TOWARDS AIS SUCCESS AND ITS IMPLICATIONS TO INFORMATION QUALITY AND USER SATISFACTION

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Abstract: In the era where all the organization's activities are centered on the use of information technology, the organization's dependence on information systems cannot be denied. The organizations need information systems to maintain its ability to compete and the ability to compete depends on how the organizations can utilize the information produced from the information systems. The aim of this research is to test the effect of organizational structure on accounting information systems and its implications on user satisfaction both the system users and information users. The empirical data was collected using questionnaires distributed in 61 state-owned enterprises in Bandung, Indonesia. The data testing results show that organizational structure affects accounting information systems success. The accounting information systems successfully applied affects accounting information quality and user satisfaction of the system. The accounting information quality produced also affects user satisfaction of the information.

Key Words: Organizational structure, Accounting Information System, User Satisfaction

INTRODUCTION

The accounting information used appropriately is a tool in making good business decisions (Bazley et al, 2014:4) and good business decisions can only be made by considering quality information (McGilvray, 2008:4). Likewise, a reliable decision-making is also affected by the information inherent quality (Wilkinson et al, 2000:7).

Quality accounting information is provided by good accounting information systems (AIS) and is an important factor in the systems success (Hongjiang Xu, 2009). The same thing was said by Wilkinson et al, (2000:8) which stated that accounting information is only produced from the AIS application.

Sri Mulyani (2009:25) stated that AIS is a medium or tool to produce useful information for decision making. The AIS concept can be defined as a collection of resources, such as people and equipments, which is designed to change the financial and other data into information (Bodnar & Hopwood, 2014:1). A similar

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thing was expressed by Weygandt et al (2010:199) who stated that the AIS is a system to collect and process the transaction data and distribute financial information to interested parties.

In fact, the information systems used in various organizations still have problems. Chairman of the Audit Board of The Republic of Indonesia, Hadi Purnomo (2011), stated that some state-owned enterprises do not have an integrated information systems yet resulting the information and reports generated by the information systems is less reliable and timely. In addition, Muliaman D Hadad (2011) as the Deputy Governor of Bank of Indonesia said that as many as 23 banks still have a weakness on the information systems such as the unitegrated saving products with the portfolio of the clients. In the government, Usman Abdhali Watik (2011) as a member of the House of Representatives of The Republic of Indonesia said that the government has not been able to integrate all the asset and wealth data of the country well.

The above problems disable accounting information to be used to make good decisions, the fact is, making a reliable decision is affected by the inherent information quality (Wilkinson et al, 2000:7). According to Gelinas & Dull (2008:21) quality information must be accurate. It is said to be accurate if the information is free from material error (Hall, 2011:14). The next criterion of quality information is relevance (Gelinas & Dull, 2008: 20). Information is said to be relevant if the presence or absence of such information would make a difference in decision-making (Kieso et al, 2011:44). Quality information should be said timely (Kieso et al, 2011:47). Timely means that the information is available to the users before the information is losing its capacity to make decisions (Gelinas & Dull, 2008:20). The next criterion of quality information further is said that the information must be complete (Hall, 2011:13). Complete means that the information produced has been as complete as desired and needed (Azhar Susanto, 2008:13). If the information quality criteria needed are not sufficient, the manager will tend to use ineffective information to make a decision (Wilkinson et al, 2000:7).

The phenomenon that occurs in Indonesia about bad accounting information is said by Achsanul Qosasih (2015). According to his opinion based on the audit by Audit Board of 35 state-owned enterprises, 14 of them have problems in the financial statements. In 2012, several state-owned enterprises did not keep records of the results of the rental receipts on the assets (Hadi Purnomo, 2012).

