

Empirical Testing of the Quality of Accounting Information Systems that are Influenced by the Culture of the Organization Research at the Hospital in Riau-Indonesia

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Abstract: Organizations use accounting information system for data processing of financial and non-financial into financial information which is required by the user for decision making. The accounting information system is influenced by various factors in the organizational environment. Organizational culture is as one of the organization's internal environmental factors which influence the implementation of accounting information systems. This study is aimed to examine the influence of organizational culture on the use of accounting information systems and the tests are conducted at 33 hospitals in Riau province which are selected by using simple random sampling techniques and analysis tools of simple regression. The study concluded that organizational culture significantly influences accounting information system. The results of this study can be used to solve the problem of the use of accounting information systems through the improvement of organizational culture.

Key words: Organizational culture, accounting information system, improvement, problem Indonesia, environment

INTRODUCTION

In the era of global world is now increasingly seen clearly that accounting information system is continuously played in determining the organizational operation which is effective and efficient. Accounting information system generates accounting information which acts to support management functions in resource management, support management decision making and support the daily company's operations (Hall, 2010). Organizations need and use that information to make decisions and to solve problems more effectively, so that it is maintained the continuity of its operations (Oz, 2009).

Accounting information system is a system to collect, record, store and process the data to generate information for decision makers (Romney and Steinbart, 2012). The same thing was stated by Simkin *et al.* (2012) that accounting information system is a data collection and procedures processing that provide information to the needs of information users. Besides accounting information system is also as a collection of resources such as people and equipment which is designed to transform the financial data and other data into financial information. Thus, it can be said that the accounting information system is a system that consists of various components that are used to process financial and non-financial data into the quality of financial information for decision makers.

The components of accounting information systems are interconnected and cooperate with each other in harmony (Susanto, 2008). Similarly, as proposed by Stair and Reynolds (2012) that the information system components are interrelated in carrying out activities, processing financial data and producing financial information. Further, it is said that accounting information system does not only integrate the components of hardware over a communications network but involves all element of information systems that include: hardware, software, brainware, procedures, databases and network communication, so that it is resulted the quality of accounting information (Susanto, 2008). Integration in this information system shows the success of the use of accounting information systems (Heidmann, 2008).

But in fact accounting information system that is applied in public and private environment are not integrated as it was disclosed by Sungkono (2014), Czeresna (2014) and Saifuddin (2015). Sungkono (2014) as a member of National Social Security Council revealed that accounting information systems at BPJS is not integrated yet in which each operator of health BPJS and employment BPJS has its own information system which makes the data are difficult to access. Czeresna (2014) as the RSCM Director suggested that information systems at the hospital are not integrated yet with information systems of BPJS, so it has not been able to provide effective information for the user. Furthermore, Saifuddin

(2015) as the Minister of Religious Affairs said that the information system in environment is still fragmented, each managing its own stand, so that between one unit is not connected with another unit.

Organizational culture is one of the factors that causes the successful implementation of accounting information systems that run (Romney and Steinbart, 2012; Hall, 2010; Pearlson and Saunders, 2013). Organizational culture can be regarded as a set of values and norms that control the interaction of the organizational members with each other and with others outside the organization (Jones, 2013). Laudon and Laudon (2009) illustrates that organizational culture plays a major role to do the restraint to changes, especially the changes in technology in which every change in technology threaten general cultural assumptions that it is usually found much resistance. To be successful, all of the functional fields of the organization need to be involved in determining the culture in the company and in establishing a new information system requirements, so that the implementation of accounting information systems is successfully performed (Hall, 2010). Thus, the culture is playing an increasingly important role in the use of accounting information systems (Pearlson and Saunders, 2013).

The influence of organizational culture on accounting information system has been studied by many researchers before as it is done by Harper and Utley (2001), Indeje and Zheng (2010), Xie *et al.* (2013) and Carolina (2014). The results of these studies have been proved empirically that organizational culture is an important factor that influences accounting information system.

