An Evaluation of the Impact of AIS on the Accounting Practices implemented in the ERP Environment

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Abstract— The importance of the application of AIS is crucial for any organizations as they face tough competition due to volatile changes in technology. The important issue is whether ERP implementation increases the Accounting Practices (APs), consequently to achieve the goals of firms. Thus, the main purpose of this study was to examine the effect of ERP System Quality (ERPSQ) and Accounting Information Quality (ACIQ) on APs moderated by User Competency (UC) in an ERP environment. The primary data were collected for this study using self-administered structured questionnaire from 217 accounting practitioners of public listed companies in Sri Lanka. Moreover, structural equation modelling techniques (SEM) were used to construct the model and it showed the good model fit with the identified constructs. The study developed the hypothesis based on the conceptual model that there was a significant relationship between ERPSQ and APs and there was a significant relationship between ACIQ and APs. The study revealed that both ERPSQ and ACIQ were significantly influenced on APs in public listed firms in Sri Lanka. Moreover, the ACIQ had mediating effect between ERPSQ and APs. In addition, it was proved that UC provides a moderating effect between AIS and APs. Moreover, The novelty of this paper was the contribution of both theoretically and empirically to the information system success model through AIS in ERP system. Further, it also contributed to ACIQ to APs.

Keyword: ERPSQ, ACIQ, APs and User Competency.

I. INTRODUCTION

Enterprise Resources Planning (ERP) system plays a vital role not only in accounting but also in all operational context of organizational operation. According to Kanellou and Spathis, (2013) ERP system integrated AIS function with itself. Use of the AIS turns into main fragments of the ERP system, and it identified to be unavoidable and maintain its improved performance of the organization (Alzoubi 2011). Moreover, Alzoubi (2011) emphasized that AIS in ERP system proves to improve applications of APs in organizations. AIS is a vital model for business firms. Even public listed companies now have more concentration on implementing suitable AIS. With the global competitive environment, many organizations have realized the significant role of implementing suitable AIS in order to face competition and gain more benefits for the businesses. Thus, AIS is the key legacy system towards implementing an accounting system which is now being increasingly implemented by most organizations in the world. In several previous studies have identified AIS as a key system (Matengu & Swami, 2011; Sacer & Mamic, 2006; Susanto & Meiryani, 2018a, 2018b; Fitrios et al., 2018; Lingga et al., 2019) but very few research studies have highlighted the aim of measuring the effect of AIS on APs. AIS supports in maintaining a strong system, which in turn, enhance to implement new APs (Fuhong, 2012). While it is vital for an organization to maintain a suitable system, there is a need to use new APs that contributes to the success of the organization. For this purpose, they must focus on APs by implementing good AIS.

APs are the process of accounting activities such as collecting, processing and disseminating information for management (Haksansson & Lind 2004). Moreover, APs consist of disciplinary practices such as measuring cost, resource allocation method budget implementation (Quattrone, 2009). According to the Spathis and Constantinides (2004), the accounting module of the ERP system is the heart of the ERP environment. Moreover, they emphasized that the APs are considered to adopt the modern accoutnig techniques in rationalizing the application of ERP system and confirmed that the implementation of ERP system has incorporated with it. It also concerned as growing context for several organizations around the countries. The main reason as to why accounting practice is concerned as the expected effect of the AIS is its evident relationship with accounting system. If an organization satisfies with its accounting system and AIS contributes to the organizational performance (Kwarteng and Aveh 2018), AIS would not only contribute to the APs, but would also contribute to the organizational performance. According to the (Sari, 2015) APs is playing a vital role in applying the new accounting tools, which in turn finally impact organizational performance. Also previous studies indicate that a limited studies have shown the effect of AIS on APs (Daoud & Triki 2013). The limitation here is that these studies have focused legacy of AIS toward measuring AIS, which can be generalized only towards traditional APs.

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They represent gaps in the literature even though the modern AIS in ERP environment can contribute a positive influence on APs when it is actively used by user department (Galani, Graves, Stavropoulos, 2010; Daoud & Triki, 2013). Interestingly, the earlier research studies have largely identified the AIS in

ERP environment from the point of IS but commonly untouched public listed companies. Toward this key gap, this research examines the main determinant of AIS in ERP environment.

Moreover, an additional notable breach in the previous studies is, they considered the AIS and APs have been studied in the developed countries, and gave directions to carry out research in developing countries like Sri Lanka wherein the ERP implementation has recorded rapid growth in the past. Apart from, ERP vendors like SAP, Microsoft, SAGE, there are a huge number of other ERP industries in Sri Lanka. In view of accounting application in listed companies, APs is the key determinant of the success among all organizations. From this viewpoint, it is important to study whether AIS in ERP environment actually influences the APs used in public listed companies. Also, Daoud and Triki (2013) emphasized that the present studies have to be further examined through diversified industries to find the differences and similarities of determinants of AIS in the direction of influencing the APs used. Additionally, the significant body of the literature in this context of AIS has focused on the impact like net benefits, success, performance, etc. However, many research in this context has identified the needs to examining the impact of AIS in ERP environment dimension like ERPSQ and ACIQ (Daoud &Triki, 2013; Delone & Mc Lean 1992,2003).

Also, this study emphasizes the moderating effect of user competency between AIS dimensions and APs used in ERP environment. Nevertheless, there is a limited number of research that have been attempted the moderating role of user competency on AIS which lead organizational performance (Daoud & Triki (2013). Further, the finding was more competency of the user has the ability to support firm performance. In connection with, another objectives of this research is to study the moderating effect of user competency between AIS and APs used. It would be interesting to understand whether the APs used in ERP environment vary by the user competency. Moreover, they have validated AIS from the IS success theory into two main categories such as ERPSQ and ACIQ. Hence the following paragraph explains the dimension of AIS that have been brought from the previous studies.

II. ERPSQ

System quality states the system quality treating the system, that represent the measure of the system of the extent to which the system is include the degree to which the system is systematically suitable. According to Wixon and Watson (2001), an integrated system itself support to bring determined benefits. Similarly, when a system is identified as technically sound, it can provide more benefits to organization. System quality is mainly used to understand the capability of the system processing. This can be measured through the dimension of system flexibility, reliability, response time, and integration (Delone & McLean 1992,

2003). Moreover, Zhang et al. (2005) stated that the ERPSQ consists of characteristics such as reliability, flexibility, short response time, ease of use, useful specific functions. Likewise, Ifinedo and Nahar (2007) developed a comprehensive measurement instrument of ERPSQ such as the characteristics of flexibility, ease of learning, ease of use, and integration.

III. ACIQ

Information quality is the output quality which is produced by the system quality (Delone & McLean (1992). In addition, the information Quality refers the measures of AI which is delivered and used for comprehensive decision support in an organization. Thus, if the ACIQ is not satisfied, the AI would not be used properly in the organization (Kieso et al., 2007). When there is a quality of AIS there would be an ACIQ (Sacer & Mamic, 2006; Susanto & Meiryani, 2018a, 2018b; Fitrios et al., 2018; Lingga et al., 2019). Salehi et al., (2010) stated that the ACIQ is used by many different users for different purposes such as planning, controlling, and operating the business activities. Moreover, an AIS is used to deliver applicable information in real time and additionally, it provides frequent reports as per the requirement and rapid feedback on the application of technology. Delone and Mclean (2003) developed and validated comprehensive instruments to measure the IQ such as accuracy, completeness, relevance, timeliness, and consistency. In other way, Rai et al., (2002) materialized the following as the dimension of IQ: content, format and accuracy. Moreover, Doll et al., (1994) validated the instrument using the following measures as the dimension of information quality such as accuracy, content, ease of use, format, and timeliness. Thus, this study also considered the above measures with the instruments developed and validated by the (Sedera, gable, Chan, 2004). Further, It is considered that the characteristic of AIS in ERP system is combined with accounting application with IS. Therefore, it is important to study the APs with AIS, concerning with ERPSQ as well as ACIQ as indicated in reviewed literature.

