



## A REVIEW ON ACCOUNTING INFORMATION QUALITY IN ERP ENVIRONMENT IN SRI LANKA: AN EXPLORATORY ANALYSIS



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### ABSTRACT

*In today business world, there is a rapid change in dynamic business. The AIS has risen from the simple provision of formal and financial information to encompass a broader range of information. The use of enterprise resource planning (ERP) technology has facilitated the embodiment of these AIS into new vision. Hence, ERP is a software solution that addresses the enterprise needs by taking the process view of the organization to meet organizational goals through tight integration of all functions within the enterprise.*

*The objective of the research is to investigate the impact of Accounting Information Quality (AIQ) in ERP environment in Sri Lanka with a view of developing a conceptual Framework. The impact of AIQ under ERP from Sri Lankan perspective has not studied. Based on the empirical evidence, this study is examining the significant variables that influence on AIQ. The variables identified in this study are External expert support, top management support, Accounting manager knowledge, and ERP system quality, are major drivers that influence on AIQ. The relationships of the variables are examined via reviewing from applicable literature. This conceptual framework which is an extension of study done by reviewing earlier researchers will be a contribution to researches.*

**KEYWORDS:** Accounting information system, Enterprise Resource Planning, Accounting information quality

### 1.INTRODUCTION

Many organizations belong to various industries in Sri Lanka have also adopted ERP systems. The Sri Lankan contexts of the ERP practices are very much similar to the developing countries in the Asian region. Compared to the western world, the adoption rate of the ERP systems in this region is relatively low (Zhang, 2009). Organizations in the developing countries pursue ERP systems for similar reasons like the organizations in the developed countries. Even though ERP systems were mainly initiated by large organizations in the West, today ERP vendors are concentrating more effort on small and middle size enterprise (Rajakpase and Seddon 2003).

Due to the ability of the system to reduce the operational costs of an organization the usage of the ERP systems have been increasing each year. According to SAP Sri Lanka, 38 percent of its customers using ERP were able to reduce cost, improve efficiency and adapt to changing global business needs. The fact is that there are ERP system users with a profit less than Rs. 1 million ([http://www.sap.com/asia/industries/pdf/log\\_CS\\_John\\_Keells\\_Holdings.pdf](http://www.sap.com/asia/industries/pdf/log_CS_John_Keells_Holdings.pdf)). However, ERP implementations in Sri Lanka are mostly done for large and medium scale organizations in the island. ([http://en.wikipedia.org/wiki/List\\_of\\_ERP\\_vendors](http://en.wikipedia.org/wiki/List_of_ERP_vendors)).



Furthermore, In Sri Lanka some large organizations have successfully implemented core financial ERP modules such as financials, assets, and planning and budgeting but organizations that have adopted more than the core financial modules have experienced problems (Rajapakse and Seddon, 2005). Most organizations in Sri Lanka are considering turning into some sort of ERP package as a solution to their information management problems. ERP packages if chosen correctly, implemented judiciously and used efficiently have the ability to raise productivity and profits of companies dramatically. Hence, this study examines literature to discuss the impact of AIQ in ERP environment in Sri Lanka with a view of developing a conceptual Framework.

### **1.1 AIQ in ERP Environment:-**

There are several definitions for Accounting Information System derived from many authors. An AIS is a system that collects, records, stores and processes data to produce information for decision makers (Romney and Steinbart, 2012). Romney and Steinbart (2000) earlier defined that an AIS as “a system that processes data and transactions to provide users with information they need to plan, control and operate their businesses”. Hence, AIS is a system that is used to provide relevant and reliable information for decision making by helping Management in planning and controlling the organization process.

The quality of accounting information is influence by the AIS; this is supported by the result of researches (Ponte & Pilar, 2000; Nicolaou, 2000; Salehi et al., 2010; Sajady et al., 2008). Following are the result of this studies, Sajady et al., (2008) stated that the quality of information is affected by the implementation of AIS. Salehi et al., (2010) stated that the AIS can improve the quality of information. Nicolaou (2000) stated that the effectiveness of the AIS is measured by the satisfaction of the decision makers on the quality of accounting information produced by the AIS. Furthermore, Ponte and Pilar, (2000) revealed that AIS is base of support in producing quality of Accounting information is used in decision making.