Literature review

Organizational culture: Mullins and Hicks (2010) stated that organizational culture is a collection of traditions, values, policies, beliefs and attitudes become a pervasive context to what to do and think about by the employees in an organization. A similar opinion was expressed by Robbins and Judge (2014) that organizational culture refers to a system of shared meaning which is held by members that distinguishes the organization from other organizations. Similarly, as proposed by McShane and Glinow (2010) that organizational culture consists of values and assumptions together in an organization that shows what is and is not important in the company that results everyone in organization heading to the right way of doing something.

Hellriegel and Slocum (2011) states organizational culture is a pattern of trust and mutual expectations of organizational member which covers general philosophy,

norms and values. Other opinions are expressed by Luthans (2011) that organizational culture is a complex that realizes the importance of the norms and values that guide the behavior of members in the organization.

Based on the above notions it can be concluded that organizational culture is shared values, beliefs, norms, policies and togetherness of people who reside and work within the organization to achieve the expectations of the organization.

Organizational culture is measured through the viewpoint of the following characteristics: Luthans (2011) argues that the essential characteristics of the organizational culture are: observed behavioral regularities, norms, dominant, values, philosophy, rules and organizational climate. Similar opinion is expressed by Hellriegel and Slocum (2011) that organizational culture can be seen from the characteristics: routine ways of communicating, the norms shared, the dominant values, the philosophy, the rules of the game and the feeling or climate. McShane and Glinow (2010) states that the characteristics of the organizational culture in more detail is as follows: innovation, stability, respect for people, outcome orientation, attention to detail, team orientation and competitive. Furthermore, Robbins and Judge (2014) suggests seven main characteristics of the organizational culture are: innovation and risk taking, attention to detail. Outcome orientation, people orientation, team orientation, aggressiveness and stability.

Gibson *et al.* (2012) classifies the characteristics of the organizational culture based on Schein's 3-layer organizational model, namely: artifacts and creations: technology, art and visible and audible behavior patterns; values: testable in the physical environment and testable only by social consensus and basic assumptions: relationship to environment, nature of reality, time and space, nature of human nature, nature of human activity and nature of human relations.

The concept of organizational culture in this study uses the dimensions and indicators, namely artifacts and creations, consists of the use of organizational symbol, figures utilization as a work motivator; values, consists of the security rules of data and information access, appreciation of the creativity value, completion of the work which is detailed immediately attention to the outcome of work, attention to the value of cooperation team and assumptions base, consists of the rules of the game and strict rules for new workers (Luthans, 2011; Hellriegel and Slocum, 2011; Robbins and Judge, 2014; Gibson *et al.*, 2012; McShane and Glinow, 2010; Robbins and Judge, 2014).

Accounting information system: Mancini *et al.* (2013) states that accounting information system is a complex system it consists of a mixture of interrelated components (such as data, information, human resources, IT tools, models and accounting procedures) and basically it covers activities to collect, classify, describe, record and store accounting data. Similar statement was expressed by Hurt (2009) that accounting information system is a series of activities, documents and technology which are interrelated (a set of interrelated activities) that is designed to collect data to process it and to report information to various groups of internal and external decision makers to the organization. Similarly, proposed by Susanto (2008) that accounting information system is a collection (integration) of the sub-systems/components both physical and non physical that are interconnected and cooperate with each other in harmony to process transaction data which is related to financial problems into financial information.

Stair and Reynolds (2012) states that accounting information system which is effectively reflected by the ease of the system is used. Similarly as it is explained by Duggan and Reichgelt (2006) that accounting information system that is effectively is visible when information system is used by workers. The same thing also expressed by Petter *et al.* (2008) that the use of information systems can be seen from the level and the way how the staff/employees of an organization utilizing the capabilities of the information system.