IV. APS USED

AP is the way of doing accounting activities such as collecting, processing and disseminating output for the management (Haksansson and Lind, 2004). APs consist of disciplinary practices such as measuring cost, resource allocation method and budget implementation (Quattrone, 2009). APs usages are increased when introducing new APs, and replacing and modifying the existing practices of organizations (Tuanmat and Smith, 2011). Spathis (2006) stated that Enterprises Systems revamp the AIS and APs to attain competitive advantage in demanding environment.

V. USER COMPETENCY

The study is focused with the moderating approach of user competency which interact the AIS and APs used in ERP environment.

This study is considered that user competency is moderating variable that will influence the effect between the AIS characteristic and APs used. The User Competency of AIS is a determinant factor on the AIS success. These users usually engaged with accomplishing various tasks of accounting, finance and implementation of IS. In ERP environment, an accountant must have vital role working with different people since the information is running in an integrated environment. Siraji and Ahamed (2016) stated that User competency of accounting staff in the organizations depends on how well the CFOs are associated with them using their managerial characteristics. Use competency is characteristics of: knowledge consist of formal education (McLeod & Shell, 2007) and having experience (Zikmund et al., 2010; Hertati & Zarkasyi, 2015), and skills consist of an ability to understand the specific assignments (Daft, 2010; Hertati & Zarkasyi, 2015), ability to complete certain assignments (Robbins & Sanghi, 2007, Hertati & Zarkasyi, 2015). Iskandar, (2015) also used these measures to evaluate the user's competence on the characteristic of AIS.

As there is a need to study the effect of AIS on APs, the public listed liability companies have been considered for this study, especially in Sri Lankan public listed liability companies are considered as the major economic growth companies of the Sri Lankan growing economy. Sri Lanka is considered as one of the fastest developing countries after the 30 years civil war which was eradicated in 2009.

The list of public listed companies are updated with 296 companies of 20 different industrial sectors in 2017. All these companies together have amounted the Market Capitalization of Rs. 2,598,242,182,725 in Colombo Stock Exchange (CSE) during April 2017. Moreover, implementing ERP systems in Sri Lanka has rapidly grown in post war period and also it is considered for improving the growth of business activities. There are a considerable number of reputed ERP brands have come across the many business industries in Sri Lanka. Those brands are SAP, IFS, Microsoft (Dynamics AX, Nav), Oracle, Abas, Infor, and Sage. Thus, it is very important to study the APs usage in ERP environment.

The next section explains the conceptual background of AIS and APs used. And also, the following section describes the conceptual framework and hypothesis development. Moreover, the research methodology is also discussed.

VI. CONCEPTUAL BACKGROUND

AIS in ERP system

Dehghanzade et al., (2011) defined AIS is an integrated system which transform the data into useful information such as financial reports that can be used by both parties of internal managers and outside authorities. Similarly, Stair and Reynolds (2006) defined that AIS is a systematic instrument used by internal managers by adding value addition that bring competitive advantages to the organization and also it is considered as management controlling device which bring information about the operation and information of competitive position (Mitchell et al., 2000). In the same vein, Shipper and Vincent, (2003) refer AIS as vital system for providing reports that deliver quality accounting information at all levels of firms to make decisions. The outcomes of AIS implementation can be resulted as profitability generated

through the system, in addition how extensively the system is used by the users and it increases the performance (Mahdi et al., 2010).

The ERP is a highly sophisticated enterprise systems which integrates and capture of all relevant information to ease of use and analyze the information to the effective decision making (Gelinas, Sutton, & Hunton, 2005). It brings organization to operate the business with the expectation of benefits with improved processing, minimizing cost, maintaining customer service, improved data analysis and net profit (Fan & Fang, 2006).

In addition, Daoud and Triki (2013) attempted to find the influence of the AIS on firm performance in ERP environment and concluded that an ERP system has become as the evolution of AIS. Similarly, Spathis and Constantinides, (2004) claimed that the improvement in ERP system is to provide accounting information. Aryani (2013) found that ERP system assists to provide the comparative information in the financial statement of the firm which assists management to evaluate the outcomes of the operation. And also the enterprise solution such as ERP system drives to improve the trustworthiness of AIS. A significant number of studies tried to measure the link concerning ERP and AIS in different contexts (Scapens & Jazayeri, 2003; Nicolaou, 2004; Spathis & Constantinides, 2004; Galani, et al, 2010). In addition, Scapens and Jazayeri, (2003) explored that ERP and techniques used in accounting bring more ways and opportunities to impact the organization. They concluded that the ERP facilitate to bring useful evidence to the managers to increase the role of accountants. Daoud and Triki, (2013) carried out a research on AIS connection with ERP to measure organizational performance and identified AIS as classified into two main dimensions, namely system quality and information quality which were derived from Delone and McLean (1992) IS success Model. Similarly, Galani, et al, (2010) also categorized IS into two main categorized as system quality and information quality. Basically, both have driven the concept from Delone and McLean (1992, 2003). In addition, the above highlighted two main dimensions was emphasized by many researchers; examples (Gable et al., 2003; Saeed & Abdinnour-Helm, 2008). Numerous studies have attempted that Delone and Mclean's model is the best model to measure the information system success. However, they conducted more comprehensive studies on it and resulted considering the information system dimension. The research conceptual framework was drawn mainly considering the dimensions of information systems to bring a complete view of IS success.

Hence, there is a need to study the AIS by relating the information systems studies with the APs in ERP Environment. The AIS is enhanced by the APs used, by ERPSQ, and by the ACIQ in ERP environment. By using the instrument developed by Delone and McLean (2003) IS success theory, two main characteristics of IS were validated by Daoud and Triki (2013) to study the firm performance.

Considering this point, they examined the context of AIS and performance of the organization. And also they validated the relationship between AIS and APs used as an integrated model with contingency factors. The result supported that AIS influence on APs used wherein the other contingency factors was found to have higher influence on AIS. Considering the recent evidence and finding, it is hypothesized that an organization having effective AIS would impact successfully on APs uses in ERP environment.
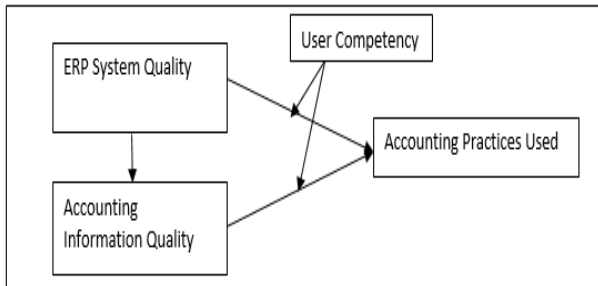

Figure 1: Conceptual model developed by researchers

VII. HYPOTHESIS DEVELOPMENT

ERPSQ and APs

The modern information system plays a vital role of facilities in introducing accounting techniques (Rom and Rohde 2007). Similarly, Granlund (2001) indicated implementation of advanced technology in the organization would practice APs. Similarly, the modern ERP system incorporates the new accounting techniques such as management accounting applications (Booth et al., 2000). Whereas, Rom and Rohde (2007) considered the technical aspect of ERP to use management APs and confirmed that the ERP implementation significantly have effect on APs. Indeed, Booth et al., (2000) confirmed that the accounting module is the important module of an ERP system. To improve the business value through an information system, ERP system provides the access to enhance the business process through incorporating all relevant financial and non-financial functions.

