QUALITY OF INFORMATION AS STRATEGIC FACTOR IN ACCOUNTING INFORMATION SYSTEM (AIS) TOWARDS BETTER ORGANIZATIONAL PERFORMANCE

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ABSTRACT

The aim of this study is to examine the information quality and its effect on performance of Iraqi companies. Organizations were found aware on the need to have quality of information as to cope with environmental uncertainty. Most organizations agree on the importance of accounting information system (AIS) as to gather, perform, and report about the performance of their financial activities. Findings show quality of information is an important factor for performance enhancement. Therefore, to become or remain competitive need organizations to have good AIS as it helps organizations to formulate better strategies and later achieve better organizational performance. This means quality of information is certainly a strategic factor for organizational survival or prosperity.

Keywords: Accounting Information System, Organizational Performance, Competitiveness, information quality

INTRODUCTION

A successful organization not only makes decisions, but should implement the right ones. A decision is concerned with selection of an alternative among a number of alternatives. In order to select the best one, decision-makers need some guidance and one of it is information of management accounting. There is no doubt that information technology has become an important factor for most organizations in achieving their objectives. Inefficient management system and rapid environmental changes may cause difficulty to gather latest information (Hilman, 2011).

Such obstacles surely dampen their potential to materialize their strategic plan but it can be overcome through systematic information system (Salehi et al.,

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2010). For example, computerized IS which include accounting information system should help organizations to strategize themselves better even though during high uncertainty situations (Gattiker and Goodhue, 2004).

According to Boockholdt (1999), accounting information system (AIS) can be defined as a system that operates 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. To have systematic AIS, it is crucial that most actions are taken from accounting information (Daft and Weick, 1984). Furthermore, it has the greatest capacity to affect organization behavior as well as performance (Tripsas and Gavetti, 2000).

Interestingly, some organizations posses advanced AIS as to meet their strategic goals (Bibuljica, 2009). The reason is simple which is to enable them to make better economic and financial decisions. Such organizations do aware the consequences of failure to do will lead them to report losses or bankruptcy (Salehi, 2010). No doubt that the road for bankruptcy is paved by poor decisions (Young, 1982).

However, there is significant a gap in studying the relationship between information quality and the performance of organizations in Iraq. Therefore, the main purpose of this study is to investigate the relationship between the strategic role of information quality and organizational performance in the context of business institution in Iraq.

LITERATURE REVIEW

The management accountants within AIS were viewed as involving the design and operation of financial advisory and information systems in organizational settings. According to Birkett (1986), there are three factors influence quality of management accounting:

1. Compliance, which focuses on the design and operation of system concerned with technical compliance with external regulations and reporting requirement;

2. Control, which is the systems to support resource management and control including standard costing and variance analysis, flexible budgeting, responsibility accounting, and accounting performance measures; and
3. Competitive support, which is the provision of financial services to the management team in order to enhance the firm's competitiveness. The accounting function is seen as one of producing financial services, which add value, and the management team is seen as a consumer of those services.

Accounting Information System

Accounting Information System (AIS) has been defined by Hurt (2008) as "a set of interrelated activities, documents, and technologies designed to collect data, process it, and report information to a diverse group of internal and external decision makers in organizations." A well-designed AIS should characterize with gathering data on the elements of financial statements, transforming those data into relevant and reliable information, and adapting and maintaining to cost-benefit constraint.

Accounting Information System has the potential to facilitate strategy management and increase organizational performance (Gerdin and Greve, 2004). Aberneth and Guthrie (1994) pointed out that the differences in organizations' strategies tend to affect the scope of their information system. They found that organizations pursuing a differentiation strategy are more effective in using wide-scope AIS. This included a high load of information, such as internal/external, financial/non-financial, and past/future oriented.

Bouwens and Abernethy (2000) also declared that organizations fitting a cost strategy to narrow scope AIS are the most effective. However, this type of AIS is not suitable for increasing performance of organizations pursuing a customization and flexibility strategy. If AIS can be linked to strategy and strategy is linked to performance, then we can argue that sophisticated AIS can be expected to have positive effects on performance through a strategy focused on flexibility and change, such as prospectors.