DeLone & McLean (1992 & 2003) said that user satisfaction can be seen in the information systems quality and quality information. The user satisfaction of the system depends on the quality or information systems success that can assist the completion of users' tasks and based on the amount of use and nature of the use of information systems (Weber, 1999:907). Furthermore Weber (1999:890) said that

in order to measure the user satisfaction of the information systems related to the matter of user relationship with the information systems staffs, information quality produced by the system, and system reliability. The information systems that combines technical efficiency with sensitivity to the organizations and users' needs, affects the job satisfaction and higher productivity (Laudon & Laudon, 2012:548). Stair & Reynolds (2010:32) said that user satisfaction with the computer-based systems and the information produced will depend on the systems quality and valuable information needed by the users. A quality information system will usually have characteristics of flexible, efficient, accessible, and timely (Stair & Reynolds, 2010:57). The research conducted by Hamdan (2012) found that the AIS should be based on the satisfaction and frequency of use which can support decision making.

Human resource and organizational factors, actually are factors that must be considered during the AIS application (Parker & Case, 1993:40). Many organizations fail because they do not pay attention to these factors (Parker & Case, 1993:40). One of the organizational factors that affect the AIS application is organizational structure (Stair & Reynolds, 2010:77). Stair & Reynolds (2010:48) said that organizational structure refers to organizational sub units and the way they relate to the overall organization. Meanwhile, Luthans (2011:57) said that organizational structure is not just a box and chart but an interaction and coordination pattern that connects technology, tasks, people and various components within the organization to ensure that the organization can achieve its goals.

This research aims to determine the effect of organizational structure on AIS success, which eventually will have implications on accounting information quality and user satisfaction.

LITERATURE REVIEW

1. Organizational Structure

The definition of organizational structure according to Gibson et al (2003:514) is "the formal pattern of how people and jobs are grouped in an organization. The organization structure is often illustrated by an organization chart". Furthermore Daft (2000:307) defines "organizational structure as the framework in which the organization defines how tasks are divided, resources are deployed, and departments are coordinated". Stair & Reynolds (2010:41) stated that "organizational structure refers to organizational subunits and the way they relate to the overall organization."

The dimensions used to measure organizational structure are work specialization, departmentalization, chain of command, span of control, centralization, and formalization (Robbins & Coulter, 2002:256-263)

2. Accounting Information System Success

The information system quality according to DeLone & Mclean (1992, 2003) is a term for a success. DeLone & McLean's research (1992) illustrated that the information system success is the interaction of six main variables, namely the system quality, information quality, usage, user satisfaction, impact on individual and impact on organization. The system success refers to the perceived ease of use of the system. The information quality will be available in the event of the success of the system application (Hongjiang Xu, 2009). A quality information systems will usually have the characteristics of flexible, efficient, accessible, and timely (Stair & Reynolds, 2010:57). Barrier (2002:263) described the characteristics of the information system are ease of use, ease of learning, flexibility in use and security. Meanwhile Heidmann (2008:81) stated the dimensions of a good information system are integration, flexibility, accessibility, formalization and media richness

The dimensions used to measure the AIS success in this research is integration, flexible, efficient, and reliability.

3. Accounting Information Quality

According to Davis (2003:62) information quality is a global judgment of the degree to which these stakeholders are provided with information of excellent quality, with regard to defined needs excluding user manuals and help screens (features of system quality). While Song Lin & Xiong Huang (2011:301-302) explained that information quality refers to the quality of outputs the information systems produces, which can be in the form of reports or online screens. Stair & Reynolds (2010:7) added that the value of information is directly linked to how it helps decision makers achieve their organization's goals. Valuable information can help people and their organizations perform tasks more efficiently and effectively.

The dimensions used to measure the accounting information quality are accurate, relevant, timely and complete (McLeod & Schell, 2007:35)

4. User Satisfaction

Victor H. Vroom's expectancy theory says that the strong tendency to act in a certain way depends on the strength of the expectation that the action will be followed by particular outputs and on the attractiveness of those outputs for the individual (Robbins, 2007:238). The outputs will have a good impact on the individual when the users feel the satisfaction of quality information produced by the quality system (DeLone & McLean, 1992 & 2003). User satisfaction by Ong et al (2009) was defined as the extent to which an individual's attitude influences the gap between expectations and the perceived performance of the system. Furthermore Ong et al (2009) said that system satisfaction is the extent to which an individual's attitude

influences the gap between expectations and the perceived performance of the system.

