

Appreciation of Computerized Accounting System in Financial Institutions in Bangladesh

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Along with the improvements in the technology, information systems have been computerized. Improvements in this technology have replaced manual accounting systems with computerized ones. This study has been designed to achieve the objective of assessing the level of perceptions of four factors such as performance expectancy, effort expectancy, social influence and social conditions in using computerized accounting systems in different financial institutions of Bangladesh. To attain this objective total 400 respondents of four types' financial institutions such as banks, leasing companies, insurance companies and non-government organizations have been considered. By using multiple regression analysis, authors have found that all four factors have significant influence in using computerized accounting systems.

Keywords: Financial Institutions, Computerized Accounting Systems, Perceptions.

1. Introduction

Technology has dramatically changed the accounting profession. One response to this change is the development of accounting programs that emphasize Accounting Information Systems (AIS) (Strong, et al ,2006).The rapid change in information technology, the wide spread of user-friendly systems and the great desire of organizations to acquire and implement up-to-date computerized systems and software have made computers much easier to be used and enabled accounting tasks to be accomplished much faster and accurate than hitherto. On the other hand, this advanced technology has also created significant risks related to ensuring the security and integrity of computerized accounting information systems (CAIS) (Musa and Abu, 2005).

With the expansion of business the number of transactions increased. The manual method of keeping and maintaining records was found to be unmanageable. With the introduction of computers in business, the manual method of accounting is being gradually replaced. And finally, the database technology has revolutionized the accounts department of the business organizations (retrieved from: www.nos.org/srsec320newE/320EL12.pdf).

As the lifeblood of any competitive business, accounting information is a critical resource for all enterprises. The concept of accounting information system (AIS) is quite well established and numerous commercial packages as well as tailor-made systems have been developed. However, the business world is best by accounting systems that have varying levels of efficiency and excessive costs for such information. (Yau et al., 2000).

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Fowzia & Nasrin

Advancements in information technology (IT) have enabled companies to use computers to carry out their activities that were previously performed manually. Accounting systems that were previously performed manually can now be performed with the help of computers. Therefore, improvements in the information technology have facilitated the use of cost and management accounting procedures.

This study has been designed on few segments. First of all, the introduction and an overview of prior studies relating computerized accounting system and secondly, the objectives and methodology of the study. Then the authors have analyzed the results of the findings and at the end some conclusive remarks.

2. Research Question

Whether the level of perception of employees about four factors in using computerized accounting system of different financial institutions are different or not?

3. Literature Review

Accounting information system is considered as a subsystem of management information system (MIS). Boochholdt (1999) defines accounting information systems as systems that operate functions of data gathering, processing, categorizing and reporting financial events with the aim of providing relevant information for the purpose of score keeping, attention directing and decision-making.

Accounting information systems are considered as important organizational mechanisms that are critical for effectiveness of decision management and control in organizations.

Studies have shown that successful implementation of accounting systems requires a fit between three factors (Markus and Pfeffer, 1983). A fit must be achieved with dominant view in the organization or perception of the situation. Second, the accounting system must fit when problems are normally solved, i.e. the technology of the organization. Finally, the accounting system must fit with the culture, i.e. the norms and value system that characterize the organization (Christiansen and Mouritsen, 1994). Systems will be useful when information provided by them is used effectively in decision-making process by users. The ongoing revolution in information technology (IT) has had a significant influence on accounting information system (AIS). Improvements in the IT have brought improvements in computers. Today, almost all organizations are using computers in their daily businesses. As computers become smaller, faster, easier to use, and less expensive, the computerization of accounting work will continue. Accounting activities that were previously performed manually can now be performed with the use of computers. That is, accountants are now able to perform their activities more effectively and efficiently than before (Dalchi and Tennis, 2004).

Along with the improvements in the technology, information systems have been computerized. Improvements in this technology have replaced manual bookkeeping systems with computerized ones. The revolution in the information systems, which

Fowzia & Nasrin

started in the early 1950s when the first business computers became available, is still in progress (Nash, 1989).

By reviewing research studies during 1987-1999, one finds out that 57 researches have been conducted on the issue of accounting information systems and decision making the number of which shows the importance of the research in this area.(Sajady et al,2008)

Researchers have developed many models of the decision-making and problem-solving process. All those models depict decision making as a complex, multistep activity. First, the problem has to be identified. Then the decision maker must select a method for solving the problem. Next, the decision maker must collect the data needed to execute the decision model, and the interpret the outputs of the model and evaluate the merits of each alternative. Finally, the decision maker chooses and executes the preferred solution. The AIS can provide assistance in all phases of decision making. (Romney et al, 1997).