Several studies were conducted on searching the impact of information systems on organizational performance (Brynjolfsson and Hitt 1996; Kohli and Devaraj 2003; Mukhopadhyay et al. 1995; Olugbode et al., 2008). Moreover, Gorla et al. (2010) studied the role of information system quality as a mediating variable in the relationship between information systems and organizational performance.

Today's AIS is perceived as a strategic tool in providing quality information to enhance organizational performance. Olugbode et al., (2008) concluded that changes to the accounting system, and ICT infrastructure of an organization have improved its operational processes and efficiency. This means AIS is capable to provide comprehensive information for managers to make better decision especially for those who are competing in highly competitive environment (Gerdin and Greve, 2004).

Some considered AIS as essential or critical for effective decision making (Sajady et al., 2008). However, effective AIS depend on its capability to provide information that serves various system users. Generally AIS has five components: Inputs, Processes, Outputs, Storage, an Internal Controls (Hurt, 2008). With systematic AIS, organizations will have better quality of business intelligence (data, information and knowledge) and this should enable them to secure better performance (Chong and Eggleton, 2007).

Information Quality

Never before has the information on which management bases its decisions been so important – or so dynamic. Assuring the quality, speed, and reasonable cost of information has become a priority for decisions makers and their organizations.

In today's fast-paced business environment, corporate wisdom can change daily, as well as the management's needs on information. As the emergence of the Knowledge Age ramps up the value of an organization's information assets, accountants can add significant value by improving the quality of their organizations' information and helping to reduce associated costs.

Surprisingly, the product manufacturing process may offer some useful analogies to management accounting department who want to assess the effectiveness of information management in their organizations. Manufacturing systems are actually quite similar to the systems used to develop accounting and management information. Information systems gather data, process the data into useful knowledge, and issue reports to managers and other decision makers, just as production systems gather raw materials, transform the materials into finished products, and deliver the products to customers. During the past years, many manufacturing companies have dramatically revised their production processes to boost product quality and reduce production costs (Clikeman, 1999). The lesson that production manager have learned can help accountants improve the quality of information and at the same time, reduce its costs.

Researchers used variety dimensions to specify information quality. Huh et al. (1990) identified four dimensions such as accuracy, completeness, consistency, and current. Clikeman (1999) also found almost similar dimensions such as relevance, reliability, timeliness, and cost. Meanwhile, Nelson et al. (2005) emphasized on accuracy, completeness, current, and format for information quality - related to the presentation layout of information outputs.

Information quality refers, from information perspective, to the quality of outputs the information system produces (DeLone and McLean, 1992), which are shown by reports or online screens. Doll et al. (1994) has five construct comprising information quality, e.g. content, accuracy, format, ease of use, and timeliness. In this study, ease of use and timeliness are included n system quality because they are influenced by the hardware/software system itself. Information accuracy has been included in this study as an item in the “content” construct because it is closely related to information content. Generally, almost similar dimensions were identified in defining quality information. This includes AIS as managers need quality and reliable system to make better decision.

Sori (2009) stated AIS plays an important role in determining organizational performance through providing information both actual and budget data of the organization that solidifies company’s management to plan and

monitor business operation. They also play an important role that contributes to organizations value added by providing internally generated input from financial instruments. Meanwhile, Mitchell (2002) identifies four main criteria to have sound organizational performance, such as:

- Relevance, which means parties in an organization feel measurements being used relevant to their needs and interests;
- Effectiveness, which means capable to help organization measure degree of success in pursuing its objectives;
- Efficiency, which means capable to help organization measure degree of success in exploiting its resources; and
- Financial Viability, which means capable to help organization achieve sound financial standing at short, medium, and long-term basis.