Boockholdt (1998) argues that the successful use of an accounting information system is seen from the level of satisfaction which is achieved by the user when using the system. Furthermore, Boockholdt (1998) states that the user (worker/clerk) are satisfied when accounting information system that is used can produce information that is correct and timely.

Transaction processing system is a sub-component of accounting information system that is used to process the data that comes from the events or economic events as a result of surgery or internal activities of companies and as a result of the company's activities with outside parties into useful information for management at the operational level (Susanto, 2008). Similarly, proposed by Turban and Volonino (2011) that transaction processing systems are designed to process specific types of data input from ongoing transactions. Furthermore, the transaction processing system may be a series of processes that start from: the collection, delivery and entry of data, processing and manipulation of data, saving the data and reporting information (Susanto, 2008). Similarly, Hall (2010) argues that the transaction processing system has a series of activities, namely:

converting the economic events to financial transactions, recording financial transactions and distributing financial information.

Furthermore, the successful of accounting information system use is represented by system integration (Heidmann, 2008). Transaction Processing System (TPS) as a sub-system of accounting information uses the components of accounting information systems, namely: hardware, software, brainware, databases, procedures and communication networks that synergize are integrated to process financial data into financial information (Susanto, 2008). The same thing was stated by O'Brien and Marakas (2010a, b) suggests that the interrelated components: people, hardware, software, devices and networks, all working together (interrelated) to reach the common goal. Furthermore, Stair and Reynolds (2012) argues that the Transaction Processing System (TPS) shall be designed that the flow of information from one system to another is automatic and does not require the work manually.

The concept of accounting information systems from the point of its use in this study uses the dimensions of transaction processing system (Susanto, 2008; Hall, 2010; Turban and Volonino, 2011) and the components integration of information systems (Susanto, 2008; O'Brien and Marakas, 2010a, b).

Framework and hypotheses: Organizational culture influences accounting information system. Organizational culture is one of the key elements of an organization while information systems are an integral part of organization (Laudon and Laudon, 2009). It is seen as organizational culture can always be found and be embedded in information systems (Laudon and Laudon, 2009). But organizational culture can be a powerful barrier against the changes, particularly technological changes that threaten cultural assumptions that have been available (Laudon and Laudon, 2009). Similarly, it is confirmed by Susanto (2013) that any changes in the information system will force human resources to do something different from the usual. With regard to the above matters, systems analysts must understand and acknowledge the subculture of the organization that is meant to succeed the implementation of accounting information systems (Kendall and Kendall, 2006). This was confirmed by Hall (2010) that for the success of accounting information system, all functional fields of the organization need to be involved in determining the organizational culture of the company. If the culture of a company is not able to accept the changes they want then accounting information system implementation will not succeed. Therefore organizational culture becomes one factor that is considered on accounting information system (Oz, 2009).

