEM

RETURNS AND REPORTS :

R-1	:	Passenger and Baggage Sales Report.
R-2	:	Cargo Sales Report.
R-3	:	Cargo Delivery & Collection Report.
R-4	:	Misc. Cash/Credit Transaction Report.
R-5	:	Invoice Collection Report.
R-6	:	Refund Report.
R-7	:	Invoice Collection advice for other stations.
R-8	:	Invoice reconciliation statement.
R-9	:	Statement of Cash Transactions & Banking Form.
R-10	:	Agents Sales Report.
D-14	:	Statement of Staff Advances & loans.
D-15	:	Station Disbursement Report.

GENERAL ACCOUNTING SOURCES:

SRC-32	:	Station Sales (Domestic).
SRC-41	:	D-14 of Domestic Station.
SRC-42	:	D-15 of Domestic Station.
SRC-43	:	Cheque Payments from Head Office Accounts.
SRC-44	:	Pay Roll Sources.
SRC-45	:	Combination of source 51 & 52 (stores Accounting).
SRC-46	:	JV (Journal Voucher) Local currency.
SRC-47	:	D-15 Foreign Stations.
SRC-48	:	D-14 Foreign Stations.
SRC-49	:	JV Foreign currency.
SRC-50	:	Foreign Station Salary.
SRC-51	:	Stores Issue Vouchers.
SRC-52	:	Stock/Stores Return Vouchers.
SRC-53	:	Stores Receipt Vouchers.
SRC-54	:	Domestic Station Sales.
SRC-55	:	Foreign Station Sales.

Continued.....



Accounting and Reporting System of Airlines Industry

REVENUE ACCOUNTING SOURCES:

SRC-20	:	Domestic Flight Coupons (Lift).
SRC-21	:	Auditors Coupons.
SRC-22	:	Lift Coupons.
SRC-23	:	Refund Coupons.
SRC-24	:	Void and Exchange coupons.
SRC-25	:	Endorsed coupons.
SRC-26	:	Pax. Billing coupons (lifted).
SRC-27	:	Pax. Billing coupons (Exchanged).
SRC-28	:	Incoming PTA Billing.
SRC-29	:	...
SRC-30	:	P.P. Cargo Billing.
SRC-31	:	C.C. Cargo Billing.
SRC-32	:	Interline Source.
SRC-34	:	...
SRC-35	:	...
SRC-56	:	Domestic Revenue Earning Transfer.
SRC-57	:	Regional Revenue Earning Transfer.
SRC-58	:	International Revenue Earning Transfer.
SRC-59	:	Interline Revenue Billing & Earning Transfer.



Accounting and Reporting System of Airlines Industry

Appendix 9

ACCOUNTING CODES

ACCOUNTING CODES	LOCATION CODE DESIGNATORS
DHAKA DIVISION	
DAC Head Office, Dhaka	001
DBO Dhaka Booking Office	002
ZIA Zia International Airport, Kurmitola	003
ZIA Zia International Airport, Cargo Complex	004
.....	005
.....	006
CHITTAGONG DIVISION	
CGP Chittagong	101
CXB Cox's Bazar	102
CGP Chittagong Airport	103
CLA Comilla	111
ZYL Sylhet	121
ZHM Shamshernagar	122
MVI Moulavi Bazar	125
.....	126
.....	131
KHULNA DIVISION	
KHL Khulna	201
JSR Jessore	211
KHS Kustia	231
BZL Barisal	232
RAJSHAHI DIVISION	
RJH Rajshahi	301
PBP Pabna	311
IRD Ishurdi	312
TKR Thakurgaon	321
DNJ Dinajpur	322
RAN Rangpur	323
LLJ Lalmonirhat	331
SPD Saidpur	332
.....	...
INDIA, BURMAH, SRILANKA, NEPAL, BHUTAN	
CCU Kolkata	401
BOM Bombay	402
NDH Delhi	403
.....	404
.....	405
AKY Akyab	421
RGN Yangoon (Rangoon)	422
CMB Colombo	426
KTM Kathmandu	431
.....	...
.....	...

Continued.....



Accounting and Reporting System of Airlines Industry

ACCOUNTING CODES**LOCATION CODE DESIGNATORS****PAKISTAN**

KHI	Karachi	...	451
LHE	Lahore	...	452
RWP	Rawalpindi	...	453
PEW	Peshwar	...	454
QSL	Islamabad	...	455
.....	
.....	

SOUTH EAST, FAR EAST & AUSTRALIA

BKK	Bangkok	...	501
HKG	Hongkong	...	502
KUL	Kualalumpur	... 503	503
SIN	Singapore	...	504
TPE	Taipe	...	505
CAN	Canton	...	508
PEK	Peking	...	509
MNL	Manila	...	510
TYO	Tokyo	...	520
OSA	Osaka	...	521
NGO	Nagoa	...	522
SEL	Seoul	...	523
HNL	Honolulu	...	531
JKT	Djakarta	...	541
SYD	Sydney	...	551
MEB	Melbourne	...	552
WLG	Wellington	...	555
.....	
.....	

MIDDLE EAST AND AFRICA

BAH	Bahrain	...	601
KWI	Kuwait	...	602
JED	Jeddah	...	603
THR	Theran	...	604
BGW	Baghdad	...	605
BEY	Beirut	...	606
DAM	Damescus	...	607
CAI	Cairo	...	608
DXB	Dubai	...	609
AUH	Abu Dhabi	...	610
DOH	Doha	...	611
BEN	Benghazi	...	612
DHA	Dahran	...	613
TIP	Tripoli	...	614
MCT	Muscat	...	615
SHJ	Sharjah	...	616
AJM	Ajman	...	617
RUH	Riyadh	...	618
FJR	Fujairah	...	619
DMM	Dammam	...	620
.....	

Continued.....