Galani et al., (2010) focused to identify the effect of the ERP system on AIS and the practices of accounting process through a survey study contacted on Greek companies, from who use the system. They conclude that ERP system improves the process of accounting function and hence the performance management, accommodate and facilitate the application of accounting practices improving the capability to take appropriate decisions, deducing the operational cost and establishing relationship with suppliers and customers.

Ali Alzoubi (2011) stated that the quality of accounting result and the internal control in a company can be improved by the integration of AIS within the ERP. Furthermore, he concluded that the integration of AIS within the ERP systems would increase the relevance of accounting information and reduce the degree of uncertainty to the decision maker.

### **2.OBJECTIVES OF THE STUDY**

The main purpose of this study is to develop a conceptual framework that examines the influence factor on AIQ in ERP Environment in Sri Lanka. This study is expected to enhance value addition in existing body of knowledge, specially in the significant of Sri Lankan business context. Through this study, the impact of influence variables such as such as External expert support, top management support, Accounting manager knowledge, and ERP system quality, are major drivers that influence on AIQ are to be examined.

### **3.METHODOLOGY**

Exploratory analysis was used in this research paper since it is a new concept and reviews the exiting literatures. Some of the more popular methods of exploratory research include literature searches, depth interviews, focus groups, and case analyses. Literature search is one of the quickest and least costly ways to discover hypotheses is to conduct research. The literature search for this research involved popular press (newspapers, magazines, etc.), trade literature, academic literature, or published statistics from research firms till today on the concept. The researchers have developed the conceptual theory by reviewing number of articles from different sources. During the literature review variables were identified and formulated to find the impact on AIQ.

### **4. LITERATURE REVIEW**

#### **4.1. External Expert supports:-**

The situation is even more crucial within organization because they lack experienced internal accounting and IT expertise and support (Mitchell et al., 2000). External expertise refers to the extent to which external mediating entities such as vendors and consultants provide knowledge, training, maintenance, and other technical support to the adopting organization Sedera et al., (2003). It has to be noted also that sometimes some ERP vendors perform the consulting role as well (Poston and Grabski, 2001). This much is true: vendors and consultants are critically important for ERP initiatives as adopting organizations often do not have the expertise and personnel for implementing such systems (Markus and Tanis, 2000; Davenport, 2000). According to Markus

and Tanis (2000) and Wang and Chen (2006), competent providers of ERP systems (i.e. external expertise) do not only train clients during the systems' implementations, but also possess a wealth of experience used in guiding and nurturing the adopting organization. During ERP initiatives, organizations do not only expect knowledge to be transferred and support provided, they are also keen on having cooperative, trustworthy and credible partners (Markus & Tanis, 2000; Gefen, 2004; Ko et al., 2005; Westrup & Knight, 2007).

Sedera et al., (2003) found that external expertise is strongly related to ERP success, a result that was also affirmed in Wang and Chen (2006). Overall, the impacts of ERP system on the individuals, sub-units, and the entire organization are reported to be positive when quality vendors / consultants having favorable attributes, i.e. credibility, cooperative, etc. are engaged (Gefen & Ridings, 2002; Gefen, 2004; Ko et al., 2005). Conversely, the adopting organization and its member may not be able to obtain the necessary support when a low-quality external expertise is engaged. As a consequence, the benefits from the acquired system may suffer.

#### **4.2. Top management Support:-**

Generally, a broad perspective of organizational support is captured with top managements support. The importance of top management support has remained in academic research. Several studies have continued to find that top management support is vital driver of success across a wide variety of tasks and contexts. Specifically, top management support has been found to affect the success of ERP systems (Ngai, et al., 2008).

Sandesh Sheth, (2010) stated that top management support is the factor that determines the tipping point between potential success and failure when implementing business continuity of system. Ann Mooney et al., (2008) said that the top management support is guidance about the entire project include commitment of necessary resources. The dimension of top management support includes the Authority, participation and commitment (Guinea et al., 2005; Jarvenpa & Lves, 1999; Azizi, 2009). Visible top management support encourages positive user attitudes towards ERP systems (Hirt & Swanson, 2001, Wang & Chen, 2006). Consequently, high levels of top management support may result in higher perceived usefulness of ERP systems and promote their more successful use.