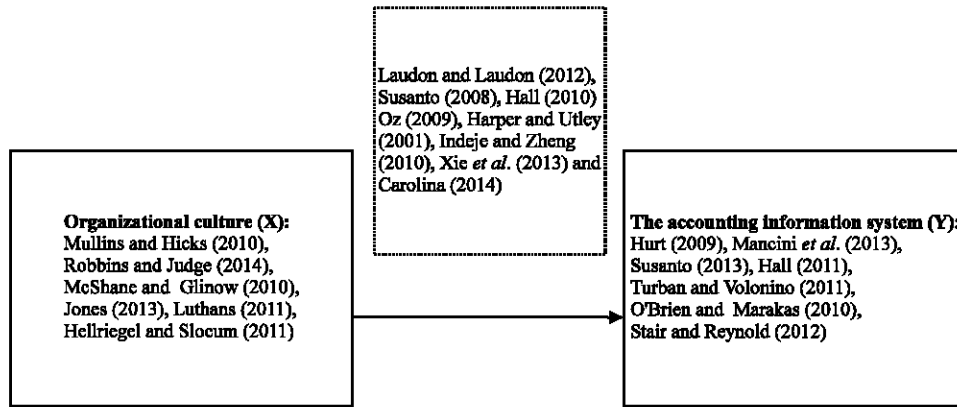


Fig. 1: Framework scheme

The research results of Harper and Utley (2001) show that organizational culture correlates with the successful implementation of accounting information systems. The same thing is produced by Indeje and Zheng (2010) in the Kenyan study, that organizational culture is a powerful influence on the implementation of accounting information system. Similarly, the results of research (Xie *et al.*, 2013) concluded that organizational culture is an important factor to determine the success in the implementation and adaptation of accounting information systems in hospitals. Furthermore, the research results of Carolina (2014) also concluded that organizational culture influences accounting information system. For more details on this conceptual framework it will be presented in the form of schematic framework in Fig. 1.

Based on the theories and the results of previous studies which have been described above it can be concluded that organizational culture influences on accounting information system.

MATERIALS AND METHODS

The method that is used in this study is descriptive and verification methods. This study was conducted at a hospital in Riau Province, both public and private hospitals with a population of 58 hospitals. Of these, 42 units become the sampling population while 16 units of hospital were not studied because they are small hospital types (type D). Furthermore, based on the slovin formula (Umar, 2005) the number of samples are 38 units of hospitals. Of these 34 hospitals returned the answers to the questionnaire and that can be processed is a total of 33 hospitals.

The study data which is obtained is in ordinal datashape then the data is transformed into data interval that uses MSI (Method of Succesiv Internal). This hypothesis testing uses the help of statistical program of SPSS (Statistical Product and Service Solutions).

To assess the ability of measuring tool the variables which were studied, then it was tested the validity. Furthermore, to determine the level of precision, accuracy or consistency of the data collection tool in certain symptoms disclosure of a data group the reliability test was performed. Reliability testing is only done to valid statement items that are obtained through validity test.

RESULTS AND DISCUSSION

The result of the study

The validity and reliability testing: Validity and reliability test is done to assess valid and reliable answers to the questionnaire items which were received from respondents. Standard value of reliability test of a variable is determined by Cronbach’s alpha value of >0.70. Whereas the standard value of the validity test uses product moment correlation (validity index) with a correlation coefficient of >0.30. The results of validity tests can be seen on Table 1.

Validity test results in Table 1 shows that the measuring of organizational culture and accounting information system variable showed the values are above critical value of 0.30. This means that the questions which are posed as a measure of these variables can become a measuring tool of the organizational culture and accounting information system variable. Furthermore, reliability test results can be seen in Table 2.

Reliability test results in Table 2 shows that both variables of organizational culture and accounting information system meets the criteria of reliable (reliability values are above 0.70). This means that the variable of organizational structure and accounting information system are consistent.

Hypothesis testing: To test the hypothesis, first it is formed a simple regression equation. It is intended to determine the direction of the relationship dependent and

Table 1: The Results of validity test

Variable/Dimension	Indicators	Validity index	Results
Organizational culture variables			
Artifacts and creations	Utilization of symbol	0.864	Valid
	Utilization of figure	0.853	Valid
Values	Creativity value appreciation	0.713	Valid
	Soon work completion	0.615	Valid
	Attention on outcome	0.658	Valid
	Teamwork	0.769	Valid
	Regulation/discipline within organization	0.779	Valid
The basic assumption			
Accounting information system variables			
Transaction processing system	Easy and fast collection and data input	0.501	Valid
	Easy and fast data processing	0.727	Valid
	Secure data storage	0.684	Valid
	The availability of timely financial statements	0.615	Valid
	The use of hardware as the needs	0.782	Valid
	Software utilization supported by hardware	0.768	Valid
	Competent users	0.727	Valid
	Users run the SOP	0.570	Valid
	Database meets the needs	0.860	Valid
	Communication network connected	0.725	Valid
Components integration			

Table 2: The results of reliability test

Variables	Reliability	Results
Organizational culture	0.893	Reliable
Accounting information system	0.903	Reliable

independent variables. Based on the results of data processing, the regression equation is formed as follows:

$$SIA = 0.384 + 0.657BO_i + \epsilon$$

The regression equation shows that organizational culture has influence on accounting information system that is visible from the resulted regression coefficient of 0.657. This means that the stronger the organizational culture of the company, the better the accounting information system.