According to the Spathis and Constantinides (2004), ERP implementation introduces a number of accounting techniques: budget, profit center, financial ratios, costing, absorption costing and profitability analysis. In line with this, Galani et al., (2010) stated that ERP has an effect on accounting processes, and the benefits that have achieved the use of APs. Similarly, Daoud and Triki (2013) investigated ERPSQ and APs and found that there is a significant impact of ERPSQ on APs. However, the finding of this study supported by a study conducted by (Granlund 2001; Rom, 2008). The study confirmed that the ERPSQ significantly improve the APs usage. Overall, when the ERP system facilitates to fulfil firm's requirements that can be easy to use the modern APs. Hence, a greater level of information reliability, ease of use, flexibility, and useful specific function are facilitated by ERP systems. Hence, it is proposed:

Hypothesis H1: ERPSQ has an impact on APs

ACIQ and APs

Accounting information is an output of management information that is used as an input in the organizational process (Richard, 2009). In the same vein, Bushman and Smith (2003) suggested that accounting transaction processing is used to produce the accounting information. Several researchers have also done studies to find the impact of ACIQ on performance. Virginia et al., (2007) claimed that the success of the organization has relied on the accounting information from the accounting point of view. Similarly, Bushman and Smith (2003) found that the accounting produces accounting information in organizations. In contrast, Byard et al., (2006) emphasized that the qualified accounting information would bring a quality of accounting information vise-versa. Hence, Wang et al., (2008) claimed that the ACIQ is the determinant to bring the effectiveness the organization. The application and usage of accounting is the process of all accounting transactions. Usually, the accounting process is the main tool for efficient usage of resources, and provides the ability to have decision making in an effective manner (Quattrone, 2009). Similarly, Kanellou and Spathis (2011) stated that an accounting benefit can be derived from the ERP implementation.

The success of the usage of accounting would be the result of APs (Hanpuwadal and Ussahawanitchakit, 2010). Sangster et al., (2009) emphasized that accounting techniques associated with ERP implementation. Gullkvist (2013) confirmed that information quality impact on management APs. Daoud and Triki (2013) claimed that the information quality influences on APs used in ERP environment. Further, Sari (2015) found that APs effectiveness significantly affected by the ACIQ. Hence, it is proposed.

Hypothesis H2: ACIQ has an impact on the APs

ERPSQ and ACIQ

System quality is considered as the technical features of IS. Hence, information quality is the main output of the system quality of a system. In the same vein, ACIQ is playing a vital role through AIS (Sacer & Mamic., 2006; Susanto, 2015). Similarly, Salehi et al., (2010) also claimed that that AIS quality improves the ACIQ.

Previous studies have reported that the AIS has a significant impact on the ACIQ, which can improve the information quality and reliability of reporting (Salehi et al., 2010). Similarly, the results of research Rahayu (2012) showed a significant effect of AIS in the ACIQ (Susanto & Meiryani, 2018a, 2018b; Fitrios et al., 2018; Lingga et al., 2019). According to Ifinedo and Nahar (2006), one of the main success factors of organization is the information quality of enterprise system which is called ERP system. In addition, Gorla et al., (2010) also emphasized that information quality is the consequent impact of system quality. Thus, it is posited:

Hypothesis H3: ERPSQ has an impact on ACIQ

ACIQ mediate ERPSQ and APs

The information system evolution has changed information system for facilitating the accounting information (Rom, 2008). Indeed, Granlund (2001) found that the implementation of advanced technology in accounting would adopt the changes in accounting practices.

In connection with ERP systems, the latest and the additional feature of financial model is considered as the new Accounting Practices (Booth et al., 2000).

Considering the above argument, Corla et al., (2010) confirmed that information system quality influence on information quality and further stated that information quality mediates between system quality and organizational impact. Daud and Triki (2013) also formed a direct relationship between ERPSQ and APs and hypothesized it. Furthermore, Daud and Triki confirmed that there is a positive relationship between ERPSQ and APs. Then it proposed.

Hypothesis H4: ACIQ mediates between ERPSQ and APs

User Competency as moderating effect on ERPSQ and APs used

The User competency level has a different understanding of influence because of the different nature of their skills, knowledge and experience and also they are exposed to the different nature of the job description and their degree of involvement in the organization, which may influence in supporting and committing when implementing ERPSQ. Daoud and Triki (2013) tested the moderating impact of user competency level on APs and performance: the finding showed that ERPSQ influences on APs which in turn effect the firm performance. Therefore, this study insisted that user competency on ERP implementation would strengthen the relationship between the ERPSQ and APs used in ERP environment. Therefore, the following hypothesis is proposed.

Hypothesis H5: User competency moderates the effect of ERPSQ on APs used.

User Competency as moderating effect on ACIQ and APs used

The relationship between ACIQ and APs can be effected by the user competency level. Daoud and Triki (2013) measured the moderating effect of user competency level on APs and performance of the organization: the finding revealed that ACIQ has an influence on APs, which in turn effect the performance of the organization. In addition, it showed that significantly moderating effect on APs improving firm performance. Therefore, this study insisted that user competency on ERP implementation would strengthen the relationship between the ACIQ and APs used in ERP environment. Based on this hypothesis 4 was proposed.

Hypothesis H6: User competency moderates the effect of ACIQ on APs used.

VIII. RESEARCH METHODOLOGY

A questionnaire survey method was conducted by developing a structured questionnaire to validate the conceptual model formulated for this study. Firstly, the items in all constructs were thoroughly reviewed by two subject related academics and received a few comments and corrections. Further, it was given to other three industrial ERP consultants in order to get more comments on the appropriateness of instrument items. As a result of the comments received from both parties, confusing and redundant items were either corrected or removed. Moreover,

in order to test the measurement instrument content validity was tested in this study. There are 30 main items related to the main variables included in the questionnaire which consist of two main sections such as demographic section and the constructs of the dimension of AIS, APs used and user Competency. The five point Likert scale measure starting from strongly disagree to strongly agree was used to measure the items. Initially, 35 accounting practitioners were considered for the pilot test to make sure the reliability of the measure and the reliability of all constructs was significantly shown above the cut -off point.

IX. SAMPLING TECHNIQUES

Accounting practitioners who are working with Public listed companies were selected as mostly these companies are implementing ERP systems. The sampling frame was the all public listed companies in Sri Lanka. The Colombo Stock Exchange (CSE) consists of 295 companies listed as public quoted companies which was used as the sampling frame. A large sample in quantitative studies can improve the significant relationship (Hair et al., 2010; Ayoobkhan & Asirvatham, 2019). Reason for selecting accounting practitioners such as chief accounting officer, accounting manager, accountant, etc. are: they are mainly responsible for accounting operation and using or application of APs, key information proving officers and also involving with ERP implementation in the organization. All companies listed in CSE were identified in this study as a sample population. And also chartered institute of Sri Lanka members' list book 2016 consists of valuable information about the background of the members, such as working place, position, telephone number, fax number and email. According to the Industry experts' reports, approximately 400 ERP implementation is done in Sri Lanka in 2011 (ICRA & Management Consulting Service Ltd, 2011).

X. SAMPLE SIZE

The theoretical sample population was quoted public listed firms which are registered under Colombo stock exchange in Sri Lanka. Currently, 296 companies were listed as 17th April 2017 (Listed Companies). At least 175 (S=300: N=175) organizations can be selected for this study as the sample as the population is 295 public quoted companies in Sri Lanka in the year 2017 (Sekaran & Bougie (2012). A total of 217 respondents was selected out of 296 respondents as only 217 respondents responded to the study.

XI. DATA ANALYSIS AND FINDINGS

Considering the experiences of the respondents; Three (16.6%) respondents had the experience below 3 years, eighty two (37.8%) had the experience between 3 and 6, fifty eight (27.6%) had experienced between 6 and 9 years, twenty five (11.5% had experienced between 9 and 12 years. The rest of the respondents had experienced more than twelve years.

Moreover, the respondents have included their position in the organization and the details of the respondents: 33 financial manager (15.2%), 51 finical accountants (23.5%), 54 chief accountant (24.9%) and the rest 79 accountants (36.4%) were recorded. Table1 indicates the demographic characteristic of the respondents.

