

Organizational Culture in Management Accounting Information System: Survey on State-owned Enterprises (SOEs) Indonesia

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Abstract

Management accounting information system (MAIS) is an integral part of an organizational structure. MAIS refers to the normative, but when MAIS is implemented, it has unintended or unforeseen consequences, this is because, in the context of social organization and socially too, it is not been well understood by users. To avoid the user's misunderstanding which gives the effect on the quality of MAIS, organizational culture can connect these problems. This study was conducted at the state-owned enterprises (SOEs) in Indonesia. Data analysis of study used structural equation model (SEM) with the approach of partial least square (PLS). The study results found that organizational culture affects the quality of MAIS. The results also found that the dimensions and indicators that are used to build the study model showed strong value, which means that the dimensions and indicators reflect the organizational culture and the quality of MAIS in SOEs in Indonesia.

Keywords

Quality of management accounting information system, organizational culture, user satisfaction

Introduction

Management accounting information system (MAIS) is part of the accounting information system in a company (Hansen & Mowen, 2007, p. 7; Susanto, 2008, p. 84). MAIS is the set of human and capital resources within an organization that is responsible for the production and dissemination of information deemed relevant for internal decision-making (Belkaoui, 2002, p. 9). Thus, MAIS is an integral part of an organizational structure and for the regulatory process, motivating, providing performance measurement, such as authority delegation, to communicate goals, participation and information feedback (Jones, 1985).

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The quality of MAIS in this study can be classified if it has the characteristics of the kind as described by K. C. Laudon and J. P. Laudon (2012, pp. 530–531), Chang, Chen and Lan (2012), Stair and Reynolds (2010, p. 57), Ong, Day and Hsu (2009), Heidmann, Schäffer and Strahringer (2008), Wixom and Todd (2005), and Kaplan and Atkinson (1998, p. 1), as well as the definition of the accounting information system (Wilkinson, 1989), they are integration, flexible, reliability and efficient.

From the measurement of information system disclosed, MAIS refers to the normative. It means the quality of MAIS can give satisfaction to the users. The satisfaction which is felt by the user (manager) is when MAIS can be used to assist in decision-making, both short-term and long-term decisions (Hamdan, 2012; Mia & Patiar, 2001). But when MAIS is implemented, it has unintended or unforeseen consequences, this is because in the context of organization and socially, it is not well understood by the user (Lawrence, Alam, Northcott, & Lowe, 1997). To avoid the user's misunderstanding which gives effect in the quality of information system, the organizational culture (Kreitner & Kinichi, 2003, p. 72) can connect these problems.

The function of organizational culture in the organization's life is a means to unite the activities of the organization members which consists of a group of individuals with different backgrounds (Kreitner & Kinichi, 2003, p. 72). Organizational culture is a pattern of jointly basic assumptions that are received by the group in solving the problems which come from the external environment and integrate the internal environment, which has done well enough to be considered as the truth, then it is taught to new members as the correct way to perceive, think and feel the problems which are being faced (Schein, 2010, p. 18).

The research which reveals that organizational culture is one supporting factor to the success of MAIS such as Kappos and Rivard (2008), Indej and Zhneg (2010), Carenzo and Turolla (2010), and Agbejule (2011). Thus, the organizational culture is one important factor in the spread of MAIS and the determinants in deciding to use the MAIS within the organization.

Review of Literature

The Quality of Management Accounting Information Systems

Accounting information system of an organization has two major subsystems, the financial accounting information system (FAIS) and the MAIS, where in both sub-accounting systems are differentiated on the objectives, the input characteristics and the process type used to transform inputs into outputs (Hansen & Mowen, 2007, p. 7; Susanto, 2008, p. 84). Furthermore, Hansen and Mowen (2007, p. 7) said that FAIS produces information used by company external party, uses economic events as input, and processed in accordance with the regulations and certain rules. While MAIS is an integral part of an organizational structure and for the regulatory process, motivating, providing performance measurement such as delegation of authority, to communicate goals, participation and feedback information (Jones, 1985).

A system must serve at least one goal, but it can also serve several goals at once. MAIS is the same as information system in general which is able to support and serve the purpose of company strategy (Kaplan, 1984). Serving the goal is its fundamental justification, when the system stops to serve the goal, it must be replaced (Hall, 2011, p. 5). The aim of MAIS is providing information for operational activities (Hall, 2011, p. 14; Wilkinson, 1989, p. 5), to provide information for planning, control, evaluation and continuous improvement (Hansen & Mowen, 2007, p. 4) and to provide information for decision-making (Hall, 2011, p. 14; Hansen & Mowen, 2007, p. 4; Wilkinson, 1989, p. 5). Thus, MAIS has a broad scope which allows managers to obtain the required information in the successful decision-making of economic in long term (Hoque, 2003, p. 6). To generate the information required in accordance with the user's needs, the quality of MAIS are needed.