Husein et al., (2005); Jarvenpa and Lves, (1999) stated that quality of AIS is determined by the presence of top management support. Managements' support is critical in implementing AIS (Lertwongsatien, &

Wongpinunwatana, 2003; Senyal & Abdul Rahman, 2003). Management support can be in the form of a commitment to align corporate goal and strategies, (Jarvenpa and Lves, 1999). It is also be in the form of participation supporting the users in building a positive attitude towards the effectiveness of information system. While the management authority is to ensure the adequacy of resources in the implementation of AIS (Guinea et al., 2005).

#### **4.3. ERP System Quality:-**

System Quality focuses on the performance characteristics of the system under study by researching resource and investment utilization, reliability of devices or products, response times of employees, a device's ease of use, human factors, design controls and system accuracy.

System quality is concern with user interface, ease of use, usefulness, performance, and quality of documents (Seddon 1997). If a system is not easy to use such as slower response time, incorrectness and incompleteness system output, and system crash, it has detrimental effect the usage attitude of the users. In other words, if the system quality is good, it is more likely that the users would like to use it. For example, users spent much time on system and got nothing, they will feel more distress. A system with high system quality can lead to individual and organizational benefit (Seddon, 1997). Wixon and Watson (2001) proposed a system with flexibility and integration can lead to perceived net. In other words, if the system quality is good, it is more likely to have benefits to firms benefit. System quality is used to measure the information processing system itself. It focuses on system integration, flexibility, reliability, and response time (Delone and Mclean 1992, 2003).

#### **4.4. Accounting Manager Knowledge:-**

Accounting manager's knowledge on AIS indicates the knowledge of word processing, spreadsheet, database, accounting, email, internet and computer application programmes (Azizi, 2009). Ang et al., (2001) stated that accounting manager's knowledge include the experience and specialized knowledge on information system and information technology. Furthermore they stated that the knowledge of managers are viewed from the background, experience, their awareness of information system and information technology, their recognition on the potential of information system and the ability to plan strategies through information system. Based on the some opinions, the dimension consists of knowledge and experience (Jarvepa & Lves, 1991; Boynton et al., 1994; Ang et al., 2001). High quality information system cannot be developed

without adequate knowledge of managers, (McLeod & Schell, 2007; Salehi & Abdipour, 2011). Laudon and Laudon(2005) state that there is a significant relationship between knowledge of manager and implementation of AIS. Azizi (2009) stated that managers have better understanding about the information needs for their company, and with this knowledge, they can determine that the appropriate AIS for the company. Furthermore, it is stated that the knowledge of manager on the information system is very important because with the knowledge they have will endeavor to make the company be survive and prosper (Laudon and Laudon , 2005). Knowledge of manager includes knowledge of financial accounting, word processing, spreadsheet, database, accounting, email, internet, and computer application programs. These will enhance the effectiveness of AIS. More especially it is said that knowledge of managers to the sophisticated software will contribute to the AIS (Azizi, 2007).

#### **4.5. Accounting Information Quality:-**

The criteria or quality information according to McLeod (2007) are information which is accurate, timely, relevant and complete. Quality information is the criteria of accounting information that is beneficial when making decision. Therefore, if the characteristics or criteria of AIQ are not fulfilled, the accounting information will be useless (Kieso et al., 2007). No quality accounting information without quality of AIS (Sacer et al., 2006).

Information quality is generated by the quality of accounting system (Laudon and Laudon, 2005) and the quality of accounting information is used by users plan, control and operate the business (Salehi et al., 2010). In all its activities the company requires a reliable information system (Keiso, 2007). With the implementation of the quality of AIS will produce the quality of accounting information which is also used by the user in making decision (Laudon and Laudon, 2007).

High quality of information system cannot be developed without adequate knowledge of managers,(McLeod and Schell, 2007; Salehi and Abdipour,2011). (Laudon and Laudon, 2005) stated that there is significant relationship between knowledge of managers and implementation of AIS. Azizi(2009) stated that managers have better understanding about the information needs for their company , and with this knowledge, they can determine the appropriate AIS for the company.