However, information will not remain stable especially in highly volatile business environment. Information processing theorists have suggested different sources of uncertainty, including the characteristics of the self-contained tasks, instability of sub-units due to external environment, interdependence among sub-units (Tushman and Nadler, 1978), and differentiation among sub-units (Daft and Lengel, 1986). All these uncertainties arise from the complexity and dynamism of the environment or due to frequent changes in various environmental variables.

Meanwhile, the organizational information processing theory (OIPT) involves three important concepts: information processing needs, optimal performance and information processing capability (Galbraith, 1974). This theory is based on the assumption that information is perhaps the most critical factor faced by modern organizations (Fairbank et al., 2006). The theory states that organizations are structured around information and to have systematic information flows is important as to reduce uncertainty (Fairbank et al., 2006). Basically, the information processing view considers the relationship between the information of the organization and the management of the information to be an organization's most critical performance factor (Fairbank et al., 2006). In light of the organizational information processing theory, the investigation of the

relationship between information quality and the performance of the organization is potential.

Therefore, this study adapted a model developed by Gorla et al. (2010), which reflect the preciseness characteristics of information quality related to information systems. This model comprises two categories for information quality, e.g. information content and information format. Information content determines the relevance of the provided information to the user and the accuracy and completeness of the information. Information format determines the style of provided information and whether information is presented in an-easy-to-understand format or not.

In relation to the organizational information processing theory, this study investigated relationship between information quality and performance of an organization. Specifically, this study investigated the following hypotheses:

H1: There is a positive relationship between organizational performance and AIS's information quality.

H1*a*: Accuracy characteristic of AIS's information can influence organizational performance.

H1*b*: Completeness characteristic of AIS's information can influence organizational performance.

H1*c*: Conciseness characteristic of AIS's information can influence organizational performance.

H1*d*: Timeliness characteristic of AIS's information can influence organizational performance.

H1*e*: Relevance characteristic of AIS's information can influence organizational performance.

H1*f*: Currency characteristic of AIS's information can influence organizational performance.

H1*g*: Consistency characteristic of AIS's information can influence organizational performance.

H1*h*: Easy to understand characteristic of AIS's information can influence organizational performance.

Following subtopics discuss research methodology being used in this study. The methods used were identified as the best approach to address in addressing the objectives of this research.

METHODOLOGY

Questionnaire was distributed to head of top and middle level managers of organizations whom adopted AIS. This study adapted a model developed by Gorla et al. (2010), which reflect the preciseness characteristics of information quality related to information systems. The model comprises two categories of information quality; Information content and Information format. Information content determines the relevance of the provided information to the user and the accuracy and completeness of the information. Meanwhile, information format determines the style of provided information and whether information is presented in an easy-to-understand format or not.

Following are dimensions for independent variable which is divided into two categories, six items for content category and the last two items for format category:

- Accuracy; refers to unionism of attributes of real entity, database, and arithmetic computation (Huh et al., 1990).
- Completeness; refers to some specific applications, which refers to whether all of the information relevant to that application are present.
- Conciseness; refers to whether the information is free of asymmetry which may lead to ambiguity.
- Timeliness; refers to whether the information is provided at the right time.
- Relevance; refers to identifying whether information is related significantly to the problem / decision making process.
- Current; refers to whether the provided information is up to date –knowledge management.
- Consistency; refers to an absence of conflict between two or more datasets, and finally.
- Easy to understand.

