

Accounting Information Systems and Bank Services: A Study on Their Relationships

Md. Abdul Hakim

Assistant Professor, School of Business, Asian University of Bangladesh, Uttara, Dhaka-1230, BANGLADESH

ABSTRACT

Bank is one of the emerging sectors of global business where accounting information systems is used significantly in this sector for the purpose of maintaining and monitoring the daily bank's activities. This study is descriptive in nature and done on the basis by the primary data where secondary data is also used. The data are being collected from five selected commercial banks and 100 employees are surveyed as respondents for analyzing and interpreting the perceptions of the employees concerning the role and contribution of AIS towards the bank business in Bangladesh. This study investigates and examines the role of AIS regarding the bank business. The study also reveals the influential forces of AIS that strongly contributed towards the bank sector. Moreover, the relationships between the role of accounting information systems and the optimum bank services in Bangladesh are tested using the surveyed data. The outcome of this present study may help the concerned to develop and maintain principles and policies of AIS regarding the bank services related activities.

Keywords: Accounting, Information, Systems, Commercial, Bank

INTRODUCTION

An information system is a recognized practice for collecting data, processing the data into information, and distributing that information to users. The purpose of an accounting information system (AIS) is to collect, store, and process financial and accounting data and produce informational reports that managers or other interested parties can use to make business decisions. AIS is unsurprisingly characterized with definite properties, governed by the principles and policies accepted and recognized as usually practices in accounting. The availability of information systems that operate effectively and efficiently, in order to rationalize the administrative decisions in business installations, to assist management in solving problems faced by, as well as providing useful information for related decision-makers, which have a positive role in supporting the continuity of these installations. AIS generally consist of six main parts: people, procedures and instructions, data, software, information technology infrastructure and internal controls. Over the last ten years the world has witnessed wide economic and technological changes that affected the world economy including accounting. These systems were implemented in large industrial and small trade enterprises. In Bank business of Bangladesh like the whole world AIS is used hugely for their daily banking activities. The contribution of the banking sector to the economy of Bangladesh and the economic trends is being seen as significant where a bank is



an institution whose current operation consists in granting loans and receiving deposits from the public. In figure, there are about six state-owned commercial, two state-owned specialized, thirty one private commercial, eight private Islamic commercial, nine foreign commercial, ten specialized and forty NPSB members banks organizations are doing their business by providing financial services in Bangladesh. By the help of AIS the banking organizations are marinating a huge business oriented data and information such as deposit and loan amounts, interest rate, present and future business plan oriented data and information and competitiveness advantages in the market place. In this study the relationships of accounting information systems and bank services is investigated and examined using the primary data collected from the top to bottom employees of five banks in Bangladesh.

LITERATURE REVIEW

Review of past literature helps conceptualization, formulation of hypotheses and choice of tools of analysis. This is necessary to find out the research gap in the proposed field of the study. At the best knowledge of the researcher, a very few number of researches have been done in identifying the relationships of accounting information systems and bank services. In this regard the related literature have been reviewed are mentioned below.

Raupelien and Stabingis, 2003 have discussed forms and techniques of evaluating the effectiveness of computerized accounting information systems and their potential of utilization, and developed a complex model to evaluate the effectiveness of these systems in terms of the technological, economic and social aspects. The study has concluded that, characteristics of computerized accounting information systems have a different significance, and can be expressed by quantitative and qualitative measurements, and the success of their use is subject to the correct selection of the system components, including devices, programs, databases, and highly qualified workers. Besides, the study results specified that the effectiveness of computer-based accounting information systems can be represented in the successful use of these systems in a manner that satisfies the users' requirements.

Al-Hantawi, 2001 has indicated that the most important characteristics that qualify accounting information systems as effective and efficient are the accuracy and speed of processing financial data into accounting information, therefore providing management with the necessary accounting information on time; providing management with the necessary information to perform functions of planning, control, evaluation, speed and accuracy in retrieving stored overall and descriptive information when it is needed; adequate flexibility; general acceptance of workers; simplicity, and to be associated with other information systems in the entity.