Accounting and Reporting System of Airlines Industry

ACCOUNTING CODES**LOCATION CODE DESIGNATORS****EUROPE**

LON	London	...	701
BHX	Birmingham	...	702
MAN	Manchester	...	703
MOW	Moscow	...	710
PAR	Paris	...	721
ROM	Rome	...	725
PRG	Prague	...	730
GVA	Geneva	...	735
WAW	Warsaw	...	740
BNL	Berlin	...	745
BNJ	Bonn	...	750
FRA	Frankfurt	...	751
.....		...	752
.....		...	753
.....		...	754
AMS	Amsterdam	...	755
BRU	Brussels	...	756
MAD	Madrid	...	757
BEG	Belgrade	...	760
.....		...	761
.....		...	762
.....		...	763
ATH	Athens	...	765
MLA	Malta	...	766
.....	
.....	

AMERICA

NYC	New York		801
DCA	Washington DC	...	802
LAX	Los angles	...	803
.....		...	804
.....		...	805
.....		...	806
.....		...	820
.....		...	821
YYZ	Toronto	...	851
YUL	Montreal	...	852
.....	
ALL	Other	...	900



Accounting and Reporting System of Airlines Industry

Appendix 10

Assumptions of Financial Analysis and Projection

The financial analysis and projection of 10 Year Business Plan has been made based on the following assumptions:

a. Financial Projection for Passenger Revenue has been made considering the existing Cabin Load Factor in the existing routes and system wide (average) 75% Cabin Load Factor in the new routes for the 1st year. Subsequently, Cabin Load Factor estimated to be increased to 76.17%, 77.66%, 77.46%, 75.99%, 77.70%, 78.34%, 78.10%, 79.67% and 79.77%. The Cabin Load Factor will reduce in the 5th year i.e. 2017-18 due to huge increase (31%) in ASK by leasing more aircraft.

b. Passenger yield estimated to increase by 5% in 2nd year, 3% in 3rd and 4th year. It will decrease by 1% in 2017-18 due to increase of ASK by 31% compared to the previous year. It will further increase by 3% in 2018-19 and 2019-20. ASK will further increase by 12% and passenger yield is estimated to grow by 1% in 2020-21. Passenger yield will also grow by 3% in 2021-22 and 2022-23.

c. Cargo Load has been considered 70% to 76% of Biman's cargo capacity (Belly hold) during the planned period with provision of cargo interlining and trucking arrangement in European and other onward destinations. Cargo revenue estimated to be increased by 5% in 2013-14, 10% in 2014-15, 15% in 2015-16 and onward. Estimated Cargo Revenue includes revenue from Block Space/Code Share arrangement. Revenue from cargo has been calculated @ USD 1.00 per Kg irrespective of types of cargo.

d. Earnings from excess baggage have been calculated based on the amount per RPK of 2011-12.

e. The current fuel price (March 2013) with annual increase of 3% has been considered for inflationary adjustment. Any further increase in fuel price will be adjusted with Fuel Surcharge.

f. Insurance surcharge have been calculated based on the amount per RPK of 2011-12.

g. Major sources of other income comprise of ground handling, cargo handling, engineering services and catering (BFCC). Other income estimated to be increased by 10% in 2014-15 and 8% in 2015-16 and onward.

h. Annual growth of Hajj pilgrims projected to be increased by 1.7% per annum and Biman will carry 50% of total pilgrims. Hajj fare considered to be increased by 3% in



Accounting and Reporting System of Airlines Industry

cont.....

each year. Lease of 747 aircraft at hourly ACMI rate of USD 12,000 has been considered for operation of Hajj flights from 2014-15 to 2022-23. Continued.....

i. Dry lease cost of aircraft estimated as follows:

For 777-300ER: USD 800,000 per month per aircraft

For 777-200/200ER: USD 500,000 per month per aircraft.

For 787-8: USD 1,000,000 per month per aircraft

For 737-800: USD 227,500 per month per aircraft.

For Turbo-prop: USD 100,000 per month per aircraft.

j. Maintenance Reserve of the leased aircraft has been assumed as follows:

For 777-300ER: USD 1400 per Block Hour

For 777-200/200ER: USD 1400 per Block Hour

For 787-8: USD 500 per Block Hour

For 737-800: USD 582 per Block Hour

For Turbo-prop: USD 350 per Block Hour

The rate of maintenance reserve mentioned above assumed for the 1st year in the lease and will increase by 2% in the subsequent years.

k. Maintenance cost estimated to cover line maintenance including maintenance through outsourcing of each type of owned and dry leased aircraft.

l. Sales Commission starting from 10% of revenue in the 1st year and will continue to decline to 6% at the end due to increase of direct sales.

m. Reservation and GDS cost calculated based on number of passengers. The cost will increase in totality as the volume of passenger will increase but rate per passenger will decrease due to enhancement of more direct sales activities over the period.

n. Depreciation of aircraft has been calculated on Straight Line Method (SLM) throughout the aircraft life of 20 years.

o. Non-traceable fixed cost assumed to be increased by 3% each year with zero volume increase. Variable cost and traceable fixed cost (insurance, depreciation and dry lease rent) will also increase by 3% every year.

p. Number of Cockpit and Cabin crew will increase based on the ASK. Expenditure in the head of Crew salary will increase accordingly.



Accounting and Reporting System of Airlines Industry

q. Insurance of aircraft assumed at the present rate of insurance premium, however, any increase of insurance premium will be adjusted by increasing Insurance Surcharge.

Continued.....

r. Interest on Loan has been charged as follows:

1. Exim Bank Financing: LIBOR plus 0.4% for 12 years
2. Commercial Loan: LIBOR plus 5% for 5 years

s. Exchange Rate has been assumed as fixed (US\$1=Tk. 80) throughout the planned period. The probable change of exchange rate has not been considered as it has the same effect for both revenue and cost side.