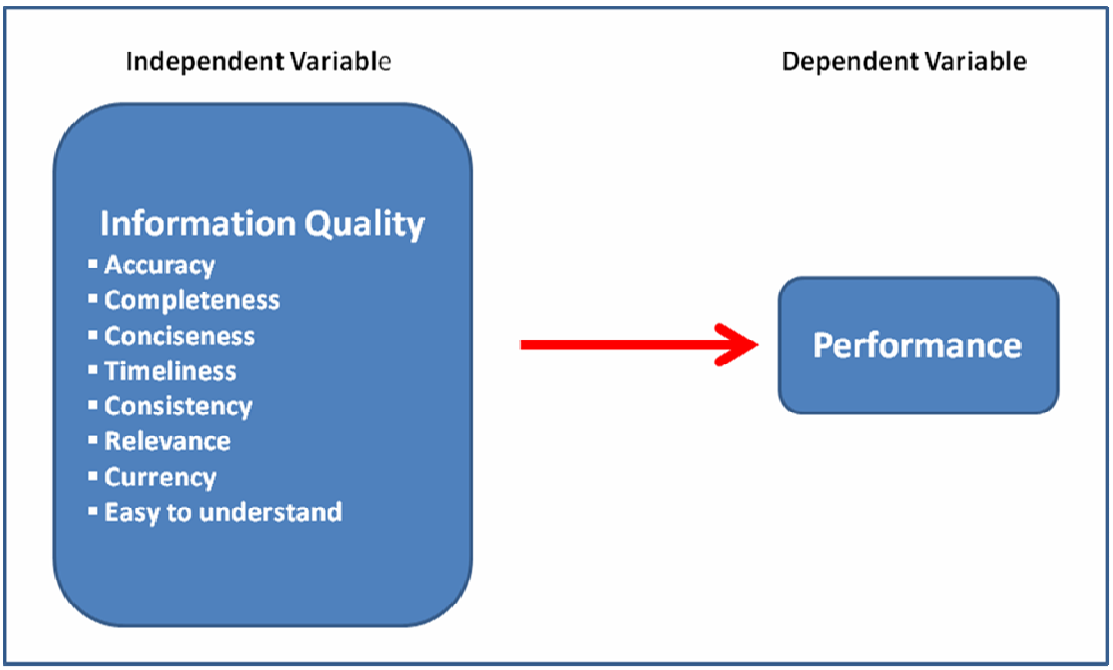

Figure 1: Conceptual Framework

Sources: Adapted from Gorla et al. (2010:98)

Specifically this study measured the relationship between information quality and organizational performance. In order to determine whether there are significant relationships among the independent variables and dependent variable, Pearson Correlation Coefficient analysis were carried out. The scale model suggested by Davies (1971) used to describe the relationship between the independent variables and the dependent variable, are shown below:

- 0.70 and above: very strong relationship
- 0.50 to 0.69: strong relationship
- 0.30 to 0.49: moderate relationship
- 0.10 to 0.29: low relationship
- 0.01 to 0.09: very low relationship

Information quality is measured with indicator variables of content (six items) and format (two items). The quality of information quality is computed by averaging the questionnaires that relevant to respective indicators. Meanwhile, the

organizational performance consist five indicators such as supplier switch/search costs (five items), products/service enhancement (three items), market information support (three items), product cost control (four items), and internal organizational efficiency (eight items). Specifically, questionnaires were distributed through mail survey and most of the respondents were head of accounting and finance department of organizations in Iraq.

The questionnaire focused on the participants' background information and included items that asked respondents about their perceptions of business performance, and information quality. Regarding organizational performance, the respondent were to give on a 5-point scale (1 = not all important, 5 = extremely important) their perceptions regarding information quality items, respondents were required to answer on a 5-point scale (1 = not all ensured, 5 = perfectly ensured) regarding their overall perception of the accounting information systems they use.

FINDINGS

Overall, five (5) chief executive officer, two (2) chief operating officer, ten (10) managing director, eighteen (18) general manager, twenty-eight (28) manager, and seven (7) others answered the questioners. The majority of the respondents, 47 or 67.14% still used manual AIS while the others or 23 companies (32.85%) used computerized AIS (Figure 2).

The distribution of business types in our sample included 11.42% in electrical and electronics companies, 35.71% in food and beverage companies, 5.71% in fabricated metal companies, 1.42% in chemical including petroleum companies, 45.71% in the companies like financial services sector (finance, banking, insurance), trading sector (wholesale, retailing, trading), and healthcare.