Khalid, 2004 emphasizes in his study which aims at evaluating the performance of computer-based accounting systems in terms of their technical and behavioral (human) dimensions in the Jordanian shareholding industrial companies, that these systems are highly effective in achieving their objectives, flexible as amendments and improvements can be made to them in order to adapt to the surrounding environment and users needs, internally integrated (among their different functions) and with other systems, and characterized with a set of control rules and procedures that support their accuracy and make them more reliable.

Makamreh and Dahhan 1990, the study is to examine the effect of using information systems in performing the jobs of Jordanian banks. The study shows that the use of

computers leads to more accurate and correct decisions, and improves system of controlling and supervision in Jordanian banks. Moreover, the study finds that the use of computers in the Jordanian banking industry produce more accurate information. Accurate decision is that decision which is able to represent the actual situation, so it is free of many mistakes. The study recommends the need for more safety accounting systems in Jordanian banks because of the different tasks performed by these banks to customers.

Seyam & Rahahleh 2006 carried out a study to investigate the appropriateness of the AIS outputs to the requirements and purposes of decision makers in the commercial banks of Jordan. One important conclusion of this study is that the outputs of the Jordanian commercial banks are appropriate to the purposes of decision making in these banks. The study reveals that the outputs of the automated AIS satisfy carefully the requirements of decisions makers in these banks. This finding means that decision makers of the commercial banks industry of Jordan can depend on those outputs when they need to make decisions.

Moscove et al, 1999 Accounting information system is the information subsystem within an organization that accumulates information from the entity's various subsystems and communicates it to the organization's information processing subsystem.

Milne, 2006 said due to the characteristic of banking business, bank's accounting information system (AIS) have specific important features related to their liquidity management and the management of their customers' account information. According to him, a bank has to manage its liquidity efficiently in order to maximize profit and to fulfill regulation (minimum reserve requirement).

Tam 2007 opined that to perform such duties, the treasury manager need information of consolidated balance of customers' deposits, loan and other placements of bank funds. That information are needed on a daily basis so that the treasury manager can determine how mush reserve is needed and how much money should be placed in or borrowed from the money market to conform to the regulation and to maximize the usefulness of available funds.

STATEMENT OF THE PROBLEM

An important question in the field of accounting and management decision-making concerns the fit of AIS with organizational requirements for information communication and control. Poor records make it difficult for companies to get reasonably priced credit and then to manage their affairs effectively if they do get credit. As a service providing organization banks all over the world hugely use accounting information systems maintain, organize and control their business related data and information. The proper use of accounting information systems banks may bring lowest cost in banking operations by disseminating accurate information on the financial position and credit to the customer at the lowest possible risk. Banks of the world uses AIS as the monitoring tool to monitor the implementation level, trends, and thus contribute significantly to identify waste and extravagance in their competitive business. For the reasons stated here, the researcher has examined and investigated the relationships of accounting information systems and bank services in the field of Bangladesh banking sector and the contribution of AIS to the bank business as well. Further studies and research in the field of accounting information systems and their influence on the profitability of banks, through the study of the obstacles that may limit its role as well as the most important study of the principles and procedures that must be taken out as well as accounting information systems.

SCOPE AND LIMITATION OF THE STUDY

The main purpose of this research work is to investigate the relationships of accounting information systems and bank services in Bangladesh and such work can be done any field because now every sector of business or non-business organizations are significantly use information systems. The whole world has gone under the shelter of information systems and computer-based works that is the use of technology. This study can be done in manufacturing or non-manufacturing industries, financial or non-financial organizations or any other organization where information is taken as the vital things. For the satisfaction of the research interest of the researcher, bank is taken as the field of this study. It is one of the mentionable problems of this research that it is conducted mostly in a quantitative way. It will be better to continue some qualitative research and make comparison between qualitative and quantitative results to know the accurate rationality of the selected topic and fields. Another problem is that the researcher consider only five commercial banks though there are about 6 state-owned commercial, 2 state-owned specialized, 31 private commercial, 8 private Islamic commercial, 9 foreign commercial, 10 specialized banks are doing their business in Bangladesh using AIS. Besides, shortage of related literature review pushes the researcher backwards. Considering of all the limitations of this study, the researcher thinks that in future it will be convenient for the researchers to deal with any gap derived from this study.