Based on the above assumptions, Projected Profit and Loss Account, Balance Sheet and Cash Flow Statement are enclosed



Accounting and Reporting System of Airlines Industry

Appendix 11

Biman Bangladesh Airlines Limited
 Consolidated Cash Flow Statement

BDT IN LAKH

Particulars	2013-14 Tk.	2014-15 Tk.	2015-16 Tk.	2016-17 Tk.	2017-18 Tk.	2018-19 Tk.	2019-20 Tk.	2020-21 Tk.	2021-22 Tk.	2022-23 Tk.
Cash Flows from Operating Activities :										
Net Profit/(loss) after Tax	5,194.00	12,084.00	21,915.00	31,264.00	27,543.00	33,154.00	33,597.00	35,018.00	72,696.00	91,390.00
Adjustment for non-cash items and consideration elsewhere:										
Depreciation charged	19,580.00	27,326.00	38,477.00	36,938.00	37,361.00	37,788.00	59,842.00	60,387.00	60,909.00	61,466.00
Changes in Working Capital	24,774.00	39,410.00	60,392.00	68,202.00	64,904.00	70,942.00	93,439.00	95,405.00	133,605.00	152,856.00
Decrease/(Increase) in Sundry Debtors	(17,676.60)	(22,718.43)	(4,303.62)	(11,919.60)	(23,965.92)	(8,431.02)	(13,796.73)	(15,969.33)	(15,890.58)	(17,321.04)
Decrease/(Increase) in Advances, Deposits and Prepayments	49,654.13	43,231.75	(791.30)	(815.04)	(112,475.73)	(864.67)	111,636.24	(890.61)	(917.33)	(944.85)
Decrease/(Increase) in stores and spares	(10,192.43)	(16,898.14)	(2,246.23)	(8,223.74)	(19,056.87)	(5,929.07)	(10,681.16)	(12,261.48)	(8,139.32)	(11,378.15)
Decrease/(Increase) in accrued interest on FDR	(13.93)	(14.63)	(15.36)	(16.13)	(16.94)	(17.78)	(18.67)	(19.61)	(20.59)	(21.62)
Decrease/(Increase) Investment in Shares	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)	(250.00)
Increase/(Decrease) in accounts Payable and Accruals	42,796.43	65,178.54	8,664.03	2,477.49	40,397.92	(7,999.72)	(6,589.53)	22,356.46	(33,504.83)	(54,774.50)
Increase / (Decrease) in Provision for deferred liabilities	594.90	606.80	618.93	631.31	643.94	656.82	669.95	683.35	697.02	710.96
Decrease/(Increase) in work in progress	(8.53)	(5,000.00)	4,991.05	(9.40)	(10,009.87)	(10.36)	9,990.13	(11.38)	(11.94)	(12.54)
Increase/ (Decrease) in provision for taxation	1,947.75	2,583.75	3,686.63	3,505.88	(1,395.38)	2,104.13	166.13	532.88	14,129.25	7,010.25
Increase/(Decrease) in Un-earned Transportation Revenue	(215.76)	7,600.99	977.02	4,198.18	8,309.70	2,773.86	4,608.94	5,361.06	5,672.34	6,005.65
(Increase)/Decrease in Deferred Expenditure	(351.93)	(369.53)	(388.00)	(407.40)	(427.77)	(449.16)	(471.62)	(495.20)	(519.96)	(545.96)
Cash Generated from Operation	66,284.02	73,951.10	10,943.15	(10,828.45)	(118,246.91)	(18,416.99)	95,263.68	(963.87)	(38,755.94)	(71,521.80)
Income tax paid	(102.58)	(112.83)	(124.12)	(136.53)	(150.18)	(165.20)	(181.72)	(199.89)	(219.88)	(241.87)
Net Cash Flow from Operating Activities	90,955.45	113,248.26	71,211.03	57,237.02	(53,493.10)	52,359.81	188,520.96	94,241.24	94,629.18	81,092.33
Cash Flows from Investing Activities :										
Acquisition of fixed assets	(292,672.00)	(76,611.20)	(1,000.00)	(1,000.00)	(1,000.00)	(1,000.00)	(417,488.00)	(1,000.00)	(1,000.00)	(5,000.00)
Net Cash used in Investing Activities	(292,672.00)	(76,611.20)	(1,000.00)	(1,000.00)	(1,000.00)	(1,000.00)	(417,488.00)	(1,000.00)	(1,000.00)	(5,000.00)
Cash Flows from Financing Activities :										
Increase/(Decrease) in Equity of Government	-	-	-	-	-	-	-	-	-	-
Increase/(Decrease) in Paid up Capital	-	-	-	-	-	-	-	-	-	-
Increase/(Decrease) in Long term Loan	201,478.40	(27,917.66)	(64,895.44)	(65,263.45)	50,932.93	(50,711.33)	234,233.08	(87,044.45)	(87,446.01)	(87,856.48)
Net Cash used in Financing Activities	201,478.40	(27,917.66)	(64,895.44)	(65,263.45)	50,932.93	(50,711.33)	234,233.08	(87,044.45)	(87,446.01)	(87,856.48)
Net Cash Increase/(Decrease) in Cash and Cash Equivalents during the year (A+B+C)	(238.15)	8,719.40	5,315.59	(9,026.43)	(3,560.17)	648.48	5,266.04	6,196.79	6,183.17	(11,764.15)
Cash and cash equivalents at the beginning of the year	5,725.66	5,487.51	14,206.91	19,522.50	10,496.07	6,935.90	7,584.38	12,850.42	19,047.21	25,230.38
Cash and Cash Equivalent at the end of the year	5,487.51	14,206.91	19,522.50	10,496.07	6,935.90	7,584.38	12,850.42	19,047.21	25,230.38	13,466.24

Accounting and Reporting System of Airlines Industry

Appendix 12

Appendix - D

Biman Bangladesh Airlines Limited
Projected Profit & Loss Account

Particulars	Amount in Lakh Taka									
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Operating Revenue	592,092	844,519	892,337	1,024,777	1,291,065	1,384,743	1,538,040	1,715,477	1,892,039	2,084,495
Operating Expenses	(573,752)	(815,836)	(850,246)	(968,724)	(1,239,195)	(1,322,347)	(1,474,419)	(1,651,262)	(1,768,665)	(1,932,145)
Operating Profit/(Loss)	18,340	28,683	42,091	56,053	51,870	62,396	63,621	64,215	123,374	152,350
Non-operating Revenue	-	-	-	-	-	-	-	-	-	-
Non-operating Expenses	-	-	-	-	-	-	-	-	-	-
Non-operating Profit/ (Loss)	-	-	-	-	-	-	-	-	-	-
Profit/(Loss) before Interest	18,340	28,683	42,091	56,053	51,870	62,396	63,621	64,215	123,374	152,350
Interest Expense	(10,030)	(9,348)	(7,027)	(6,031)	(7,801)	(9,350)	(9,866)	(8,187)	(7,060)	(6,125)
Net Profit/(Loss) before tax	8,310	19,335	35,064	50,022	44,069	53,046	53,755	56,028	116,314	146,225
Income Tax @ 37.5%	(3,116)	(7,251)	(13,149)	(18,758)	(16,526)	(19,892)	(20,158)	(21,011)	(43,618)	(54,834)
Net Profit/(Loss) after tax	5,194	12,084	21,915	31,264	27,543	33,154	33,597	35,018	72,696	91,391

Accounting and Reporting System of Airlines Industry

Appendix 13

Biman Bangladesh Airlines Ltd.