The indicators used to measure user satisfaction in this research are drawn from the research conducted by (Ong et al, 2009) namely the user relationship with the information system staffs, information satisfaction generated by the system and satisfaction of AIS used.

CONCEPTUAL FRAMEWORK

1. Organizational factors and AIS Success

O'Brien & Marakas (2011:17) said that information systems and technology must be properly managed to support the business strategies, business processes, organizational structure and organizational culture. Organizational structure affects the type of information systems that is used in the organization (Laudon & Laudon, 2012:84). The hierarchy of the organizational structure is the basic framework for the information systems design. The greater the hierarchy of organizational structure the more complex the information systems that is built, in addition to the span of control in the organizational structure which also affects the information systems (Scott, 2001:6).

Organizational structure depends on the purpose and approach of management and can affect the use of information systems (Stair & Reynolds, 2010:48). The research conducted by Salehi & Abdipour (2011) found that organizational structure is one of the factors that hinder the AIS application. The researches conducted by Lin & Chien (2000), Indeje & Qin Cheng (2010), Carolina (2014) found that organizational structure affects quality of AIS.

Based on the above explanations, the hypothesis 1 proposed in this research is: organizational structure affects AIS success

2. AIS Success and Accounting Information Quality

The research conducted by Hongjiang Xu (2009) showed that in AIS, the information quality provided is essential for the success of the system application. Meanwhile, the research conducted by Adeh Ratna Komala (2012:68), Siti Kurnia Rahayu (2012:48), Fardinal (2013), Carolina (2015), Rapina (2014) found empirical evidences that unquality accounting information is caused by the ineffective AIS application.

Boockholdt (1999:1) stated that AIS is found in various forms of organization. The AIS will produce accounting information (Wilkinson et al, 2000:8). Quality accounting information is provided by good AIS and is an important factor in

a system success (Hongjiang Xu, 2009). In order to be said to be effective, the information obtained from AIS in an organization must be able to support the information needs for management (Leitch & Davis, 1992:7).

Based on the explanations above, then the hypothesis 2 proposed in this research is AIS success affects accounting information quality

### 3. AIS Success, Accounting Information Quality and User Satisfaction

The research conducted by DeLone & McLean (1992 & 2003) found that user satisfaction can be seen in information systems quality and quality information. Similarly to the research conducted by Ong et al (2009), which provides a measurement of user satisfaction consists of the information satisfaction produced by the system and the system satisfaction itself. User satisfaction of the system depends on the quality or information systems success that can assist the completion of users' tasks and based on the amount of use and nature of the use of information systems (Weber, 1999:907). Job satisfaction and higher productivity are also affected by information system that combines technical efficiency with sensitivity to the organizations and users' needs (Laudon & Laudon, 2012:548).

Based on the explanations above, then the hypothesis 3 and 4 proposed in this research are

Hypothesis 3 : AIS success affects user satisfaction

Hypothesis 4 : Accounting information quality affects user satisfaction

Figure 1: Theoritical Framework
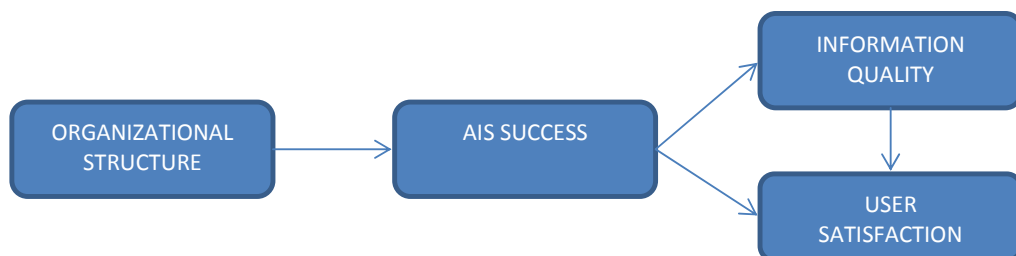
RESEARCH DESIGN AND METHODOLOGY