In computerized system computers are used in processing data and in disseminating accounting information to interested users. Now-a-days most of the small business organizations eventually replace their manual accounting system with computerized accounting system. Computerized accounting systems are software programs that gather the various accounting information related to sales, purchases, receivables, payables, cash receipts, cash disbursements, and payroll. And in this procedure the financial statement is generated. (Islam, 2010).

Most of the accounting information is generated from transactions. Transactions of firms have both accounting and non accounting attributes. During the early days of computerization of AISs, accounting system used to be isolated from other information systems and served as operational; support systems. Today, as more powerful, flexible, economical, and user-friendly software and hardware have become available, the trend is toward a logical arrangement where a single system can support both accounting and operational needs. In sum, today's accounting systems are closely tied into and may even be fully integrated with other information systems. (Wilkinson et al, 2000).

Quality information is critical to organizations' success in today's highly competitive environment. Accounting information systems (AIS) as a discipline within information systems require high quality data. However, empirical evidence suggests that data quality is problematic in AIS. Therefore, knowledge of critical factors that are important in ensuring data quality in accounting information systems is desirable. (Hongjiang, 2003) Kim (1989) argues that usage of AIS depends on the perception of the quality of information by the users. Generally the quality of information depends on reliability, form of reporting, timeliness and relevance to the decisions.

Effectiveness of accounting information system also depends on the perception of decision-makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and control within organization.(Sajady et al,2008).

Fowzia & Nasrin

Effectiveness of accounting information systems can be analyzed on three bases: 1) information scope, 2) timeliness, 3) aggregation. Information scope is considered as financial and non-financial information, internal and external information that is useful in prediction of future events. Aggregation of information is considered as means of collecting and summarizing information within a given time period (Choe, 1998). Doll and Torkzadeh (1988) for studying the satisfaction of users use some concepts to measure the effectiveness of the accounting information systems. These concepts are information content, accuracy, format, ease of use and timeliness.

In a recent study (Nasrin, 2010), some attributes were identified to find out the influence of using computerized accounting software (CAS) by the users and their perceptions about this. The users believed that using CAS would help him or her better attain significant rewards and they feel comfortable in using CAS. Social influence was one of the most important factors that affected users' to use CAS to improve their workability and performance and it was found that most of the respondents agreed that their performance could be better every time by using CAS.

4. Objectives of the Study

- To measure individually whether the perceptions about using computerized accounting system is same or not for different financial institutions.
- To assess the level of perception of four factors of different financial institutions.
- To identify the factors which influence the users to use computerized accounting software for different financial institutions in Bangladesh.

5. Methodology of the Study

Sample size

Total 400 respondents have been surveyed of four different types of financial institutions on random sampling basis. 100 employees who are using computerized accounting system of each type of financial institutions have been considered. Four types of financial institutions are Banks, Non-banking financial institutions, Insurance companies and Non-government organizations.

Data collection

The study is mainly based on primary data. A structured survey questionnaire has been used. In the questionnaire the perception has been calculated by 7- point Likert type measurement scale where 7 = very important and 1= very unimportant. Secondary sources are different local and international published articles, websites, seminar papers etc.

Data analysis

Data have been analyzed by using one-way ANOVA, mean and also multiple regression models.

Study period

Time period of the study was March to June, 2010.

6. Findings and Analysis

In this study the “Unified Theory of Acceptance and Use of Technology (UTAUT)” developed by Venkatesh et al (2003) has been used. It suggested mainly four criteria for IT adoption. They are: *Performance expectancy (PE)*- The degree to which participant believes that using IT will help him/her better attain significant rewards, *Effort expectancy (EE)* – The degree of ease participant associates with using IT, *Social Influence (SI)* – The degree to which participant perceives that important others believe he/she should use IT and *Facilitating conditions (FC)* – The degree to which participant believes that the organizational and technical infrastructure exists to support use of IT.

To measure whether perception levels of four factors are same or not in different types of financial institutions, the authors have applied one-way ANOVA analysis using four hypotheses.

Hypothesis-1:

H_0 =The perception levels regarding performance expectancy are equal for all types of financial institutions.