In the sample of this study, the number of employees was as follows: 8.57% from the companies have employees with fewer than 50 employees, 18.57% have between 50-100 employees, 62.85% with 101-200 employees, 5.71% with 201-400 employees, and 0% for more than 1000 employees.

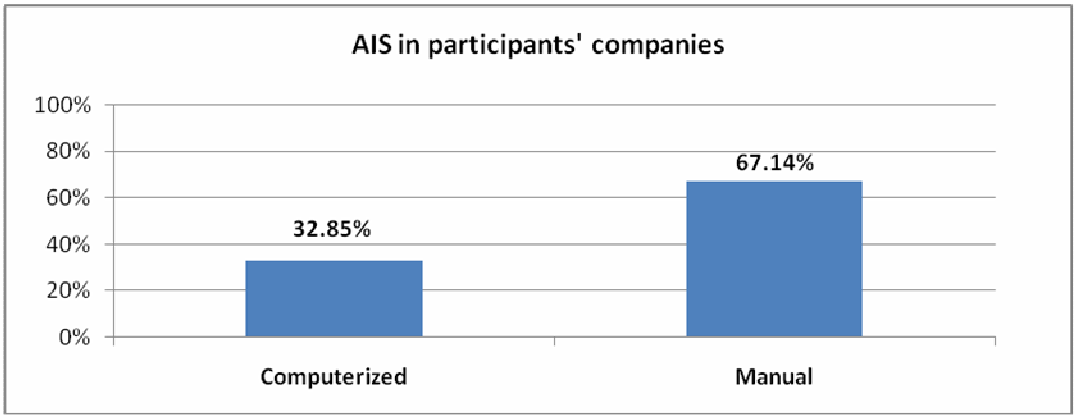

Figure 2: AIS Type in Participants' Companies

Sources: Data processing

For reliability analysis, the Alpha value for independent variable and dependent variable was 0.80. The mean for both constructs were strong as information quality recorded (4.17) and organizational performance (4.36). Meanwhile, the result for H1 is significant which means there is strong relationship between the two variables; quality of information and organizational performance (r=.584, n=70, p<.01), in other words, accept Hypothesis 1.

Specifically, the results for *H1a* indicate significant with moderate relationship between accuracy characteristic of AIS's information and organizational performance (r=.357, n=70, p<.01), or accept Hypothesis 1a. Similar finding for H1*b* as the results indicated significant with moderate relationship between completeness characteristic of AIS's information and organizational performance (r=.363, n=70, p<.01), or accept Hypothesis 1b. However, the result for H1*c* indicated no significant relationship between conciseness characteristic of AIS's information and organizational performance (r=.205, n=70, p<.01), or reject Hypothesis 1*c*. For H1*d*, the result indicated significant with low relationship between timeliness characteristic of AIS's information and organizational performance (r=.292, n=70, p<.01), or accept Hypothesis 1*d*.

For H1*e*, the result also indicated significant with low relationship between relevance characteristic of AIS's information and organizational performance (r=.273, n=70, p<.01), or accept Hypothesis 1*e*. Similar findings for H1*f* as the result indicated significant with small relationship between currency characteristic of AIS's information and organizational performance (r=.247, n=70, p<.01), or accept Hypothesis H1*f*. For H1*g*, the result indicated significant with moderate relationship between consistency characteristic of AIS's information and organizational performance (r=.448, n=70, p<.01), or accept Hypothesis H1*g*. Meanwhile, for H1*h*, the result indicated significant with small relationship between easy to understand characteristic of AIS's information and organizational performance (r=.258, n=70, p<.01), or Hypothesis 1*h* is accepted. Overall, the results clearly indicated that all hypotheses were accepted except H1*c*.