PROFITABILITY ANALYSIS-777-300ER (REVENUE AND COST ELEMENT WISE)

SL NO.	PARTICULARS	ROUTE																							TOTAL
		DAC-LON-ZYL-DAC	DAC-LON-DAC	DAC-CGP-MCT-DAC	DAC-CGP-MCT-CGP-DAC	DAC-MCT-CGP-DAC	DAC-DOH-CGP-DAC	DAC-DOH-ZYL-DAC	DAC-CGP-AUH-CGP-DAC	DAC-CGP-AUH-ZYL-DAC	DAC-JED-ZYL-DAC	DAC-JED-DAC	DAC-JED-CGP-DAC	DAC-CGP-JED-CGP-DAC	DAC-RUH-DAC	DAC-CGP-DXB-CGP-DAC	DAC-DXB-CGP-DAC	DAC-DM-M-DAC	DAC-DXB-ZYL-DAC	DAC-SIN-DAC	DAC-KUL-DAC	DAC-FRA-ROM-DAC	DAC-ZYL-DA C	DAC-JED-DAC HAJ J	
REVENUE INCOME:																									
01	PASSENGER	5154.88	358.05	699.60	399.62	593.96	168.58	101.08	1699.08	1099.45	1288.40	2260.45	101.21	2633.11	3972.66	299.27	59.01	68.29	421.41	100.56	1874.97	119.86	1.14	4336.93	27.811.57
02	EXCESS BAGGAGE	143.59	9.69	10.93	9.04	16.82	3.03	1.39	35.37	19.18	34.36	55.58	1.64	66.06	177.08	5.96	0.88	1.96	12.44	0.22	165.12	0.70	0.02	80.62	851.68
03	CARGO	825.76	29.86	144.49	39.38	60.87	45.80	33.85	479.11	375.17	252.74	569.53	18.05	606.74	1130.32	51.33	20.41	13.04	45.30	2.20	26.47	16.55	0.06	90.85	4.877.88
04	MAIL	0.30	0.00	0.16	0.06	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.92
05	INSURANCE SURCHARGE	78.24	4.51	23.97	13.79	19.05	4.21	2.77	68.91	46.72	30.47	48.15	2.13	61.50	94.96	9.68	1.63	1.61	15.25	3.66	85.70	1.73	0.24	29.24	648.12
06	FUEL SURCHARGE	819.95	57.70	265.71	150.93	232.09	33.14	20.20	426.75	292.45	339.50	676.06	27.05	748.47	1130.76	69.51	13.57	17.67	107.60	46.58	1095.92	25.03	0.13	11.77	6.608.54
07	NON-TRANSPORT INCOME	1562.65	109.17	217.99	123.46	192.65	53.69	32.68	622.65	423.54	398.07	774.01	32.40	825.80	1293.33	101.69	20.02	21.01	140.57	34.23	685.08	39.07	0.15	0.00	7.703.91
08=01+..07	TOTAL REVENUE INCOME	8,585.37	568.98	1,362.85	736.28	1,115.44	308.45	191.97	3,331.87	2,256.87	2,343.54	4,383.78	182.48	4,941.68	7,799.11	537.44	115.52	123.58	742.57	187.45	3,933.30	202.94	1.74	4,549.41	48,502.62
VARIABLE COST:																									
FLIGHT OPERATION COST:																									
09	FUEL & OIL FOR AIRCRAFT	3622.77	286.85	516.19	241.43	392.94	127.91	130.10	1508.79	1005.42	827.52	1584.97	95.03	1814.71	2925.84	280.82	68.11	64.67	325.03	90.14	1384.00	132.54	6.78	1447.98	18.80.53
10	LANDING CHARGES	130.24	8.20	44.10	26.64	38.36	14.96	14.96	139.22	92.81	60.86	96.10	6.77	133.79	217.19	28.68	6.17	5.09	29.11	11.87	149.61	5.96	2.22	101.69	1.364.56
11	OVERFLYING	358.79	28.63	18.53	9.41	15.72	5.83	5.83	91.19	60.79	50.79	81.27	4.82	82.54	122.94	14.40	2.99	1.86	14.92	5.08	77.42	11.13	0.08	86.00	1.15