Table 1: Demographic characteristic of the respondents

Demographic categories	Frequency	Percentage
Experience in ERP System		
Below 3 years	36	16.6
3-6 years	82	37.8
6-9 years	58	27.6
9-12 years	25	11.5
Above 12 years	16	7.4
Total	217	100
Position in current organization	**Frequency**	**Percentage**
Financial manager	33	15.2
Financial Accountant	51	23.5
Chief Accountant	54	24.9
Accountant	79	36.4
Total	217	100.0

Organization used the new APs in their organization after the implementation of ERP environment. The respondents have included the following practices in ERP environment: 94 responses for absorption costing (43.3%), 93 responses for target costing (42.9%), 83 responses for marginal costing (38.2%), 50 responses for activity costing (23%), 138 responses for cost center based calculation (63.8%), 178 responses for profit center based calculation (82%), 178 responses for profitability analysis based on the per customer (82%), 102 responses for production master budget , and the rest of the APs from all respondents (217) were recoded for Profitability Analysis per Product, Per Business, cash Budget , financial ration analysis , non -financial indicators and internal auditors. Table 2 shows the APs used in ERP environment.

Table 2: APs Used in ERP Environment

APs	Frequency	Percent
Absorption Costing	94	43.3
Target Costing	93	42.9
Marginal Costing	83	38.2
Activity Costing	50	23
Cost Center	138	63.8
Profit Center	178	82
Profitability Analysis per Product, Per Business	217	100
Profitability Analysis per customer	178	82
Production Master Budget	102	47
Cash budget	217	100
Financial Ratio Analysis	217	100
Non-Financial indicator	217	100
Internal Audit	217	100

The data screening was done before conducting Exploratory Factor Analysis (EFA) and then Confirmatory Factor Analysis (CFA) was used to test the model. Three missing data from the data set were removed for further analysis. Then EFA was conducted to test the discriminant and convergent validity and to support CFA to bring good fit of a model. Initially, discriminant validity for each construct were tested and there were four items identified as it was less than the standard level (0.30 to. 90). Such items were ERP7 from ERPSQ, ACIQ4 and ACIQ11 from ACIQ and AP6 from APs. Further, in order to check the adequacy of the data, Kaiser-Meyer-Olkin (KMO) was used. When the KMO value is greater than0.6, it is considered as satisfied level of the data adequacy. Therefore, the KMO value for ERPSQ, ACIQ, and APs were tested and found that 0.930, 0.945, and 0.913 respectively. Further, Barlett's test of sphercity was tested for each construct, which all were at a satisfactory level (p<0.01). Moreover, principal component analysis was done with varimix rotation to extract factors. And then factor loading was tested and all the value was greater than 0.5 (Hair et al., 2010). Items ERP7, ACIQ4, and AP7 were dropped using the result extracted from factor loading and the inter item correlation was adequate to the respective remaining items.

Moreover, the Cronbach's alpha coefficient was used to test the reliability of all constructs. Cronbach's alpha coefficient value for each construct: ERPSQ, ACIQ, APs are 0.927, 0.924, 0.905 respectively. Each constructs found Cronbach's alpha coefficient results which was greater than the cutoff criterion of 0.7 as validated by (Hair et al., 2010; Parker, 2009) and then, which assured the consistency being met for each constructs.

The CFA was used to assess unidiamensionality and used to measure the developed hypothesis. In this study, CFA was tested using AMOS 23 version. Reliability and validity test were tested along with the model fit indices in this study. Furthermore, convergent and discriminant validity were used to assess the construct validity, and assured its satisfied level. The Convergent validity explains that to what extend measure of variable are correlated (Hair et al., 2010; Irshad & Gapar, 2015; Raisal et al., 2018). The discriminant validity explains to what extend similar construct are different (Hair et al., 2010). The discriminant validity also was tested and the Average Variance Extracted (AVE) of each construct was tested. According to the test, the standardized factor loading of all construct considered and were greater than 0.5 and also the AVE value was greater than 0.5. This shows that there is a good convergent validity of the used constructs. Furthermore, the discriminant validity of the model were higher than the squared correlated construct of the respective constructs.

After testing of reliability and validity of each construct were assured the satisfactory level, the model fit indices of each construct were tested. When the poor model of each measurement model was exist, the initial model was retested for a good model fit. In order to get a good model fit in measurement model, large values identified modification indices were coupled together.

Lastly, the final measurement model for each construct were determined. As validated by Hair et al., (2010), to test the goodness of fit, the following criteria or indices were considered as the basic criterions: CMIN/ df <3; RMR<0.10; AGFI>.90; CFI>0.9; RMSEA<0.08; p –value > 0.05.

Table 3 Factor Loading of Measurement Model

Construct	CMIN/df	RMR	GFI	TLI	CFI	RMSEA	Factor Loading	Composite Alpha
ERPSQ	1.510	0.017	0.952	.0.986	0.990	0.049		0.927
ERP1							0.766	
ERP2							0.866	
ERP3							0.854	
ERP4							0.835	
ERP5							0.813	
ERP6							0.801	
ERP8							0.603	
ERP9							0.709	
ERP10							0.709	
ACIQ	2.059	0.023	0.939	0.969	0.977	0.070		0.924
ACIQ1							0.753	
ACIQ2							0.833	
ACIQ3							0.749	
ACIQ5							0.807	
ACIQ6							0.746	
ACIQ7							0.83	
ACIQ8							0.81	
ACIQ9							0.829	
ACIQ10							0.749	
ACIQ12							0.744	
APs	1.551	0.018	0.976	0.987	0.992	0.051		0.905
AP1							0.845	
AP2							0.809	
AP3							0.781	
AP4							0.733	
AP5							0.753	
AP7							0.774	
AP8							0.731	

Source: AMOS result

The table 3 shows the confirmation of the measurement model as a good model fitness among the constructs according to the indices applied to test the fitness. The following indices were tested to find the model fit: CMIN/DF, PMR, GFI, CFI and RMSEA. Hence, the final measurement model shows a good fit. Additionally, the factor loading extracted was adequately supported for further analysis of SEM. Moreover, the significant value for the entire factor loading was significant at 0.001. Further, it is mentioned that the convergent validity were adequately perfected. Further, the composite reliability (CR) were reached the required cut off value from each constructs. It is noted that all items in each constructs were significantly loaded to find good fitness of model.

After testing the reliability and validity of each constructs of the conceptual model, the identified fit indices of final measurement model were tested in order to determine the best model. The selected five error covariance which was noted with large modification indices were connected within their respective individual constructs in order to bring good model fit. The final measurement model showed the good fit after refinement of the initial measurement model. The refined model showed the good model fit and its indices as follows: CMIN/df <3 (1.902), RMS< 0.10 (0.039), GFI <

0.90 (0.841), TLI >0.90(0.930), CFI>0.90 (0.936) and RMSEA<0.080(0.065). There were all indices were considered as appropriate, except GFI as it was less than the cutoff value. It is shown in figure 2.
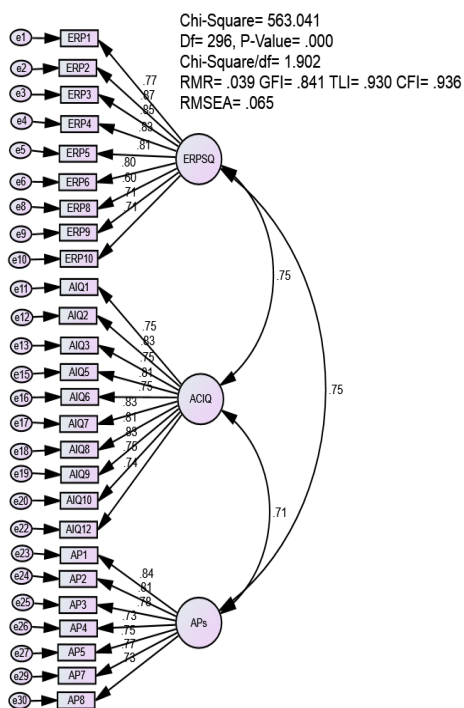
Figure 2: Final Measurement Model

The AVE (>0.5) and CR(>0.6) from the refined final measurement model were calculated and found satisfied respectively according to the Table 4. These test were considered as reliable measures for the each constructs. As per the validation by Hair et al., *(*2010), discriminant validity satisfy if the AVE value meet greater than 0.5 and the CR value is greater than the AVE.