Information quality is multi dimensional. This means that organization must use multiple measures to evaluate the quality of their information (Al-Hakim, 2007;

Shipper & Vincent, 2003).The dimension of the quality of information consisting of accuracy, completeness, consistency and timeliness (Xu et al., 2003). Al-Hakim (2007) stated that the dimension of the quality of information based on the results of several studies such as accessibility, accuracy, amount of information, coherency compatibility, completeness of representation, easy of manipulation, easy of understanding, free of error, interpretability, objectivity, relevancy, reputation, security and timeliness. Quality of information is information that is relevant, current, complete and reliable, and stored in such a way that easily traced by the management if necessary (Sondang and Siagian. 2009).McLeod and Schell, (2007) examined that qualified information is information that has the dimension of accurate, relevance, timely and complete. According to Boritz (2005), accuracy refers to the information corresponds to the reality and neutrality. Completeness refers to information that conveys the full dimensionality of the user requirements. Timeliness refers to information that represent in the real-time and current status that significant for the effective of managerial decision making. Validity is defined as information that availability for the authority granted users.

## **5.EMPIRICAL EVIDENCE BETWEEN THE VARIABLES**

### **5.1. Relationship between External Expertise supports and the Accounting information Quality-**

External expertise refers to external mediators' entities, such as the ERP vendors and IT consultants who provide the knowledge, training, maintenance and other technical support for companies that have implemented ERP systems (Ifinedo, 2008). Wang and Chen (2006) argued that these consultants are actively involved in the stages of ERP system implementation by transferring a large amount of information and translating the organizational requirements into the system configuration. Ismail and King (2007) that found that IT advances, extent of external and internal consultancy have an impact on IS cooperation. The presence of governmental AIS specialized agencies (Auditing firms' consultancy) that are able to offer consultancy to firms may have a desirable impact on their performance (Nabizadeh and Omrani (2014). Ifinedo (2008) confirmed that the quality of external expertise influences the quality of the information generated by the information system. Particularly in the context of AISs, the advice of external experts could provide high-quality information and result in an effective accounting information system (Ismail, 2009).



## 5.2. Relationship between Top Management Support and Accounting Information Quality:-

Generally, a broad perspective of organizational support is captured with top managements support. The most important behaviors that top managements perform in relationship to strongly support financial statements quality through accounting information system (AIS). Specifically, top management support has been found to affect the success of ERP systems (Ngai et al., 2008). Despite such strong evidence that top management support is a key to the success of information technology.

Top management support is the involvement of management in implementing information system and developing strategies for information system to be implemented. Sandesh Sheth, (2010) stated that top management support is the factor that determines the tipping point between potential success and failure when developing and implementing business continuity of the management projects and system. Mooney et al., (2008) stated that the top management support is guidance about the entire project includes the commitment of necessary resources and political support to the project. The dimension of management support includes the authority, participation, and commitment (Guinea et al., 2005; Jarvenpaa & Lves, 1999; Azizi, 2009).

Therefore, Top management support generates positive work attitudes as consistently mentioned in the accounting literature. With regarding to the top management will create the atmosphere to offer the capital, manpower, infrastructure, knowledge training, trust, and hope to achieve the accounting information system (AIS) on the accounting information quality production (Masquefa, 2008; Young and Jordan, 2008).

One of the significant factors of management success in achieving organization goals is having of AIS, and the users of the AISs have a great role in the effectiveness of the systems.

Xu (2003) showed that top management commitment is the most important factor among 25 factors in determining the quality of accounting information. In this sense, if a company aspires to have good accounting information, it is necessary for managers to have the initiative to ensure that quality.

Ismail and King (2007) showed that poor understanding of accounting information by managers deprives companies of an AIS that is able to align the information requirements with its technical capacity. In turn, Al-Eqab and Ismail (2011) confirmed the hypothesis that top management commitment has a significant effect

on AIQ. They argued that this commitment is crucial to the success of the AIS. An executive with great knowledge of information technology is more able to understand the design of the AIS.

## 5.3. Relationship between ERP System Quality and Accounting Information Quality:-

Guvence (2005) defined system quality as the technical characteristics of the information system. DeLone and McLean's (1992) IS success model to identify both critical success factors and success measures. Qualitative case study research methodology was used to collect data and they measured that the ERP system quality consists of its flexibility, ease of use, reliability, short response time and useful specific functions.