Accounting and Reporting System of Airlines Industry

	SUPPLIES & FREE ISSUE																						1		267.90
30	PAX MEAL GROUND	15.26	1.07	2.14	1.19	1.91	0.54	0.33	6.09	4.13	3.91	7.59	0.33	8.08	12.68	1.01	0.20	0.21	1.35	0.35	6.74	0.37	0.00	4.27	79.75
31	CABIN CREW LAYOVER	26.07	2.09	4.64	3.71	6.50	0.00	0.00	11.07	11.48	4.51	8.51	0.59	11.49	63.51	2.38	0.50	0.62	3.30	0.00	0.00	1.24	0.00	14.26	176.47
32	PAX LAYOVER	10.73	0.72	1.46	0.90	1.21	0.30	0.18	4.22	2.94	2.65	5.17	0.18	5.61	8.67	0.63	0.11	0.12	1.05	0.19	4.51	0.31	0.00	3.54	55.40
33	SALES COMMISSION	385.61	25.96	53.31	29.15	43.40	13.17	8.09	133.31	88.22	97.77	175.32	7.63	202.52	312.00	22.49	4.74	5.17	30.86	7.11	132.04	8.89	0.08	0.00	1,786.84
34	INCENTIVE COMMISSION	103.10	7.16	13.99	7.99	11.88	3.37	2.02	33.98	21.99	27.19	47.13	2.02	53.96	79.45	5.99	1.18	1.37	8.43	2.01	37.50	2.40	0.02	37.36	511.49
35	RESERVATION & COMPUTER RENT	214.19	11.90	26.38	22.68	14.54	0.00	0.00	79.59	61.23	45.83	91.21	0.00	107.35	154.89	6.72	0.00	0.00	28.30	0.00	73.59	9.62	0.00	110.49	1,058.51
36	CREW TRANSPORT HIRED	3.33	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60
37=25+...+36	SUB-TOTAL	1,161.69	76.94	125.97	81.57	100.71	31.07	23.66	342.26	237.78	239.93	448.75	17.33	513.92	833.85	55.45	10.35	12.20	93.85	22.16	385.07	40.98	0.13	267.83	5,123.45
38=18+25+37	TOTAL VARIABLE COST (VC)	5,881.27	447.80	791.04	407.25	622.44	203.46	198.38	2,363.55	1,579.91	1,319.80	2,461.24	139.78	2,836.52	4,597.91	432.59	99.66	96.05	523.95	146.89	2,262.46	213.74	11.17	2,175.99	29,812.86
39=08-38	CONTRIBUTION MARGIN	2,704.09	121.18	571.82	329.04	492.99	104.98	(6.41)	968.32	676.96	1,023.74	1,922.54	42.70	2,105.16	3,201.20	104.85	15.86	27.52	218.62	40.56	1,670.84	(10.80)	(9.43)	2,373.42	18,689.75

DIRECT FIXED COST:

40	AIRCRAFT DEPRECIATION	703.71	55.01	95.11	49.19	84.73	29.51	29.50	291.82	193.10	168.83	306.45	19.45	327.91	578.22	55.27	13.39	14.62	62.62	20.71	286.32	25.84	0.72	310.00	3,722.03
42	INSURANCE OF AIRCRAFT	154.11	12.08	20.89	10.44	19.12	6.89	6.89	64.28	42.00	37.34	67.55	4.54	71.72	127.85	12.53	3.13	3.41	13.19	4.84	63.39	5.28	0.17	63.36	814.99
42	INTEREST ON AIRCRAFT LOAN	226.47	17.70	30.61	15.83	27.27	9.50	9.49	93.91	62.14	54.33	98.62	6.26	105.53	186.08	17.79	4.31	4.70	20.15	6.66	92.14	8.32	0.23	99.77	1,197.82
43	DRY LEASE RENT OF AIRCRAFT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
44	COCKPIT CREW SALARY	163.85	12.79	22.11	11.69	19.33	6.57	6.56	67.68	45.17	39.05	71.04	4.33	76.41	133.77	12.57	2.98	3.25	14.95	4.61	66.18	6.28	0.16	75.39	866.69
45=40+...+44	TOTAL DIRECT FIXED COST	1,248.14	97.58	168.72	87.15	150.45	52.46	52.44	517.69	342.40	299.56	543.66	34.58	581.56	1,025.92	98.15	23.80	25.99	110.92	36.82	508.04	45.72	1.28	548.51	6,601.53
46=38+45	DIRECT OPERATING COST (DOC)	7,129.41	545.39	959.75	494.39	772.89	255.92	250.83	2,881.24	1,922.31	1,619.36	3,004.91	174.35	3,418.08	5,623.84	530.74	123.46	122.04	634.86	183.71	2,770.50	259.46	12.45	2,724.50	36,414.40

Accounting and Reporting System of Airlines Industry

47=08-46	PROFIT/(LOSS) CONSIDERING DOC	1,455.95	23.60	403.10	241.89	342.54	52.52	(58.86)	450.63	334.55	724.18	1,378.87	8.13	1,523.60	2,175.28	6.70	(7.94)	1.54	107.70	3.74	1,162.80	(56.51)	(10.71)	1,824.91	12,088.22
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INDIRECT FIXED COST:

48	SALARY ALLOWANCE-PASSENGER SERVICE	135.91	10.60	18.33	9.74	15.95	5.39	5.39	56.09	37.50	32.34	58.86	3.55	63.39	110.79	10.36	2.44	2.67	12.48	3.78	54.80	5.26	0.13	63.16	718.92
49	DIRECT LABOUR-ENGINEERING	124.52	9.69	16.75	9.19	14.18	4.60	4.60	51.10	34.59	29.34	53.59	3.03	58.15	100.56	9.17	2.09	2.28	11.84	3.23	49.68	5.12	0.11	61.38	658.79
50	ADVERTISING & PROM. EXPENSES	2.86	0.23	0.40	0.12	0.48	0.22	0.22	1.28	0.72	0.78	1.35	0.15	1.31	2.64	0.33	0.10	0.11	0.13	0.16	1.33	0.02	0.01	0.18	15.12
51	TRAINING COST - COCKPIT CREW	143.85	10.79	18.66	14.79	9.33	0.00	0.00	54.43	43.57	29.31	56.46	0.00	68.30	101.07	5.31	0.00	0.00	20.17	0.00	48.90	10.59	0.06	127.03	762.62
52	MAINT. GROUND EQUIPMENT	54.96	4.13	7.14	5.58	3.68	0.09	0.09	20.87	16.59	11.28	21.66	0.06	26.08	38.87	2.12	0.04	0.04	7.60	0.06	18.83	3.97	0.00	47.59	291.34
53	INTEREST ON COMMERCIAL LOAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
54	DEPRECIATION OTHER THAN AIRCRAFT	147.49	11.53	19.94	10.28	17.81	6.23	6.22	61.20	40.44	35.42	64.27	4.10	68.72	121.31	11.63	2.83	3.08	13.07	4.37	60.08	5.38	0.15	64.54	780.11
55	FIXED STATION COST	223.75	17.47	30.20	15.92	26.47	9.03	9.03	92.48	61.64	53.38	97.08	5.95	104.33	182.85	17.22	4.10	4.47	20.34	6.34	90.48	8.53	0.22	102.28	1,183.55
56	FIXED OVERHEAD COST	660.22	52.08	90.04	41.29	87.69	33.87	33.86	279.15	176.96	163.74	293.86	22.32	306.34	560.06	58.00	15.37	16.78	51.19	23.77	278.50	18.80	0.83	225.53	3,490.24
57=48+...+56	TOTAL INDIRECT FIXED COST	1,493.58	116.52	201.46	106.91	175.60	59.43	59.41	616.59	412.00	355.58	647.14	39.17	696.63	1,218.16	114.13	26.97	29.44	136.82	41.71	602.60	57.65	1.50	691.69	7,900.69
58=45+57	TOTAL FIXED COST (FC)	2,741.72	214.10	370.18	194.06	326.05	111.89	111.86	1,134.28	754.40	655.14	1,190.80	73.74	1,278.19	2,244.08	212.28	50.77	55.43	247.73	78.53	1,110.63	103.37	2.78	1,240.20	14,502.22
59=58 x 5%	PROVISION FOR UNSEEN EXP (5% MARK-UP ON FC)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60=38+58+59	TOTAL COST	8,622.99	661.91	1,161.21	601.30	948.50	315.35	310.24	3,497.83	2,334.31	1,974.93	3,652.05	213.52	4,114.71	6,842.00	644.87	150.43	151.48	771.68	225.42	3,373.10	317.11	13.95	3,416.19	44,315.08
61=08-60	NET PROFIT/LOSS	(37.63)	(92.93)	201.64	134.98	166.94	(6.91)	(118.27)	(165.96)	(77.45)	368.60	731.73	(31.04)	826.97	957.12	(107.43)	(34.91)	(27.90)	(29.12)	(37.97)	560.21	(114.16)	(12.21)	1,133.22	4,187.54