OBJECTIVES OF THE STUDY

This study has a general objective that is the relationships between accounting information systems and bank services in the Bangladesh. Particularly, the researcher examinee and investigate the following objectives:

- To assess the role of accounting information systems for Bank services of Bangladesh.
- To find out the influential variables those are used to provide optimum banking service to the all stakeholders using accounting information systems.
- To investigate the relationships between accounting information systems and bank organizations of Bangladesh.
- To identify the major problems of using accounting information systems in bank business activities and offer suitable suggestions on the basis of the study.

RESEARCH HYPOTHESIS

The single null hypotheses for this study have been drawn as; there is no correlation between the role of accounting information systems and the optimum bank services in Bangladesh.

METHODOLOGY OF THE STUDY

This research paper has followed a survey design in order to assess the relationships between the role of accounting information systems and the optimum bank services in Bangladesh using purposive sampling technique.

Sample Size

From the total of about thirty one commercial banks in Bangladesh five banks are selected as sample using purposive sampling technique. From the selected sample banks 100 employees from top to bottom level are used to assess the objective of the study and test the hypothesis statistically.

Data Collection

As the main data collection instrument, in this study, consists of both open ended and closed ended questions. The primary data were collected through interviews and questionnaire and the questionnaire was designed after reviewing the relevant literature. 120 questionnaires were distributed to the respondents. Moreover, the secondary data are used for this study that is collected from annual reports, periodic, journals, magazines and books.

Data Presentation and Analysis

The collected data from the field work has been analyzed by using Software Package for Social Science (SPSS 16.0) to measure central tendency, dispersion, and correlation. The data outputs are presented in tabulation. A total of 22 questions were prepared to address and test the hypothesis of the study and satisfy the objective as well.

ANALYSIS AND FINDINGS

The role of accounting information systems for bank services of Bangladesh has been assessed based on the likert scale of 5 points, 1 for Strongly Agree, 2 for Agree, 3 for Somewhat Agree, 4 for Disagree and 5 for Strongly Disagree. The likert mean therefore used as of the population mean computed as:

$$\mu = \frac{1 + 2 + 3 + 4 + 5}{5} = 3$$

Table 1: Demographic Features of the Respondents

	Specialization						Gender		Age				Education				Experience				
	A	M	MA	F	E	O	F	M	<35	35	40	45	D	B	M	P	<10	10	15	20<	
C	A	M	I	C	T	E	A	Y	to	to	to	I	A	A	h	Y	to	to	Y		
C	N	R	N	O	H	M	L	E	40	45	50	P	C	S	D	E	15	20	E		
O	A	K	A	N	E	A	E	R	Y	Y	Y	L	H	T		R	Y	Y	R		
U	G	E	N	O	R	L	S	E	E	E	O	E	E	S		E	E	E	S		
N	E	T	C	M	S	E		R	R	R	M	L	R			R	R	R	S		
T	M	I	E	I				S	S	S	A	O	R			S	S	S			
I	E	N	C																		
N	N	G																			
G	T																				
%	21	13	9	17	19	21	30	70	16	33	33	17	5	13	79	3	40	34	22	4	
N	100						100		100				100				100				

Source: Filed Study

From them 100 employees have sent back their questionnaires with perceptions where 21% of the respondents have the accounting specialization, 19% economics, 17% finance, 13% management, 9% marketing and 21% in others specialization. Among the respondents about 30% are female and the rest is belongs to male. The age of the respondents are seen in the survey in seven categories start from 25 to more than 55 where most of the respondents are in 35 to 40 years and 40 to 45 years (33%). From the educational qualification perspective 79% respondents have the master degree followed by 13% of bachelor, 5% of diploma and 3% have the PhD degree. In this study 34% respondents have 10 to 15 years of job experience followed by 28% 5 to 10 years, 22% 15 to 20 years and 4% have the more than 20 years job experience in bank.