The quality of MAIS concept in this study is a specification that can be used as a framework that is integrated into the company by utilizing the resources for providing relevant information to managers and employees in an organization, both financial and non-financial information, for decision-making in reaching goals specifically within the organization. When the system can meet the needs of users, the quality of MAIS can provide satisfaction to the users of the system itself (Napitupulu, 2015).

According to K. C. Laudon and J. P. Laudon (2012, p. 530), generally the information system in business entities pay attention to five measurement variables, namely, scope, time, cost, quality and risk. Meanwhile in terms of quality of information system, Stair and Reynolds (2010, p. 57) described generally the characteristics of the quality of information system they are flexible, efficient, accessible and timely. Kaplan and Atkinson (1998, p. 1) said that to test MAIS, whether it had motivated and helped managers or not in achieving organizational goals, it can be seen the timely, efficient and effective from the system.

The researchers who measure the quality of information system are such as Ong et al. (2009) and Wixom and Todd (2005) used the dimensions of reliability, flexibility, integration, accessibility and Timeliness. Chang et al. (2012) measured the quality of information system with security, ease of use and efficiency. Specifically, Heidmann et al. (2008) measured the dimensions of the quality of MAIS using integration, flexibility, accessibility, formalization and media richness.

From the information system measurement disclosed, the quality of MAIS measurement in this study used integration, flexible, reliability and efficient (Table 1 and 2).

Organizational Culture

Organizational culture refers to the system of shared meaning held by members that distinguish the organization from other organizations and it is also drawn from common values, principles, traditions and ways of

Table I. Dimensions of the Quality of MAIS

Dimensions			Indicators
Code		Code	
QMAIS1	Integration	Y1	Set of components and formal procedures related to one another such as software, hardware and networks.
		Y2	Simplification of business processes so that companies become more competitive.
		Y3	Centralized master data management improves the accuracy of data and management information.
QMAIS2	Flexible	Y4	Useful for all people who will need it as a result of business development.
		Y5	System has input options
		Y6	System has output options
QMAIS3	Reliability	Y7	System is available for users to use.
		Y8	System provides reliable information for decision-making.
QMASI4	Efficient	Y9	Number of inputs produces varying outputs.
		Y10	Fast system-response time.
		Y11	Efficient data storage (files are not too big, so they do not spend a lot of memory).
		Y12	Efficient data backup.
		Y13	To determine the amount of time needed to complete the job.

Source: Ong et al. (2009), Wixom and Todd (2005), Chang et al. (2012) and Heidmann et al. (2008).

doing things that affect the members' organization's way to act (Robbins & Coulter, 2012, p. 52). In general, Schein (2010, p. 18) in the book *Organizational Culture and Leadership* defined organizational culture as:

[A] pattern of shared basic assumptions learned by a group as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Organizational culture from the perspective of information system, K. C. Laudon and J. P. Laudon (2012, p. 85) said 'Organizational culture is a powerful unifying force that restrains political conflict and promotes common understanding, agreement on procedures, and common practices'. While discussing the cultural organization, there are two major things that can be used as a basis. First, the values which are shared, important beliefs and goal shared by most people in the group, which tends to shape the behaviour of the group. Second, the group behaviour norm, how to act which is already prevalent or pervasive found in one group and survives long because the group members tend to behave in a way to teach the practice to new members.

The function of organizational culture in the organization's life is a means to unite the activities of the members of an organization which consists of a group of individuals with different backgrounds (Kreitner & Kinichi, 2003, p. 72). The functions of organizational culture according to Wagner and Hollenbeck (2005) are four things, members of the organization that indicate the identity of an organization, facilitate the mutual commitments, encourage the organization stability, forms of behaviour by helping members to understand their environment. According to Robbins (2007, p. 725), culture executes a number of functions, as follow:

1. Culture has the role to define the boundary; that means culture creates a clear distinction between one organization and another.
2. Culture gives identity to the members of organization.
3. Culture facilitates the emergence of a commitment to something greater than one's own interests.
4. Culture improves the stability of social system. Culture is the social glue that helps uniting the organization by providing appropriate standards regarding what should be said and done by employees.
5. Culture serves as a mechanism of meaning-makers and control mechanisms that guide and shape the attitudes and behaviour of the employees.