Accounting and Reporting System of Airlines Industry

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62	TOTAL REVENUE BLOCK HOUR	529.75	41.15	74.38	41.23	65.11	21.88	22.02	243.38	157.25	122.43	217.57	13.86	250.26	422.61	44.75	10.14	10.26	50.27	15.50	232.09	20.26	1.45	235.65	2.843.25
63	COST PER REVENUE BLOCK HR	16.28	16.09	15.61	14.58	14.57	14.41	14.09	14.37	14.84	16.13	16.79	15.41	16.44	16.19	14.41	14.83	14.76	15.35	14.54	14.53	15.65	9.62	14.50	15.59
64	NO OF FLIGHT (ROUND TRIP)	25.00	2.00	8.00	4.00	7.00	2.00	2.00	21.00	14.00	9.00	17.00	1.00	17.00	38.00	4.00	1.00	1.00	5.00	2.00	32.00	1.00	1.00	18.00	232
65	NO. OF CYCLE	75.00	4.00	24.00	16.00	21.00	6.00	6.00	84.00	56.00	27.00	34.00	3.00	68.00	76.00	16.00	3.00	2.00	15.00	4.00	64.00	3.00	2.00	36.00	645
66	FLYING HOUR	500.18	39.36	67.20	36.33	59.92	19.73	19.91	210.75	134.97	112.94	205.15	12.90	228.55	394.85	39.20	9.04	9.70	45.28	14.31	207.48	19.15	0.90	221.52	2.609.32
67	NUMBER OF PAX	19668.00	1120.00	6142.00	3549.00	4868.00	1080.00	707.00	17894.00	12145.00	7963.00	12193.00	549.00	15666.00	24208.00	2481.00	415.00	402.00	3937.00	925.00	21705.00	428.00	58.00	7471.00	165574
68	REVENUE PAX K.M.(IN LAKH)	1297.71	89.54	179.75	104.64	155.64	41.89	25.50	514.98	352.89	327.38	637.33	25.28	683.65	1065.86	81.81	15.62	16.39	120.04	26.71	561.49	34.01	0.12	390.52	6.748.75
69	AVAILABLE SEAT K.M.(IN LAKH)	1717.00	134.00	231.68	122.40	202.72	68.96	68.94	709.38	473.20	409.32	744.60	45.45	800.70	1402.20	131.84	31.29	34.16	156.50	48.40	693.76	65.71	1.68	788.40	9.082.29
70	CABIN FACTOR	75.58%	66.82%	77.59%	85.49%	76.78%	60.75%	36.99%	72.60%	74.58%	79.98%	85.59%	55.62%	85.38%	76.01%	62.05%	49.92%	47.98%	76.70%	55.19%	80.93%	51.76%	7.14%	49.53%	74.31%
71	CARGO IN KG	635855.00	19946.00	163413.00	43131.00	69898.00	58497.00	44105.00	274283.00	231671.00	271646.00	638236.00	24962.00	729740.00	1149907.00	63695.00	25004.00	12637.00	48542.00	2418.00	30055.00	12771.00	2197.00	98438.00	4.651.047
72	REVENUE TON K.M.(IN LAKH)	202.17	12.41	25.74	13.37	21.40	7.60	4.77	69.84	48.35	54.84	109.32	4.68	123.11	177.35	11.33	2.72	2.59	15.58	2.96	59.92	5.05	0.02	45.57	1.020.69
73	AVAILABLE TON K.M.(IN LAKH)	295.00	23.04	39.84	21.04	34.86	11.86	11.84	121.80	81.20	70.29	127.84	7.81	137.70	240.92	22.64	5.37	5.88	26.85	8.32	119.04	11.29	0.28	135.36	1.560.07
74	LOAD FACTOR	68.53%	53.86%	64.61%	63.55%	61.39%	64.08%	40.29%	57.34%	59.54%	78.02%	85.51%	59.92%	89.40%	73.61%	50.04%	50.65%	44.05%	58.03%	35.58%	50.34%	44.73%	7.14%	33.67%	65.43%
75	FUEL CONSUMPTION IN USG	1377936.00	105364.00	188744.00	101521.00	161008.00	52789.00	55240.00	581122.00	388679.00	325444.00	586855.00	35360.00	668896.00	1086430.00	109340.00	25102.00	24809.00	124906.00	37363.00	529177.00	49194.00	2795.00	511274.00	7.129.348