Table 4: AVE and CR Values for the Final Measurement Model

Variables	AVE	CR
ERPSQ	0.604	0.931
ACIQ	0.618	0.942
APs	0.602	0.914

Moreover, Table 5 demonstrates the AVE as greater than all the corresponding constructs (ERP, ACIQ, and ACP) correlations (r^2), which is additional evidence of discriminant validity of the constructs (Fornell & Larcker, 1981; Chinna, 2013).

Table 5: Discriminant validity of the final measurement model

	ERPSQ	ACIQ	APs
ERPSQ	0.604		
ACIQ	0.057	0.618	
APs	0.570	0.510	0.602

XII. STRUCTURAL EQUATION MODEL

A SEM model was used to develop relationship of constructs which was formed through conceptual model. Further, the SEM found the respective indices for the goodness of the model: final Chi- CMIN/df=1.902, RMR=0.039, GFI=0.841, TLI=0 .930, CFI=0.936, and RMSEA= 0.065. All indices adequately fit with model except GFI which is also closer to 0.9. Moreover, this explained that all items in the constructs bring the support to find good model (As per the Figure 3).

Moreover, Hypothesizes formulated to find the relationship between AIS and APs used. AIS in ERP environment was identified as exogenous variable and APs was identified as an endogenous variable. The relationships between the variables were measured by standardized regression weight in term of path coefficients (Beta weights). All three hypothesis were determined significantly supported. The path from APs (β= 0.501, t=5.886, p<0.01), ACIQ to APs used (β = 0.337, t=4.016, p<0.01), and ERPSQ to ACIQ (β = 0.753, t= 10.178, p<0.01). Therefore, hypotheses H1, H2 and H3 were supported. Thus, it can be found that AIS in ERP significantly effect the APs used in ERP environment.
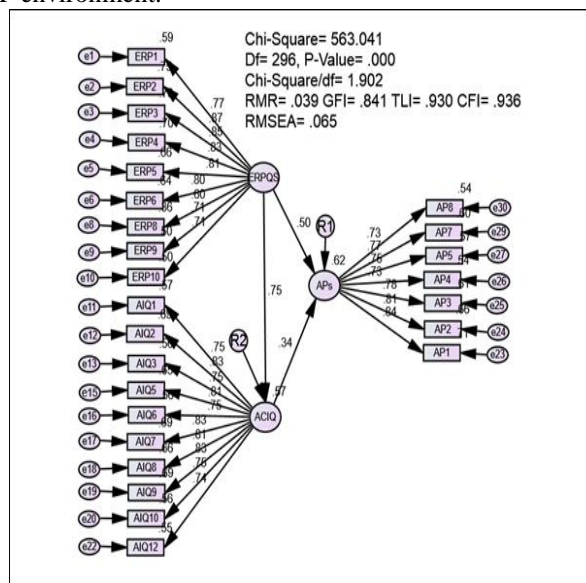

Figure3: Structural Equation Model

Moreover, the mediating effect of ACIQ between ERPSQ and APs, the final SEM model was already tested and resulted that the path between ERPSQ and APs and further, ACIQ and APs have a significant positive association. Hence, it is a need to test the partial mediate effects of ACIQ between ERPSQ and APs used.

As the standardized regresion coefficient of the path relationship between ERPSQ and APs is significantly associate at 0.001 levels and the standardized regression coefficient of the path direct relationship between ACIQ and APs used significantly associates at 0.000. Hence, mediating effect of ACIQ between ERPSQ and APs was tested. The unstandardized regression indirect effect shows the indirect mediated effect is 0.259 (Table 6) between ERPSQ and APs through ACIQ.

Table 6: Unstandardized indirect effect

	ERPSQ	ACIQ	APs
ACIQ	.000	.000	.000
ACP	.259	.000	.000

Table 7: Indirect Effects Analysis Using 1000 Bootstrap

	95% Lower Bound	95% Upper Bound	P-value
	ERPSQ ACIQ APs	ERPSQ ACIQ APs	ERPSQ ACIQ APS
ACP	.000 .000 .000	.000 .000 .000	… …
PER	.121 .000 .000	.455 .000 .000	…. .002 …. ….

The 95% confidence interval for the indirect effect of ACIQ on APs used is (lower bound= 0.121, upper bound = 0.455) (table 7). The value of 0 does not fall within this interval. Hence, ACIQ is a partial mediator to APs used. Hypothesis H4: "ACIQ Mediates the relationship between ERPSQ and APs used" is supported by the data.

Table 8: Moderating Effect

Model	NPAR	CMIN	DF	P	CMIN/DF
Unconstrained	165	1764.229	888	.000	1.987
Measurement weights	119	1822.965	934	.000	1.952
Structural weights	113	1850.911	940	.000	1.969
Structural covariances	111	1858.760	942	.000	1.973
Structural residuals	107	1864.140	946	.000	1.971
Measurement residuals	55	1918.978	998	.000	1.923
Saturated model	1053	.000	0		
Independence model	78	5226.792	975	.000	5.361

Based on the moderation effect table 8 above, it stated that the relative chi-square for unconstrained was lower than the measured measurement residuals. The unconstrained relative chi-squared was at 1764.229 and measurement residuals chi-squared was at 1918.978. Hence, the output showed that there was a moderating effect of user competency between ERPSQ, ACIQ, and APs used.

Table 9: Assuming model Unconstrained to be correct

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Measurement weights	46	58.735	.099	.011	.014	-.007	-.008
Structural weights	52	86.682	.002	.017	.020	-.003	-.004
Structural covariances	54	94.531	.001	.018	.022	-.003	-.003
Structural residuals	58	99.910	.001	.019	.023	-.003	-.004
Measurement residuals	110	154.748	.003	.030	.036	-.012	-.015

The table 9 showed that the measurement residuals indicated as significant p value (0.003) at 0.05. It indicated that there was a significant moderating effect of user competency between ERPSQ, ACIQ, and APs used. The below table 10, 11, and 12 indicated that the moderating effect of user competency level was explained towards the ERPSQ, ACIQ, and APs used.

Table 10: Low Competency

			Estimate	S.E.	C.R.	P
ACIQ	<---	ERPSQ	1.135	.220	5.160	***
APs	<---	ERPSQ	-.096	.565	-.171	.865
APs	<---	ACIQ	.822	.504	1.630	.103

The table 10 indicated that the moderating effect of user competency for less competency towards ERPSQ and ACIQ and for APs used in ERP environment. According to the above table, user competency only acts as moderator for ERPSQ and ACIQ with an estimate value of 1.135 and p value 0.000 (p=. 000).

Table 11: Intermediate Competency

			Estimate	S.E.	C.R.	P
ACIQ	<---	ERPSQ	.860	.153	5.631	***
APs	<---	ERPSQ	.202	.152	1.327	.185
APs	<---	ACIQ	.717	.184	3.896	***

The table 11indicated that the moderating effect of user competency for moderate competency towards ERPSQ and ACIQ and for APs used in ERP environment. According to the above table, user competency only acts as moderator for ERPSQ and ACIQ with an estimate value of.860 and p value 0.000 (p=. 000) and for ACIQ and APs used to estimate value of.717 and p value 0.000 (p=. 000).