Based on the definitions and functions of organizational culture, the characteristics of the organizational culture that can be associated with MAIS and beliefs and norms adopted by organization members can use characteristics proposed by McShane and Glinow (2010, p. 419) and Robbins and Coulter (2012, p. 52), namely, attention to detail, innovation, team orientation, outcome orientation and aggressiveness (see Figure 1).

1. *Attention to Detail*. It means how far the employees are expected to demonstrate thoroughness and attention to details (Robbins & Coulter, 2012, p. 52), and has accuracy in analysing (McShane & Glinow, 2010, p. 419).
2. *Innovation*. It means how far the employees are encouraged to be innovative and take risks (Robbins & Coulter, 2012, p. 52) such as experimenting, looking for opportunities, taking risks and few rules (McShane & Glinow, 2010, p. 4190). In state-owned enterprises (SOEs), it is currently driven to be innovation driver, thus increasing competitiveness, performance and contribution to the economy of Indonesia (Iskan, 2013).

Table 2. Dimensions of Organizational Culture in MAISs

Dimensions		Indicators	
Code		Code	
OC1	<i>Attention to Detail</i>	X1	Demonstrating thoroughness and attention to detail.
		X2	Having accuracy in analysis.
OC2	<i>Innovation</i>	X3	Driven to be innovative and take risks.
		X4	Dare to experiment with the work performed.
OC3	<i>Team Orientation</i>	X5	The work done is organized by team rather than an individual.
		X6	Collaboration
OC4	<i>Outcome Orientation</i>	X7	Focus on the end result of work.
		X8	High expectations of an action and outcome oriented of the action undertaken.
OC5	<i>Aggressiveness</i>	X9	Aggressive
		X10	Competitive

Source: McShane and Glinow (2010, p. 419) and Robbins & Coulter (2012, p. 52).

3. *Team Orientation*. It is how far the work is done by a team of organized employees rather than individually (Robbins & Coulter, 2012, p. 52) such as collaboration and people oriented (McShane & Glinow, 2010, p. 419), it means that a management decision takes into account the effect on the people in the organization (Robbins & Coulter, 2012, p. 52).
4. *Outcome Orientation*. It means how far the managers focus on the end result of work (Robbins & Coulter, 2012, p. 52) or in other words how orientation refers to the actions undertaken, the high expectations of an action, and outcome oriented of the action taken (McShane & Glinow, 2010, p. 419).
5. *Aggressiveness*. It means how far the employees aggressively work individually rather than in groups (Robbins & Coulter, 2012, p. 52) and competitive (McShane & Glinow, 2010, p. 419).

Research Objectives

This study is expected to contribute in proving that organizational culture affects the quality of MAIS in accordance with the paper of Napitupulu (2015a). This study was conducted at the SOEs. The study is also expected to give the contribution in determining the quality characteristics of a MAIS and the exact characteristics of organizational culture in the development and implementation of MAIS in organization/company.

Organizational information system is affected by organizational structure, organizational culture and management change (Stair & Reynolds, 2010, p. 74). This is confirmed by K. C. Laudon and J. P. Laudon (2012, p. 115) who stated that information system is designed to serve the needs of organization and is formed based on organizational structure, business processes, organizational goals, organizational culture, politics and management. Turban and Volonino (2011, p. 25) also states that the value of information system is determined by the relation between information system, people, business processes and organizational culture. Thus, it has been proven that organizational culture has positive influence on the success of a new information system development (Gray, 1988; Stair & Reynolds, 2010, p. 53).

Indej and Zhneg (2010) research results proved that organizational culture has strong influence on the development and implementation of information system, in which the identification and understanding of the meaning, beliefs, norms and power within organization is an important consideration in developing

and implementing information system. Eber and Pliskin (1996) also provided systematic evidence for organizational culture which plays an important role in the effective implementation on the integration of information system. This is confirmed by the statement of K. C. Laudon and J. P. Laudon (2012, p. 20) that organizational culture can always be found embedded in the organizational information system.

Rationale of the Studies

It is to be noted that the members of organization has one or more subcultures within organization that can affect the behaviour of members, including supporting the use of information system (K. E. Kendall & J. E. Kendall, 2011, p. 46). This is the same as the research result which was conducted by Kappos and Rivard (2008) that organizational culture affects the way how users use MAIS and the MAIS effect used on the final result of the use.

Thus, MAIS should consider this as the basic nature of information that corresponds to a particular organization, the methods used for the transmission of data and information, organizational culture and shared values that exist within organization (Coombs, Hobbs, & Jenkins, 2005, p. 15). So, internal culture is an important factor in the spread of MAIS within organization (Carenzo & Turolla, 2010). The research of Agbejule (2011) also showed the results that managers are aware of the dominant values of their organizational culture before deciding to use MAIS, the research also increased the knowledge and understanding of the relation between organizational culture and the use of MAIS and how they affect performance.