Table 2: Descriptive Analysis of Perceptions of the Respondents Regarding AIS

Particulars	M ± sd	Kurt.	Std. Error	Skew	Std. Error
AIS provide accurate information on the financial position	1.26±.58	2.454	.241	6.226	.478
AIS helps with minimal time and effort for opening accounts	1.47±.57	.764	.241	-.395	.478
AIS helps to bring lowest cost in banking operations	1.56±.70	.860	.241	-.501	.478
AIS are used to determine the degree of credit to clients	1.41±.60	1.194	.241	.416	.478
AIS helps to develop procedures and realistic objectives	1.35±.54	1.220	.241	.525	.478
AIS helps to prepare the costs of banking service	1.56±.61	.864	.241	1.210	.478
AIS helps to prepare and implement of daily activities of Banks	1.46±.60	.973	.241	-.045	.478
AIS as a tool to monitor all activities of the Bank	1.41±.57	1.029	.241	.089	.478
AIS contribute to identify waste and extravagance in the bank	1.32±.51	1.242	.241	.498	.478
AIS meet the bank's internal control in achieving the objectives	1.29±.59	2.219	.241	5.105	.478
AIS prevent errors and tampering of evidence in various stages	1.36±.54	1.166	.241	.382	.478
AIS lead to the bank to supervise staffs in the bank	1.27±.45	1.052	.241	-.912	.478
AIS helping the bank to detect threat	1.66±.82	1.044	.241	.298	.478
AIS helps to monitor sources and uses of funds with efficiency	1.46±.52	.382	.241	-1.366	.478
AIS helps to monitor records relating to computerized operations	1.48±.52	.299	.241	-1.427	.478
AIS provide tools and methods to follow up the implementation of banking services	1.43±.55	.825	.241	-.360	.478
AIS reduces the impact of financial risk exposed to the bank by clients	1.47±.54	.513	.241	-.949	.478
AIS contribute to provide a constant flow of information about the various banking services	1.27±.53	1.851	.241	2.610	.478
AIS affect the increase in customer demand due to competition, which leads to increased volume of activity	1.47±.59	.856	.241	-.232	.478
AIS assist staff of Banks who are commitment towards the development and profitability	1.24±.49	1.971	.241	3.182	.478
AIS provide information and data on interest rates and banking services compete with banks	1.21±.46	2.076	.241	3.683	.478
Average	1.40±0.57	1.18	0.241	0.858	0.478

Source: Field Study

The table 2 shows the perceptions of bank employees regarding the role and contribution of accounting information systems towards the banking business and its services. In this study the role of accounting information systems to banking service is analyzed and discussed using twenty two variables where the mean value regarding AIS provide information and data on interest rates and banking services compete with banks is 1.21 that means the respondents lies between strongly agree and agree. Another important role is done by AIS that is assists staff of Banks who are commitment towards the development and profitability while its mean value is 1.24. AIS provide accurate information on the financial position