Table 12: High Competency

			Estimate	S.E.	C.R.	P
ACIQ	<---	ERPSQ	.434	.078	5.567	***
APs	<---	ERPSQ	.563	.111	5.077	***
APs	<---	ACIQ	.285	.136	2.089	.037

The table 12 indicated that the moderating effect of user competency for higher competency towards ERPSQ and ACIQ and for APs used in ERP environment. According to the above table, user competency act as moderator for all path such as: ERPSQ and ACIQ with estimate value of .434 and p value 0.000(p=.000), ERPSQ and APs used with estimates value of .563 and p value 0.000(p=.000), and for ACIQ and APs used to estimates value of .285 and p value 0.037 (p=.05).
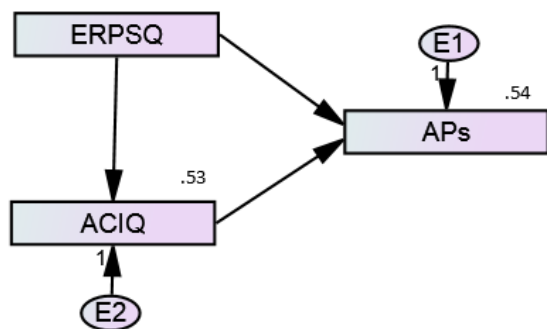
Figure 4: Parsimonious Model

XIII. DISCUSSION

In this study, there are relationships among ERPSQ, ACIQ and APs used based on the evidence that the variables in the APs used can be explained through the variance in ERPSQ and ACIQ. It is found that ACIQ is the main determinant of mediating factor between ERPSQ and APs used. Then the hypothesized conceptual model is statistically validated through the data collected via questionnaires. This research mainly contributes to the existing knowledge of literature especially on APs. Initially, this research shows the relationships among ERPSQ, ACIQ and APs using comprehensive instruments. Moreover, this contributes to the APs by supporting ACIQ as a mediating factor between ERPSQ and APs in ERP environment. The central question in this study was to study whether the ERPSQ and ACIQ impact the APs. The finding indicates that there is a direct and indirect impact of ERPSQ and ACIQ on APs. ERPSQ has direct and positive significant relationship with APs used; hence Hypothesis H1 is supported, in line with the finding of (Booth et al., 2000; Granlund & Malmi, 2002; Galani et al., 2010; Kanellou & Spathis, 2011, Daoud & Triki, 2013) and also ERPSQ has a direct and significant effect with ACIQ; hence, Hypothesis H3 is supported. Finally, the ACIQ has a direct and positive significant effect with APs; hence, Hypothesis H2 is supported. This finding is consistent with (Daoud & Triki, 2013; Granlund, 2001; Rom, 2008). Moreover, ACIQ has a mediating effect between ERPSQ and APs used; hence the hypothesis H4 is supported in accordance with (Daoud & Triki, 2013). In addition to the above results, Moderating effect was tested using user competency of accounting staff who use ERP system for the financial application in an organization. Having a sound competency level in ERP environment does guarantee employees can perform their task effectively in applying APs in the same environment. This study highlighted the competency requirement in ERP environment. The finding in this study emphasized that user competency does act as a moderator in order to measure APs usage. The individual competency will act as a stimulator to align with the repaid changes of enterprise technologies , organizational culture and management practices.

XIV. CONCLUSION

This research paper found that there is an impact of an AIS on APs used in ERP environment. The finding of the ERPSQ provided with flexible, reporting and efficiency in operational level and strategic planning is expected higher level in the integrated system environment. The ERPSQ provides significant improvement in ACIQ and results that are consistent with the finding of Daoud & Triki, 2013; Booth, Matolcsy, & Wieder 2000). Moreover, the ACIQ has a significant impact on the APs used. And also the finding indicates that ERPSQ has both significant direct and indirect impacts on accounting practiced used. This indicates that both the quality of ERP system and ACIQ are realizing the benefits of APs used in the integrated ERP environment. Moreover, the ERP system implementation induces the usage of APs. However, the finding of the current study support the previous finding of Sangster et al., (2009) under successful implementation. Hence, these APs used are effected by both ACIQ quality produced by the ERPSQ and as a whole by AIS.

Moreover, this study indicates that in an advanced enterprise system, ERP system provide room to use the APs such as new APs, costing, budgeting, other management APs as well as financial management. An organization must have strong concern to increase their use of APs. And Organizations can consider the effective usage of APs when they have competent staff by taking necessary measures to improve their skills through continuous training on the ERP environment.

This study not only contributes to the theoretical knowledge and but also to the practical background of the area of the research. Based on the theoretical ground, this study emphasis to explain APs through AIS. However, limited numbers of studies have highlighted the study of AISs in the ERP environment. Further, the contributions of this study are revealed through the study of APs as an outcome of the AIS to the IS success model of (Delone & McLean 1992). Moreover, this study contributes by analyzing a moderating effect of user competency of ERP system. At this level, this study found the joint effect of user competency on AIS.

In addition, this research extend our knowledge finding to the knowledge of accounting literature in many area. It found that improved ERPSQ and ACIQ enhances both accounting effectively and effectiveness. Further, this finding provides additional evidence with respect of importance when introducing and refining APs in an organization. Moreover, considering the drivers of APs in ERP environment, it is very important for accounting professionals, to the organization and also to the future researchers as the theme of research focus in APs is still rather limited. Finally, an enhanced knowledge of the impact of AIS in ERP on APs is emerging importance among accounting professionals.

Despite many contributions of this study, there are few limitations highlighted as follows. The sample size is limited to 217 public limited companies which use ERP system. Larger sample size can be taken to improve generalizability of the findings. Taking considered of these limitations, there is a direction for future research; future study can consider other private companies too in this same context. And also, the impact of APs used before and after the implementation of the ERP system.