Accounting and Reporting System of Airlines Industry

Appendix 14

Detail discussion about the Strategic Objectives of ICAO

➤ Strategic Objective A: Safety — *Enhance global civil aviation safety*

Enhance global civil aviation safety through the following measures:

1. Identify and monitor existing types of safety risks to civil aviation and develop and implement an effective and relevant global response to emerging risks.
2. Ensure the timely implementation of ICAO provisions by continuously monitoring the progress toward compliance by States.
3. Conduct aviation safety oversight audits to identify deficiencies and encourage their resolution by States.
4. Develop global remedial plans that target the root causes of deficiencies.
5. Assist States to resolve deficiencies through regional remedial plans and the establishment of safety oversight organizations at the regional or sub-regional level.
6. Encourage the exchange of information between States to promote mutual confidence in the level of aviation safety between States and accelerate the improvement of safety oversight.
7. Promote the timely resolution of safety-critical items identified by regional Planning and Implementation Groups (PIRGs).
8. Support the implementation of safety management systems across all safety-related disciplines in all States.
9. Assist States to improve safety through technical cooperation programs and by making critical needs known to donors and financial organizations.

➤ Strategic Objective B: Security — *Enhance global civil aviation security*

Enhance the security of global civil aviation through the following measures:

1. Identify and monitor existing types of security threats to civil aviation and develop and implement an effective global and relevant response to emerging threats.
2. Ensure the timely implementation of ICAO provisions by continuously monitoring the progress toward compliance by States.
3. Conduct aviation security audits to identify deficiencies and encourage their resolution by States.
4. Develop, adopt and promote new or amended measures to improve security for air travelers worldwide while promoting efficient border crossing procedures.



Accounting and Reporting System of Airlines Industry

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5. Develop and maintain aviation security training packages and e-learning.
6. Encourage the exchange of information between States to promote mutual confidence in the level of aviation security between States.
7. Assist States in the training of all categories of personnel involved in implementing aviation security measures and strategies and, where appropriate, the certification of such personnel.
8. Assist States in addressing security related deficiencies through the aviation security mechanism and technical cooperation programs.

- Strategic Objective C: Environmental Protection — *Minimize the adverse effect of global civil aviation on the environment*

Minimize the adverse environmental effects of global civil aviation activity, notably aircraft noise and aircraft engine emissions, through the following measures:

1. Develop, adopt and promote new or amended measures to:
 - a. limits or reduces the number of people affected by significant aircraft noise;
 - b. limit or reduce the impact of aircraft engine emissions on local air quality; and
 - c. limits or reduces the impact of aviation greenhouse gas emissions on the global climate.
2. Cooperate with other international bodies and in particular the UN Framework Convention on Climate Change (UNFCCC) in addressing aviation's contribution to global climate change.

- Strategic Objective D: Efficiency — *Enhance the efficiency of aviation operations*

Enhance the efficiency of aviation operations by addressing issues that limit the efficient development of global civil aviation through the following measures:

1. Develop, coordinate and implement air navigation plans that reduce operational unit costs, facilitate increased traffic (including persons and goods), and optimize the use of existing and emerging technologies.
2. Study trends, coordinate planning and develop guidance for States that supports the sustainable development of international civil aviation.
3. Develop guidance, facilitate and assist States in the process of liberalizing the economic regulation of international air transport, with appropriate safeguards.
4. Assist States to improve efficiency of aviation operations through technical cooperation programs.



Accounting and Reporting System of Airlines Industry

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- Strategic Objective E: Continuity — *Maintain the continuity of aviation operations*

Identify and manage threats to the continuity of air navigation through the following measures:

1. Assist States to resolve disagreements that create impediments to air navigation.
2. Respond quickly and positively to mitigate the effect of natural or human events that may disrupt air navigation.
3. Cooperate with other international organizations to prevent the spread of disease by air travelers.

- Strategic Objective F: Rule of Law — *Strengthen law governing international civil aviation*

Maintain, develop and update international air law in light of evolving needs of the international civil aviation community by the following measures:

1. Prepare international air law instruments that support ICAO's Strategic Objectives and provide a forum to States to negotiate such instruments.
2. Encourage States to ratify international air law instruments.
3. Provide services for registration of aeronautical agreements and depositary functions for international air law instruments.
4. Provide mechanisms for the settlement of civil aviation disputes.
5. Provide model legislation for States.



Accounting and Reporting System of Airlines Industry

Appendix-15

Biman Bangladesh Airlines Limited
Statement of Financial Position
As at June 30, 2014

Particulars	notes	Amount in BDT
Assets:		
Non-current Assets:		
Property, Plant and Equipment		64,514,667,229
Capital Work in Progress		11,524,031
Investment in Shares		96,914,356
Intangible Assets		5,601,840,255
Deffered Expenses		<u>1,490,871,929</u>
		<u>71,715,817,800</u>
Non-current Assets held for sale		154,207,072
Current Assets:		
Store and Spares		3,928,136,963
Sundry Debtors		3,858,053,228
Advances, Deposites and prepayments		9,859,900,003
Tax Deducted at Source		138,627,950
Accrued Interest on FDR		45,146,923
Cash and cash equivalent		<u>2,992,149,219</u>
		<u>20,822,014,286</u>
Total Assets		<u>92,692,039,158</u>
Equities and Liabilities:		
Equity:		
Share Capital		20,824,096,400
Equity of Government		101
Retained Earnings		<u>-13,140,728,529</u>
		<u>7,683,367,972</u>
Non-Current Liabilities:		
Long Term Loans		44,783,210,995
Deferred Liabilities		3,516,478,947
Deferred Tax Liabilities/(Assets)		<u>437,025,917</u>
		<u>48,736,715,859</u>
Current Liabilities and Provisions:		
Accounts Payables & Accruals		23,343,637,399
Unearned Transportation Revenue		2,715,816,089
Short Term & Current Portion of Long Term Loans		<u>10,212,501,839</u>
		<u>36,271,955,327</u>
Total Equities and Liabilities		<u>92,692,039,158</u>