The aim of this research is included in survey research. While this type of research is verificative research. The unit of observation in this research is the internal users

of AIS. According to Whitten & Bentley (2007:9), the internal users of information systems are employees of the companies such as clerical and service. Based on the opinion, the respondents addressed in this research are the employees who perform accounting functions in State Owned Enterprises in Bandung city.

1. Research Instrument

To ensure the content validity, I developed the questionnaire by building on the theoretical basis and prior research. A total of 91 questionnaires were returned and could be processed from state owned enterprises in Bandung city.

2. Measures

Measurement items were developed based on the literature review and supported by prior research. My proposed measurement model involved 17 manifest variables loading on 4 latent constructs, e.g organizational structure, AIS success, accounting information quality and user satisfaction (Presented in table 1).

Table 1
Dimensions of the measurement model

| Variables	Dimensions
Organizational structure	(1) work specialization (2) departmentalization (3) chain of command (4) span of control (5) centralization (6) formalization
Accounting information systems success	(1) integration (2) flexible (3) efficient (4) reliability
Accounting information quality	(1) accurate (2) relevant (3) timeliness (4) completeness
User satisfaction	(1) user relationship with the information system staffs (2) information satisfaction produced by the system (3) satisfaction of the accounting information system used

3. Data Analysis

The data analysis was carried out using Structural Equation Modeling (SEM) because there are causal relationships among the variables and each variable is an unobserved variable. The models were estimated using Partial Least Squares (PLS). PLS was chosen because this research used a small sample size for this research (Hair, 2014:19). The estimation was performed using Smart PLS.

RESULT

Based on the results obtained by processing the data using PLS, the path diagram is obtained as shown in figure 4.2 below.

Figure 2: Path Diagram
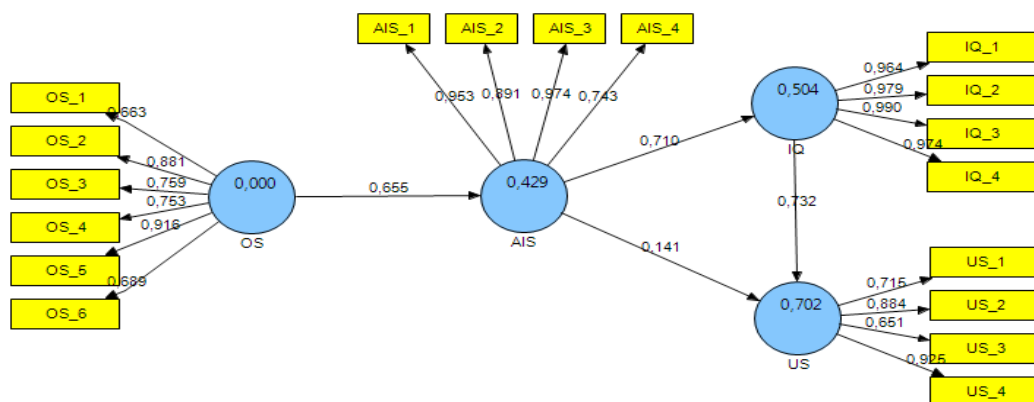
In the summary of the confirmatory factor analysis testing results of each latent variable (presented in table 2), it can be seen that the loading factor of each indicator tested has a value greater than 0,50, which means that every indicator is valid in measuring the latent variables. Similarly to the composite reliability and cronbach's alpha values of each indicator are greater than 0,7, it means that each indicator has a consistency in measuring the latent variables.