Hypothesis testing is intended to determine the influence of organizational culture on accounting information systems. The hypothesis is:

- H_0 : there is no influence of organizational culture on accounting information systems
- H_1 : there is influence of organizational culture on accounting information system

Statistical tests showed that t_{count} value of organizational culture is 4.752 at a significance level of 0.000. The value of t_{table} at a significance level of 5% and $N(33-2) = 31$ for two-sided test is equal to 2.040. Thus, it can be determined that: $t_{count} > t_{table}$ in which $4.752 > 2.040$ of which H_0 is rejected and H_1 is accepted it means there is the influence of organizational culture on the implementation of accounting information systems. Then from these testing results it is obtained the significance value of 0.000 which shows significant effect it means that the influence of organizational culture on the

implementation of accounting information system is significant because the value of significance is 0.000 which is less than the specified alpha value of 0.05.

Therefore, based on the hypothesis testing results above, it can be concluded that organizational culture significantly influences accounting information system.

This study can find some problem causes that accounting system information which is not integrated through organizational culture. Based on these study results it is obtained some records about the cultural aspects of organizations related to the implementation of accounting information systems which is shown by: the motto that is owned and organizational leaders who have not been able to encourage employees to work better the low appreciation of the employees creativity values in work completion, there are still employees who delay the work completion, the needs to put the work in team work and there are rules that are not run well by employees.

The study results confirmed the opinion by O'Brien and Marakas (2010a, b) that the success of an information system can not only be measured by the amount of efficiency in minimizing the cost, time and use of information resources but also can be measured by organizational culture. This study is in line with the opinion by Laudon and Laudon (2009) who argued that organizational culture becomes one of the key elements of organization while information systems are an integral part of organization, so that in the system information, it can always be found and embedded organizational culture. Similarly, this study reinforces the statement by Susanto (2008) that any changes in information system force the human resources to do something different from the usual. The study also reinforces the opinion by Hall (2010) that to be successful, all of the functional areas of the organization need to be involved in determining

organizational culture and in establishing the requirements of new information systems, so that the implementation of information systems will be successful.

The results of this study confirms the previous research results that are obtained by Harper and Utley (2001) which shows that the organizational culture correlates with the successful implementation of information technology systems. Similarly, the research results from Indeje and Zheng (2010) who studied in Kenya that organizational culture strongly influences on the implementation of Integrated Financial Management Information System (IFMIS). Furthermore, the research results by Xie *et al.* (2013) that organizational culture is an important factor to determine the success in the implementation and adaptation of information technology systems in the hospital. Similarly, the research results of Carolina (2014) who concluded that organizational culture influences accounting information system.

CONCLUSION

Based on the results of study and discussion above, it can be concluded that organizational culture influences accounting information system. The accounting information system at the hospital in Riau province has not been implemented properly because the information system has not been fully integrated. From this research it is noted that organizational culture at the hospitals in Riau Province is not maximized it is indicated by the inability of the motto and the organizational leaders to encourage the employees to work better the low appreciation of the employees creativity values there are employees who delay their work completion the lack of the work completion virtue as a team and the rules of the organization that are not run by the employees.

The results of this study are able to answer the study problems which are suggested by the phenomena that are described in the introduction. For the settlement of these problems there are some suggestions which are put forward as the result of this study, namely: the employees need to improve their understanding of organizational motto, organizational leaders need to encourage their employees to work better to increase the appreciation of the employee creativity values, employees must not delay their work completion they prioritize the work completion as a team and the importance of employees adherence to the organizational rules that have been set.

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