Accounting and Reporting System of Airlines Industry

Appendix-16

Biman Bangladesh Airlines		
Statement of Comprehensive Income		
For the year ended June 30, 2014		
Particular	Notes	Amount in BDT
Operating Revenue		37,520,021
Operating Expense		(39,013,922,117)
Operating Profit/(Loss)		(1,493,901,086)
Non-operating Revenue		363,471,010
Non-operating Expenses		(98,408,792)
Non-operating profit/(Loss)		265,062,218
Profit/(Loss) before Interest		(1,228,838,868)
Interest Expenses		(762,873,015)
Net Profit /(Loss) for the year		(1,991,711,883)
Other Comprehensive Income		(282,281,186)
Total Comprehensive/(Loss) before tax for the year		(2,273,993,069)
Current tax		-
Deffered tax Income/(Expenses)		285, 940,020
Total Tax Income/(Expenses)		285,940,020
Total Comprehensive Income/(Loss) after tax for the year		(1,988,053,049)



Accounting and Reporting System of Airlines Industry

Appendix-17

Freedoms of the Air

Freedoms of the air apply to commercial aviation. The terms 'freedom' and 'right' are a shorthand way of referring to the type of international services permitted between two or more countries. Even when such services are allowed by countries, airlines may still face restrictions to accessing them by the terms of treaties or for other reasons.

<u>Freedom</u>	<u>Description</u>	<u>Example</u>
1st	the right to fly over a foreign country without landing ^[4]	Toronto – Mexico City by a Canadian company, overflying the USA
2nd	the right to refuel or carry out maintenance in a foreign country without embarking or disembarking passengers or cargo ^[4]	Toronto – Mexico City by a Canadian company, stopping for fuel in the USA
3rd	the right to fly from one's own country to another ^[4]	Toronto – Chicago by a Canadian company
4th	the right to fly from another country to one's own ^[4]	Toronto – Chicago by a US company
5th	the right to fly between two foreign countries on a flight originating or ending in one's own country ^[4]	Doha – Bangkok – Kuala Lumpur by a Qatari company
6th	the right to fly from a foreign country to another while stopping in one's own country for non-technical reasons ^[4]	Dubai – Cairo – Paris by an Egyptian company
7th	the right to fly between two foreign countries while not offering flights to one's own country ^[4]	Kuala Lumpur – Jakarta by an Italian company
8th	the right to fly inside a foreign country, continuing to one's own country ^[4]	Chicago – New York City – Toronto by a Canadian company
9th	the right to fly inside a foreign country without continuing to one's own country ^[4]	Beijing – Shanghai, by an Italian company



Accounting and Reporting System of Airlines Industry

Some short explanation about all freedoms:

First Freedom of the Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State or States to fly across its territory without landing (also known as a **First Freedom Right**).

Second Freedom of the Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State or States to land in its territory for non-traffic purposes (also known as a **Second Freedom Right**).

Third Freedom of The Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State to put down, in the territory of the first State, traffic coming from the home State of the carrier (also known as a **Third Freedom Right**).

Fourth Freedom of The Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State to take on, in the territory of the first State, traffic destined for the home State of the carrier (also known as a **Fourth Freedom Right**).

Fifth Freedom of The Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State to put down and to take on, in the territory of the first State, traffic coming from or destined to a third State (also known as a **Fifth Freedom Right**).

ICAO characterizes all "freedoms" beyond the Fifth as "so-called" because only the first five "freedoms" have been officially recognized as such by international treaty.

Sixth Freedom of The Air - the right or privilege, in respect of scheduled international air services, of transporting, via the home State of the carrier, traffic moving between two other States (also known as a **Sixth Freedom Right**). The so-called Sixth Freedom of the Air, unlike the first five freedoms, is not incorporated as such into any widely recognized air service agreements such as the "Five Freedoms Agreement".



Accounting and Reporting System of Airlines Industry

Seventh Freedom of The Air - the right or privilege, in respect of scheduled international air services, granted by one State to another State, of transporting traffic between the territory of the granting State and any third State with no requirement to include on such operation any point in the territory of the recipient State, i.e the service need not connect to or be an extension of any service to/from the home State of the carrier.

Eighth Freedom of The Air - the right or privilege, in respect of scheduled international air services, of transporting cabotage traffic between two points in the territory of the granting State on a service which originates or terminates in the home country of the foreign carrier or (in connection with the so-called Seventh Freedom of the Air) outside the territory of the granting State (also known as a **Eighth Freedom Right** or "consecutive cabotage").

Ninth Freedom of The Air - the right or privilege of transporting cabotage traffic of the granting State on a service performed entirely within the territory of the granting State (also known as a **Ninth Freedom Right** or "**stand alone**" cabotage).

There is a whole set of internationally adopted commercial aviation rights, referred to as the "freedoms of the air." These rights set out scenarios in which commercial planes would operate routes for revenue. The first two rights, the first freedom and second freedom, are the most standard and over 129 countries have adopted the treaty that allow them. From there, the freedoms of the air get progressively rarer as they require approval from multiple states. This goes all the way down to the 8th Freedom, also known as cabotage, which as an example would allow a foreign carrier to fly a domestic routes. For example, if the US granted Air France the right to fly revenue passengers between New York and Los Angeles.



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Accounting and Reporting System of Airlines Industry

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Bangladeshi, born in 1st January, 1974. She attended University of Dhaka, 1991-1996, graduated with honors major in Accounting in 1995, followed by Masters in same discipline in 1996. She had joined as a lecturer in Accounting on 1st February, 2003 in College of Development Alternative (CODA), a renowned educational institute in Dhaka and successfully completed “Six months Training in teaching” in CODA. During the experience in CODA, she had performed as ‘Examination Controller’ and attended a good no of seminars. She had Joined at University of Development Alternative (UODA) in the Faculty of Business Administration as a faculty member in 1st June, 2009 and performed as a ‘Student Advisor’. She had resigned from UODA from 1st June, 2013, because of family problem (S.S.C examination of twin sons). She has a knack for advanced studies and research. Presently, she is undergoing the M.Phil. program in the department of ‘Accounting and Information System’ at University of Dhaka. As the partial fulfillment of M.Phil. program, she has completed this research with perseverance and due diligence. She hopes that this research will help to know the accounting and reporting system of airline industry in the world and as well as in Bangladesh also.