Another study in an emerging economy (Estonia) and a developed economy (Finland) was carried out by Ifinedo and Nahar (2006) on Quality, Impact and Success of ERP Systems. They found that the views of ERP success in an emerging economy (Estonia) and a developed economy (Finland) were similar, and the perception of the qualities and impacts of ERP were not unique to the region, rather they are comparable to those reported in the literature. In that regard, the informational quality of ERP was the highest rated (order of importance) dimension of success for firms. Furthermore, Ifinedo and Nahar (2007) studied on ERP systems success: they concluded that no significant statistical differences exist between the two groups with the exception of one dimension of ERP success, i.e. vendor /consultant quality and they presented the characteristics of flexibility, ease of use, ease of learning and integration to define the quality of the ERP system.

Gorla et al., (2010) did a study on Organizational impact of system quality, information quality, and service quality. They hypothesized a positive relationship between system quality and information quality. The results show that IS service quality is the most influential variable in this model (followed by information quality and system quality). They concluded IS successes through the system quality-to-information quality (Torn, 1990). Furthermore, a system that is flexible can be modified easily and quickly, thus meeting changed user information needs quickly and efficiently, which leads to relevant and up-to-date information outputs to users, implying high information quality. The above arguments support the premise that high flexibility of system quality (i.e., maintainability, useful features of system) leads to high information content (i.e., useful and relevant information).

A well-integrated system provides complete and accurate information so that its information outputs will be useful for users' daily jobs and relevant for decision making purposes. The above arguments imply that high system sophistication (i.e., modern technology, user-friendly, well integrated) leads to high information format (i.e., easy-to-understand and consistent outputs) and high information content (i.e., complete, accurate, relevant to decision making).

### **5.3. Relationship between Accounting Manager Knowledge and Accounting Information Quality:-**

Accounting managers' knowledge on AIS indicates the knowledge of word processing, spreadsheet, database, accounting, e-mail, internet and computer application programs (Azizi, 2009). Jarvenpa and Lves (1991) state that managers who have relevant skills and knowledge tend to be more productive, proactive and participative to information system and information technology, and they also have positive views on information system and information technology. Based on the some opinions, the dimension of this study consists of knowledge and experience (Jarvepa and Lves, 1991; Boynton et al., 1994; Ang et al., 2001).

Aukkaradej (2011) studied on the role AIS knowledge on audit effectiveness. The objective of this study was to investigate advance understanding of the relationships between Accounting Information System Knowledge on Audit Effectiveness. They hypothesized the relationship and estimate factors affecting the Audit Effectiveness. The results show the AIS Knowledge has positive relationships with Audit Effectiveness.

(Yang and Guan (2004) defined Accounting Information System Knowledge refers to skill or expertise and knowledge about understand and analyze the concentration of controls in an electronic environment; understand information systems and understand the use of computer in software. It includes information technology based resources deployment as knowledge assets and physical information technology infrastructure.

Ratna(2012) has found that accounting manager' knowledge and top management support significantly influence to accounting information systems by setting the objective to determine the effect of accounting information system to the quality of accounting information. And also it was concluded that the quality of accounting information systems has an impact on the quality of accounting information as well.

## **6. CONCLUSION**

This paper discusses previous researches which are related to the factors that influence on AIQ in ERP environment. The internal validity in previous researches suggested that there are different methods of analysis and measurement of variables related to AIQ. Based on the external validity, it can be concluded that the ERP implementation, especially in developing countries, still an interesting topic to be studied. Several findings in previous researches indicate that there is a research gap that seems to be interesting subject for the future discussion.

Furthermore, future research could examine the direct relationship between External expertise support, Top management support, ERP system Support, Accounting manager knowledge and AIQ in ERP environment. There is an opportunity for researchers to examine the contingency factor to identify the direct affect on AIQ in ERP implementation with performance. Since the AIQ in ERP is new thing to country like Sri Lanka, it is better to study this concept and see the potential of implementing ERP solutions to meet different organizations' needs. Hence, the factor affecting AIQ is still open debated for the future research.

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