REFERENCES

1. Alzoubi, A. (2011). The effectiveness of the AIS under the enterprise resources planning (ERP). Research Journal of Finance and Accounting, 2(11), 10-19.
2. Appleton, E. (1997).How to Survive ERP Datamation, Vol. 3, No. 3, pp. 50-53,
3. Aryani, Y. A. (2013). Enterprise Resource Planning Implementation and ACIQ. In International Conference on Accounting and Finance (AT). Proceedings (p. 66). Global Science and Technology Forum.
4. Ayoobkhan,A.L.M & Asirvatham,D. (2019). A Study on the Adoption of Software as a Service (SaaS) in Online Business SMEs in Sri Lanka. Asian Journal of Research in Computer Science 2 (2), 1-13.
5. Booth, P., Matolcy, Z., & Wieder, B. (2000). The impacts of enterprise resource planning systems on accounting practice: the Australian experience. Australian Accounting Review, vol. 10, n. 3: 4–18.
6. Bushman, R.M. & Smith A.J. (2003).Transparency, Financial Accounting Information, And Corporate Governance. Economic Policy Review, Federal Reserve Bank of New York, 9:1, pp.65-87
7. Byard, D., Li, Y., & Weintrop, J. (2006). Corporate governance and the quality of financial analysts' information. Journal of Accounting and Public Policy, 25(5), 609-625.
8. Chinna, K. (2013). Structural equation modeling using AMOS. MONASH University, Sunway.
9. Daft, R. L. (2010). The Executive and the Elephant: A Leader's Guide for Achieving Inner Excellence. John Wiley & Sons.
10. Dehghanzade, H., Moradi, M.A., & Raghib, M. (2011). A survey of human factors' impacts on the effectiveness of AISs. International Journal of Business Administration, 2(4), 166-174.
11. Daoud, H., & Triki, M. (2013). AISs in an ERP environment and Tunisian Firm Performance. The International Journal of Digital Accounting Research, Vol. 13, pp. 1 – 35
12. Davenport, T. (1999). Living with ERP. CIO Magazine, Vol. 12, No. 5, ((1998), pp. 30,32.
13. DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. Information Systems Research, 3(1), 60-95.
14. Delone, W. H., & McLean, E. R. (2003). The Delone and McLean model of information systems success: a ten-year update. Journal of Management Information Systems, 19(4), 9-30.
15. Doll, M.J., Xia, W., & Torkzadeh, G., (1994). A confirmatory factor analysis of the end-user computing satisfaction instrument. MIS Quarterly 18, 453–461.
16. Fan, J. C., & Fang, K. (2006). ERP Implementation and information systems success: a test of DeLone and McLean's model. PICMET. Portland International Center for Management of Engineering and Technology, Proceedings, 9-13.
17. Fitrios, R., Susanto, A., Soemantri, R., & Suharman, H.(2018). The influence of environmental uncertainty on the AIS quality and its impact on the ACIQ. Journal of Theoretical and Applied Information Technology, 96 (21), pp. 7164-7175.
18. Fornell, C. G., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50
19. Fuhong, Y.(2012).Research on the Impact of Accounting Information on Accounting Theory and Practice, International Conference on Convergence Information Technology Lecture Notes in Information Technology, Vol.19
20. Galani, D., Gravas, E., & Stavropoulos, A. (2010). The impact of ERP systems on accounting processes. World Academy of Science, Engineering and Technology. International Journal of Social, Behavioral, Educational, Economic and Management Engineering, 4(6), 418-423.
21. Gelinas, U., Sutton, S., & Hunton, J. (2005). Acquiring. Developing and Implementing AIS, 6th Ed.: Thomson South-Western Education College, Cincinnati.
22. Granlund, M. (2001). Towards explaining stability in and around management accounting systems. Management Accounting Research, vol. 12, n. 2: 141–166.
23. Granlund, M., & Malmi, T. (2002). Moderate impact of ERPS on management accounting: a lag or permanent outcome?. Management accounting research, 13(3), 299-321.
24. Galani, D., Gravas, E., & Stavropoulos, A. (2010). The impact of ERP systems on accounting processes. World Academy of Science, Engineering and Technology, vol. 66: 418–423.
25. Gullkvist, B. M. (2013). Drivers of change in management APs in an ERP environment. International Journal of Business and Economic Sciences Applied Research, 6(2).
26. Håkansson, H & Lind, J.(2004). Accounting and network coordination. Accounting, Organizations and Society , Volume 29, Issue 1, 51-72
27. Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). Multivariate Data Analysis. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.
28. Hanpuwadal, N., & Ussahawanitchakit, P. (2010). Accounting practice effectiveness and financial performance of Thai listed firms: mediating effects of decision making efficiency for tax management, competent resource allocation, and strategic planning success. European Journal of Management, 10.
29. Hertati ,L. & Zarkasyi, H.W. (2015) .Effect of Competence User Information System, The Quality of AISs Management And Implications In satisfaction User Information System (State Owner In Sumatera Selatan). European Journal of Accounting, Auditing and Finance Research, Vol.3, No.2, pp.35-60.
30. ICRA and Management Consulting Service Ltd (2011). IMACS Research and analytics Industry Report on Sri Lanka
31. Ifinedo, P. E., & Nahar, N. (2007). ERP systems success: an empirical analysis of how two organizational stakeholder groups prioritize and evaluate relevant measures. Enterprise Information Systems, 1(1), 25–48.
32. Irshad, M.B.M., & Gapar, Md.J.,(2015). The Study of Undergraduate Use of Cloud Computing Applications: Special Reference to Google Docs. European Journal of Computer Science and Information Technology, 3(4). 22-32.
33. Iskandar, D. (2015). Analysis of factors affecting the success of the application of AIS. International Journal of Scientific & Technology Research, 4(2), 155-162.
34. Kanellou, A., & Spathis, C. (2011). Accounting benefits and satisfaction in an ERP environment, 8th international conference ICESAL. Enterprise Systems, Accounting and Logistics, Greece.
35. Kanellou, A., & Spathis, C. (2013). Accounting benefits and satisfaction in an ERP environment. International Journal of AISs, 14(3), 209-234.
36. Kieso, D. E., Weygant, J. J., & Warfield, T. D. (2007). Intermediate Accounting 12th edition. John Willey and Sons, New York, pp. 127, 171.
37. Kwarteng, A., & Aveh, F.(2018) Empirical examination of organizational culture on AIS and corporate performance: Evidence from a developing country perspective. Meditari Accountancy Research, 26 (4), pp. 675-698.
38. Lingga, I.S., Yadiati, W., Susanto, A., & Afiah, N.N. (2019). Behavioral aspect of AIS quality. Journal of Engineering and Applied Sciences, 14 (1), pp. 93-105
39. Listed Companies.[online] http://studentlanka.com/2017/04/14/companies-listed-in-colombo-stock-exchange-cse-with-market-capitalization/
40. Mahdi, S., Vahab., R., & Abdolkarim, M. (2010). Usefulness of AIS in Emerging Economy: Empirical Evidence of Iran. International Journal of Economics and Finance, 2(2), 186-195.
41. McLeod Jr, R., & Schell, G. P. (2007). Management Information System. New Jersey: Pearson Education Inc.
42. Mitchell, F., Reid, G., & Smith, J. (2000). Information system development in the small firm: the use of management accounting. CIMA Publishing.
43. Markus, M. & Tanis, C. The Enterprise System Experience – From Adoption to Success. U.S.A.: Oxbridge. 1997.
44. Martin, J. Cultures in Organizations: Three Perspectives. U.S.A.: Oxford University Press. 1992.
45. Matengu.,K,& Swami, B.N., 2011.Impact of Enterprise Resource Planning (ERP) in Accounting Systems: A Case Study. International Journal of Management & Business Studies, Vol. 1, Issue 3,
46. Nicolaou, A. I. (2004). Firm Performance Effects in Relation to the Implementation and Use of Enterprise Resource Planning Systems. Journal of Information Systems, 18(2), 79-105
47. Parker R (2009) From blue skies to green skies: engine technology to reduce the climate-change impacts of aviation. Tech Anal Strat Manag 21(1):61–78.
48. Quattrone, P. (2009). Books to be practiced: Memory, the power of the Visual, and the success of accounting. Accounting organization and Society, 34, 85-118.
49. Rahayu,S.K. (2012). The Factors that Support the Implementation of Accounting Information System : Survey in Bandung and Jakarta's Taxpayer. Journal of Global Management. Vol. 4 Number 1.
50. Rai, A., S. Lang & Welker,R. (2002). Assessing the Validity of IS Success Models: An Empirical Test and Theoretical Analysis. Information Systems Research, 13: 50-69.

51. Raisal, I., Arun Kumar, T., & Silva, D.A.C. (2018). Exploring Critical Effect of Knowledge Inflows and Absorptive Capacity on Product Innovation, Journal Opcion, Vol.34 No.16, pp.985-1013

52. Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: towards methodological best practice. Journal of Management, 35(3), 718-804

53. Robbins, S. P., & Judge, T. A. & Sanghi S (2007), Organizational Behavior. Dorling Kinderley, India Pvt.

54. Rom, A., (2008).Management accounting and integrated information systems: how to exploit the potential for management accounting of information technology, PhD Series, Copenhagen Business School, 302 pg.

55. Rom, A., & Rohde, C. (2007). Management accounting and integrated information systems: A literature review. International Journal of AISs, 8(1), 40-68.

56. Robey, D., Ross, J., & Boudreau, M. (2002). Learning to Implement Enterprise Systems: An Exploratory Study of the Dialectics of Change. Journal of Management Information Systems, Vol. 19, No. 1, (Summer, 2002, pp. 17-46.

57. Sacer,I.M., & Mamic.I. (2006). Accounting Systems Information as the Ground for Quality Business Reporting. IADIS International Conference E-Commerce. Pp.59-64.

58. Saeed,K.A., & Abdinnour-Helm, S. (2008). Examining the effects of information system characteristics and perceived usefulness on post adoption usage of information systems. Information & Management, Volume 45, Issue 6, 376-386

59. Scapens, R. W., & Jazayeri, M. (2003). ERP systems and management accounting change: opportunities or impacts? A research note. European accounting review, 12(1), 201-233.

60. Sedera, D., Gable, G. G., & Chan, T. (2004). Knowledge management as an antecedent of enterprise system success. Association for Information Systems.

61. Salehi, M., Rostami, V., & Mogadam, A. (2010), Usefulness of AIS in emerging economy: Empirical evidence of Iran. International Journal of Economics and Finance, 2(2), 186-195

62. Sangster, A., Leech, S.A. & Grabski, S., (2009) ERP implementations and their impact upon management accountants. Journal of Information Systems and Technology Management, 6, 2, pp.125-142.

63. Sari.E., (2015). APs Effectiveness and Good Governance: Mediating Effects of ACIQ in Municipal Office of Medan City, Indonesia. Research Journal of Finance and Accounting, Vol.6, No.2.

64. Sekaran, U. & Bougie, R. (2012) Research Methods for Business: A Skill-Building Approach. 6th Edition, Wiley, New York.