Table 1: Inter correlation among the factors

	Accuracy	Completeness	Timeliness	Conciseness	Relevance	Currency	Consistency	Easy to Understand	Information Quality	Performance
Accuracy	-	0.324**	0.125	0.014	0.015	-0.069	0.282*	0.074	0.385**	0.357**
Completeness	-	-	0.146	0.215	0.014	0.133	0.453**	0.019	0.518**	0.363**
Timeliness	-	-	-	0.312**	0.093	0.797**	-0.057	0.079	0.693**	0.292*
Conciseness	-	-	-	-	0.360**	0.268*	0.090	-0.062	0.539**	0.205
Relevance	-	-	-	-	-	0.020	0.127	0.156	0.408**	0.273*
Currency	-	-	-	-	-	-	-0.102	0.055	0.603**	0.247*
Consistency	-	-	-	-	-	-	-	0.389**	0.483*8	0.448**
Easy to Understand	-	-	-	-	-	-	-	-	0.410**	0.258*
Information Quality	-	-	-	-	-	-	-	-	-	0.584**
Performance	-	-	-	-	-	-	-	-	-	-

Source: Data processing

For regression analysis, the findings for linear correlation analysis indicated quality of information quality is correlated with organizational performance. The R-square value of the study is 34.1%, which means quality of information - independent variable explained organizational performance – dependent variable by 34.1%. In other words, there are some other factors do influence organizational performance.

Table 2: Information quality and performance' regression analysis

Variable	Beta Standardization	Sig.
Information Quality	0.584	0.000
F Value	35.212	
R	0.584	
R Square	0.341	
Adjusted R Square	0.331	

Sources: Data processing

For the Adjusted R Square, the value obtained is 0.331, illustrate or 33.1%. This can be interpreted as 33.1% of organizational performance can be explained by the independent variable – quality of information. In other words, 66.9% are caused by other variables. Furthermore, the beta (β) value for information quality (β =.584) explains the significance of the independent variable to organizational performance. Besides that, the F change value of 35.212 is significant at <0.01 levels.

Meanwhile, the result for multiple regression between dimensions of quality information (accuracy, completeness, timeliness, relevance, current, consistency, and easy to understand) of AIS and organizational performance are found correlated. Specifically accuracy and consistency characteristics of information quality are found correlated significantly at <0.05 levels. However, the correlation between information conciseness and organizational performance was not significant. Multiple Regression analysis shows a substantial correlation between all these independent or predictor variables with dependent variable - organizational performance as R= .638, R square value = .407, and the adjusted R square equals = .329.

The beta (β) value for information accuracy (β = 0.236) and information consistency (β = 0.307) reveal that these two constructs play important influences toward organizational performance. Between these two variables, information consistency is the strongest variable. Furthermore, information completeness (β = 0.104), information timeliness (β = 0.062), information conciseness (β = 0.002), information relevance (β = 0.207), information currency (β = 0.222) and easy to understand (β = 0.070) have positive relationship and significant.

Table 3: Information quality constructs and performance' regression analysis

Variable	Beta Standardization	Sig.
Accuracy	0.236	0.038
Completeness	0.104	0.032
Timeliness	0.062	0.026
Conciseness	0.002	0.044
Relevance	0.207	0.012
Currency	0.222	0.003
Consistency	0.307	0.019
Easy to understand	0.070	0.035
F Value	5.238	
R	0.638	
R Square	0.407	
Adjusted R Square	0.329	

Sources: Data Processing

CONCLUSIONS

This study is about the importance of information quality as a strategic factor among organizations in Iraq. The results suggested that organizations should be aware and consider the importance of information quality. This means, the information quality of AIS plays a significant role in enhancing organizational performance. These findings supported Gorla et al., (2010) research findings.

Specifically, accuracy and consistency of information quality play a significant role in enhancing the organizational performance at least in the context of Iraqi's organizations. Finding of this study is useful in helping them prioritize their efforts at meetings the needs and wants of their organizations. Therefore, to be aware on these factors should enable them to survive or remain competitive.

In conclusion, further study such as examining the role of decision-making process as mediator in the relationship between quality of information as strategic factor and organizational performance should be considered. A study to identify why some organizations still have not adapting computerized AIS at least in Iraq should be conducted too. All these suggestions should help organizations in Iraq to enhance their competitiveness in today's business environment.

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