Furthermore, the AVE value of organizational structure latent variable is 0,612 which indicates that, on average, 61,2% of the information which is attached to each indicator can be represented through the latent variable of organizational structure. The AVE value of AIS is equal to 0,801, which means that, on average, 80,1% of the information which is attached to each indicator can be represented through the latent variable of AIS. The AVE value for accounting information quality is 0,954 which indicates that, on average, 95,4% of the information which is attached to each indicator can be represented through the latent variable of

accounting information quality. Similarly to the AVE value of user satisfaction of 0,642 which indicates that, on average, 64,2% of the information which is attached to each indicator can be represented through the latent variable of user satisfaction.

Table 2
Summary of Confirmatory Factor Analysis Testing Results of Each Latent Variable

Latent Variables	Indicators	Weighting Factors	Composite Reliability	Variance Extracted	Cronbac's Alpha
Organizational	OS_1	0,663	0,903	0,612	0,874
Structure	OS_2	0,881			
	OS_3	0,759			
	OS_4	0,753			
	OS_5	0,916			
	OS_6	0,689			
AIS	AIS_1	0,953	0,941	0,801	0,917
	AIS_2	0,891			
	AIS_3	0,974			
	AIS_4	0,743			
Information	IQ_1	0,964	0,988	0,954	0,917
Quality	IQ_2	0,979			
	IQ_3	0,990			
	IQ_4	0,974			
User Satisfaction	US_1	0,715	0,876	0,642	0,821
	US_2	0,884			
	US_3	0,651			
	US_4	0,925			

1. Hypothesis Testing

Table 3
Summary of Hypothesis Testing Results

Sub Structures	Paths	Coeficients	$t_{statistic}$ *	R^2
First	OS ➜ AIS	0,655	6,079	0,429
Second	AIS ➜ IQ	0,710	4,817	0,504
Third	AIS ➜ US	0,141	2,172	0,019
	IQ ➜ US	0,732	6,759	0,535

*$t_{critical}$ = 1,96

Based on the coefficient of determination (R-square) value found in table 3, it can be seen that organizational structure gives an effect of 42,9% on AIS. AIS gives an effect of 50,4% on accounting information quality. Then, AIS give an effect of 19% on user satisfaction. Furthermore accounting information quality gives an effect of 53,5% on user satisfaction

Based on the testing results as summarized in table 3, it can be concluded that all the hypothesis proposed in this research, are acceptable. It can be seen from the amount of $t_{statistic}$ value which is greater than $t_{critical}$ (1.96). The results give an empirical evidence that better organizational structure will make better AIS, better AIS will improve accounting information quality, more quality accounting information will improve user satisfaction of accounting information, and more quality AIS will improve user satisfaction of AIS.

DISCUSSION AND CONCLUSION

The results are consistent with the theory and strengthen the researches that have been done before. It can be concluded that the success of AIS application can not be separated from the effectiveness of existing organizational structure in the organization. Not yet successful AIS applied is due to the existing organizational structure which has not been effective in adopting the work specialization. The employees should have been divided according to their competence. The AIS which has been successfully applied will imply in accounting information quality produced. Not yet quality accounting information produced is due to the applied AIS which does not fully adopted the concept of system integration yet, both the integration of system components and integration of Transaction Processing System (TPS) that exist in the organization. User satisfaction of both information

users and information systems users are affected by the information quality itself and AIS quality applied. Not yet satisfied users of accounting information users, because accounting information users have not obtained quality accounting information for decision making.

These hypothesis testing results contribute to the development of accounting science, especially in the areas of AIS. Furthermore, these research results can be used as a basis by other researchers who are interested in doing researches in the field of AIS by using the same research methods on different unit of analysis and sample with the expectation of obtaining the same result or conclusion (replicability) (Sekaran & Bougie, 2010:20).

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