65. Shaw, M. (2000). All System go. Pulp and Paper, Vol. 79, No. 4, pp. 39-45..

66. Siraji, M.,& Ahamed, S.T., (2016), The Impact of CFOs Managerial Characteristics on Capital Structure Decision and Firm Performance: A Conceptual study. Full paper published on GE-International Journal of Management Research (AARF), Volume (4) Issue (10), PP 23-33.

67. Spathis, C. (2006). Enterprise systems implementation and accounting benefits. Journal of Enterprise Information Management, 19(1), 67-82.

68. Spathis, C., & Constantinides, S. (2004). Enterprise resource planning systems' impact on accounting processes. Business Process Management Journal, 10(2), 234-247.

69. Stair, R., & Reynolds, G. (2006). Fundamentals of information systems. Course Technology Press.

70. Susanto.A., (2015). Influence the Quality of Accounting Information on the Implementation of Good Governance Program Study, International Journal of Science & Technology Research: Vol4, Issue: 12, Page: 326-336. ISSN 2277-8616.

71. Susanto, A., & Meiryani (2018a). The quality of AIS and its impact on the quality of accounting information: User ability and top management support. Journal of Engineering and Applied Sciences, 13 (2), pp. 384-387.

72. Susanto, A., & Meiryani(2018b). How user ability and top management support influence on AIS quality and its impact on the quality of accounting information. Journal of Engineering and Applied Sciences, 13 (16), pp. 6645-6652.

73. Tuanmat, T.Z., & Smith,M (2011). Changes in Management APs in Malaysia. Asian Review of Accounting, Vol. 19 Issue: 3, pp.221-242

74. Virginia, A., Eleni, K., Dimitrios, P., & Chrysoula, X. (2009). The role of financial accounting information in strengthening corporate control mechanisms to alleviate corporate corruption. University Macedonia Working Paper.

75. Wang, K., Sewon, O., & Claiborne, M. C. (2008). Determinants and consequences of voluntary disclosure in an emerging market: Evidence from China. Journal of International Accounting, Auditing and Taxation, 17(1), pp. 14-30.

76. Wixon B., & Watson H. (2001).An Empirical Investigation of the Factors Affecting Data Warehousing Success. MISQ, 25(1), 17-41.

77. Zikmund-Fisher, B. J., Couper, M. P., Singer, E., Levin, C. A., Fowler Jr, F. J., Ziniel, S., & Fagerlin, A. (2010). The decisions study: a nationwide survey of United States adults regarding 9 common medical decisions. Medical Decision Making, 30(5_suppl), 20-34

78. Zhang, Z., Leeb, M. K. O., Huang, P., Zhang, L., & Huang, X. (2005). A framework of ERP systems implementation success in China: an empirical study. International Journal of Production Economics, 98(1), 56–80.

Appendix:

PART ONE

GENERAL INFORMATION

This part consists of the demographic profile of the respondent. **Please tick (√) into the** appropriate box.

1. Number of years' of experience in ERP environment
   Below 3 years ☐   3 – 6 years ☐   6 - 9 years ☐
   9 - 12 years   above 12 years

2. What is your position in the company?
   Financial Manager ☐   Financial Accountant ☐   Chief Accountant ☐
   Accountant
   Other position in Accounting field ....

3. What is the current status of ERP implementation in your company? Indicate one answer
   a) The ERP system is implemented ☐   b) Implementation is in progress ☐
   c) We plan to implement it very soon ☐   d) No ERP is planned ☐

4. In which period did your company first implement the ERP system? (Month............... and year.......................)

5. What is the name of the ERP system is being used? ....

6. Which of the following Accounting Practices do you use in ERP system?

Absorption costing		Production master budget	
Target Costing		Cash Budget	
Marginal Costing		Financial ratio Analysis	
Activity Based Costing		Non-financial performance indicator	
Cost Center		Internal audit	
Profit Center		Profitability analysis per customer	
Profitability analysis per product, per business activity			

PART TWO

Part two of the questionnaire deals with the factors that have influence on Accounting Information System in ERP Environment and Firm Performance. The following questions are given to measure those factors with a five-point liker scale ranging from strongly disagree to strongly agree to what extent you agree or disagree with the statement.
The following question looks for your opinion about the ERP System Quality. Please circle the scale closest to your views.

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5

	ERP System Quality					
1	The ERP system can be maintained to operate without failure under abnormal conditions.	1	2	3	4	5
2	Unauthorized access and modifications can be controlled by ERP.	1	2	3	4	5
3	It is easy to learn how to use, prepare input data and interpret information processing results in ERP.	1	2	3	4	5
4	It is easy to operate the ERP system	1	2	3	4	5
5	ERP is user friendly					
6	ERP provides help tools to users	1	2	3	4	5
7	The ERP system provides reliable, precise, accurate and consistent information	1	2	3	4	5
8	The structure of the ERP system is understandable and reliable	1	2	3	4	5

9	ERP provided required facilities to correct errors and add enhancements	1	2	3	4	5
10	ERP system is customizable to new conditions, demands, and circumstances.	1	2	3	4	5

The following question looks for your agreement about the Accounting Information Quality in ERP Environment. Please circle the scale closest to your views.

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5				
Accounting Information Quality-AIQ								
1	All information yielded by the AIQ of the ERP system is in accordance with the fact	1	2	3	4	5
2	Information produced by the system is used at all level is similar and same content	1	2	3	4	5
3	Test of data similarly can be conducted at any time by various level of management to ensure accuracy	1	2	3	4	5
4	All information has been generated in accordance with the needs	1	2	3	4	5
5	All generated information can be easily understood	1	2	3	4	5
6	The detailed level of information generated by the system is in-line with levels of the management	1	2	3	4	5
7	Information produced by the system is duplication free	1	2	3	4	5
8	Information is always available as and when required promptly	1	2	3	4	5
9	The frequency of information demand for users is high	1	2	3	4	5
10	Any decision taken is always correspond in accordance with the problems by using the information	1	2	3	4	5
11	All the necessary information has been presented completely in accordance with provisions and requirements	1	2	3	4	5
12	All the information can be completely used for additional requirement also	1	2	3	4	5

The following questions are related to the Accounting Practices used in organization in ERP. To what extent has ERP helped your company to achieve the following?
Please circle the scale closest to your views.

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5

	Accounting Practices					
1	Increased use of financial ratio analysis	1	2	3	4	5
2	Improved working capital control	1	2	3	4	5
3	Reduction of time for transaction processing	1	2	3	4	5
4	Reduction of time for issuing of reports- statements of accounts	1	2	3	4	5
5	Improved internal audit function and tax activities	1	2	3	4	5
6	Reduction of time for closure of monthly, quarterly and annual accounts	1	2	3	4	5
7	Improved decision making process	1	2	3	4	5
8	ERP support for the adoption of new management accounting techniques	1	2	3	4	5
9	Current tasks involve more business-oriented tasks	1	2	3	4	5

The following questions are related to the User Competency experience in ERP environment. Please circle the scale closest to your views.

Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5

	User Competence					
1	The level of AIS knowledge, financial & management accounting -based techniques are more important in ERP environment.	1	2	3	4	5
2	Knowledge in office applications (word , excel ,access & power point presentation etc .) are essential	1	2	3	4	5
3	Working Experience on IT environment is required	1	2	3	4	5
4	Working Experience on AIS of ERP environment is important	1	2	3	4	5
5	Working experience in general management is needed	1	2	3	4	5
6	Users must be able to use the tools, procedures and techniques of a particular field	1	2	3	4	5
7	Users must be able to work with others, understand others, motivating others, both as individuals and as a group.	1	2	3	4	5
8	Users must be able to coordinate and integrate all interests and activities of the organization and implement the program with a limited budget.	1	2	3	4	5

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

If you would like to receive a summary of the findings of this study, please provide us with the following information:

Company name: _____
E-mail address: _____
Fax Number: _____

YOUR CONTRIBUTION IS GREATLY APPRECIATED, THANKS!!!!