H_A = The perception levels regarding performance expectancy are not equal for all types of financial institutions.

Hypothesis-2:

H_0 =The perception levels regarding effort expectancy are equal for all types of financial institutions.

H_A = The perception levels regarding effort expectancy are not equal for all types of financial institutions.

Hypothesis-3:

H_0 =The perception levels regarding social influence are equal for all types of financial institutions.

H_A =The perception levels regarding social influence are not equal for all types of financial institutions.

Hypothesis-4:

H_0 =The perception levels regarding facilitating conditions are equal for all types of financial institutions.

H_A =The perception levels regarding facilitating conditions are not equal for all types of financial institutions.

Fowzia & Nasrin

Table1: ANOVA

		Sum Squares	of df	Mean Square	F	Sig.
PE	Between Groups	18.837	3	6.279	10.140	.000
	Within Groups	214.260	396	.619		
	Total	233.097	399			
EE	Between Groups	35.280	3	11.760	13.038	.000
	Within Groups	312.080	396	.902		
	Total	347.360	399			
SI	Between Groups	34.614	3	11.538	15.174	.000
	Within Groups	263.100	396	.760		
	Total	297.714	399			
FC	Between Groups	10.744	3	3.581	3.951	.009
	Within Groups	313.610	396	.906		
	Total	324.354	399			

The above table shows that the perception about using computerized accounting in respect of four factors the means of different financial institution are not same at the 1% level of significance.

To assess the level of perception of four factors of different financial institutions the authors have applied mean score analysis and the findings are:

Table 2: The level of perception of four factors of different financial institutions

Factors	Sample size	Banks	Leasing companies	Insurance companies	NGOs
Performance expectancy	100	6.49	6.93	6.34	6.56
Effort expectancy	100	6.56	6.90	6.18	6.08
Social influence	100	6.25	6.92	6.17	6.32
Facilitating conditions	100	5.94	6.32	5.91	6.14

The above table demonstrates that regarding banks and insurance companies three factors (Performance expectancy, Effort expectancy and Social influence) are moderately important and only one factor, i.e., facilitating conditions is slightly important in using computerized accounting systems. In case of leasing companies and NGOs the all four factors are moderately important.

To identify the factors which influence the users to use computerized accounting software for different financial institutions in Bangladesh, the authors have used multiple regression analysis. The results are shown below:

Fowzia & Nasrin

Table3: Model Summary

Model	R	R square	Adjusted R square	Std. Error of the Estimate
1	.760	.578	.573	.677

Table-4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	216.745	4	54.186	118.301	.000
	Residual	158.023	395	.458		
	Total	374.769	399			

The regression result shows that the multiple regression model is highly significant (.000). The coefficient of determination indicates that 57.30 percent of the variation in adoption of computerized accounting software explained by variations in the independent variables.

Table-5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.447	.369		1.211	.227
	PE	-.082	.049	-.065	-1.672	.096
	EE	.150	.044	.145	3.419	.001
	SC	.182	.050	.162	3.667	.000
	FC	.655	.045	.610	14.467	.000

The above table shows that the performance expectancy is influential at 10% level of significance whereas effort expectancy, social conditions and facilitating conditions are influential at 1% level of significance in using computerized accounting systems in different types of financial institutions of Bangladesh.

7. Limitations of the Study and Future for further Study

This study is based on few structured questionnaire in survey and some secondary data. Only the perceptions have been considered but what are the reasons behind it have not been concentrated. If the study considered the involvement of the employees in computerized accounting system and also the qualifications of them, the finding might be different. This study lacks consideration of the level of involvement of employees and also the qualifications of them towards justification of their responses. Also merely service organization has been considered. The study

could consider the perceptions of the employees of manufacturing organizations also. That prospect is kept open for further research.

8. Conclusion

New technologies are changing the environment in today's accounting practice. So to response to this change, providers of accounting information must possess a broader set of knowledge, skills and abilities than prior generations. As the lifeblood of any competitive business, accounting information is a critical resource for all enterprises. The concept of accounting information system is quite well established and numerous commercial packages as well as tailor-made systems have been developed. However, the business world is best by accounting system that has varying levels of efficiency and excessive costs for such information. In Bangladesh, the perceptions of the employees who are using the computerized accounting system is positive as all factors influence the adoption of computerized accounting system and their mean is above average.

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Fowzia & Nasrin

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