having the mean value of 1.26. On the other hand accounting information systems contributing towards the banking business by helping the bank to detect threat with the maximum mean value that is 1.66 but this value also lies between strongly agree and agree. The lowest value of standard deviation of the above table is 0.45 in the statement of AIS lead to the bank to supervise staffs in the bank and the highest standard deviation is 0.82 in the statement of AIS helping the bank to detect threat. In the above table all the values of kurtosis shows the positive where the highest value is 2.454 with standard error of 0.241 in the statement of AIS provide accurate information on the financial position. On the other hand the lowest value is 0.382 in the statement of AIS helps to monitor sources and uses of funds with efficiency. Moreover, the highest skewness value of the perceptions of AIS regarding the respondents towards the bank business is 6.226 in the statement of AIS provide accurate information on the financial position where some values are shown negative. The overall mean value of the surveyed forces is 1.40 with the standard deviation of 0.57. The most influential forces those are used to provide optimum banking service to the all stakeholders using accounting information systems can be screened and picked from the table 2 on the basis of the mean value <1.30. The most influential forces regarding the contribution of AIS towards the bank business in Bangladesh is shown in below table.

Table 3: Influential Forces AIS towards the Bank Business

Particulars	Mean	S.D.
1. AIS provide information and data on interest rates and banking services compete with banks	1.21	.46
2. AIS assist staff of Banks who are commitment towards the development and profitability	1.24	.49
3. AIS provide accurate information on the financial position	1.26	.58
4. AIS lead to the bank to supervise staffs in the bank	1.27	.45
5. AIS contribute to provide a constant flow of information about the various banking services	1.27	.59
6. AIS meet the bank's internal control in achieving the objectives	1.29	.59

The above table 3 shows the most influential forces regarding the perceptions of the respondents about the role of AIS towards the banking service where six forces are picked up on the basis of the mean value less than 1.30.

Table 4: Correlation Matrix of Influential Forces AIS towards the Bank Business

	1	2	3	4	5	6
1	1					
2	0.924	1				
3	0.901	0.898	1			
4	0.951	0.923	0.932	1		
5	0.921	0.903	0.935	0.917	1	
6	0.900	0.911	0.933	0.941	0.943	1

Source: Table: 2

The above table 4 shows the inter-correlations among the most influential forces regarding the contribution of AIS towards the bank business of Bangladesh where almost values of the table are more than 0.90 which are belongs to the highly positive correlation. The highest correlation is seen between AIS contribute to provide a constant flow of information about the various banking services and AIS meet the bank's internal control in achieving the objectives.

Table 5: Analysis of Variance (ANOVA), Relationships between Role of AIS & Bank Service

	Sum of Squares	df	Mean Square	F	Sig.
Regression	6.86	3	2.29	8.87	.000
Residual	46.63	96	0.479		
Total	53.49	99			

* Significant at 0.01 Level: One-tailed

The above table 5 shows the result of the analysis of variance at 1% level of significance of the one tailed statistics where the hypothesis of this study is tested to know the relationships between the role of accounting information and the bank service in Bangladesh. The table shows the value of F-test is 8.87 at 0.00 significance and the F-value giving the result higher than the table value. It can be told from the above statistical result that the null hypothesis taken in this study is rejected rather it can be told that there is a significant correlation between the role of accounting information systems and the optimum bank services in Bangladesh.

CONCLUSION AND RECOMMENDATION

The study intended not only to ascertain the contribution and role of AIS towards the bank service providing features in Bangladesh but to determine their degree of commitment and satisfaction also. Based on the findings, it is concluded that AIS strongly help the banks by providing information and data on interest rates and banking services compete with banks, it also assists staff of Banks who are commitment towards the development and profitability, besides it provides accurate information on the financial position to the entire stakeholder. On the other hand, accounting information systems is contributing towards the banking business by helping the bank to detect threat. Moreover, the results of the statistical analysis of this study show the strong correlation between AIS and optimum bank service providing to the entire stakeholder of the banks in Bangladesh. Despite the positive impact of the applying of accounting information systems to increase the optimum bank services to the entire stakeholders, but some problems are detected by the researcher. According to the problems the researcher has some recommendations which, if introduced could increase the better thinking regarding AIS and bank service. The employees should be given more training and fully aware of the accounting information systems. It also should be taking into consideration the culture of the bank, which can turn leads to increased competition and attract clients and thus speeding up the implementation of the service of the banks that also can reduce the loss of time and thus reduce cost.

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