At the company's SOEs, the public perception is attached to that work culture in SOEs is deemed not conducive, is waiting, not creative, do not think global, is highly bureaucratic, highly centralized and the structures are not arranged based on competence and business process of SOEs have mostly not been regular and well organized (Arifin, 2010). To reorganize SOEs to become better, the government issued rules on good corporate governance. Although the governance rules have been implemented, SOE still has a problem of information systems, which is that there are number of SOEs have not had integrated and inefficient information systems, so it boosts the number of SOEs operational costs (Japarin, 2014). Problems were also found in the local government in Indonesia and the evidence suggests implementation issues such as lack of compliance, lack of integration between planning and budgeting, and not accurate indicators and reporting data (Jurnali & Siti-Nabiha, 2015). This situation shows that organizational culture is very important in running an information system within organization.

The dominant values contained in organizational culture are norm and belief. Norm is the social glue that helps employees to unite the organizations running the standard procedure (Robbins, 2007, p. 725), including the guidelines on how much the work needs to be done (Luthans, 2011, p. 72). While belief is a series of interpretive learned forms the rationale of organization members for deciding whether it can or can not, it is logical or illogical and it is true or not true (Lustig & Koester, 2010, p. 25). Thus, norms and beliefs could encourage employees to run a mutual agreement on common procedures and practices (K. C. Laudon and J. P. Laudon (2012, p. 85), where procedure is also the components contained in company information system (Susanto, 2008).

Methodology

Data Source

The data of the study were obtained through the questionnaires which were distributed to the respondents. The questionnaire has a value criterion as the basis to see whether the organizational culture and

MAIS in SOEs are into the category of poor, good or very good. The value of the criteria used in this study refers to the categorization principle of the average score of respondents which is adopted from Sugiyono (2011, p. 135) is based on the range of the maximum and the minimum score divided by the number of the desired category using the following formula:

$$\text{Category Scores Range} = \frac{\text{Maximum Score} - \text{Minimum Score}}{\text{Number of Category}}$$

To measure each variables used, a questionnaire with the statements that are tailored to the concept was built. Every statement in the study questionnaire was given a score of 1 for the lowest value and a score of 5 for the highest value. From the scores, assessment is synchronized in percentages, in which a score of 1 is equivalent to 20 per cent and a score of 5 is equivalent to 100 per cent. The categorization for each questionnaire item is divided into five categories, in which the interval range that is used is by 16 per cent.

Sample Frame

The target of the study population was 83 SOEs with a sample of 56 SOEs. SOE business sector consists of six sectors, these are, Industry of Manufacture, Industry of Financial Services and Insurance, Industry of Professional Services and Construction, Industry of Big and Small Trade, Industry of Agriculture, Forestry and Fisheries, and Industry of Transportation and Warehousing. The number of respondents who participated was 236 operational managers. Selection of the target respondents were operational managers, as operational managers run the daily tasks using information system and they are necessary to make decisions related to their daily tasks. The study sample frame can be seen more specifically in the Table 3.

Empirical Model

The method used is explanatory survey method, which describes causal relation and correlations between variables by testing the hypothesis (Singarimbun & Effendi, 1995, p. 5). The survey was conducted to gather facts through questions to the people who are intended to help answering research problem as a source of information about cultural organization and the quality of MAIS.

Analysis in this research uses analysis of structural equation model (SEM) based on partial least square (PLS). To determine the significance level, it uses $\alpha = 5$ per cent. Furthermore, taken a decision, comparing the t -value obtained from the results of statistical test with the critical t -value (critical value)

Table 3. Number of Sample and Respondents

No.	Description	The amount of	%
1.	Number of SOEs as target population	83	
2.	Number of SOEs as a research sample questionnaire distribution	56	67.47
3.	Number of questionnaires distributed	421	
4.	Number of questionnaires returned	241	57.24
5.	Number of questionnaires that can be processed	236	56.06

Source: Author's own.



Figure 1. Research Model

Source: Compiled from Table 1 and 2.

or the value of *t*-standard. The research model of this study is how organizational culture effects on the quality of MAIS.

Results and Discussion

Results

This study tested the using structural equation model (SEM) with the PLS (partial least square) approach, is mean PLS is software for process research data. The loading factor value of each indicators and dimensions used in the study showed that all the indicators and dimensions are capable of reflecting the organizational culture in SOEs and the quality of MAIS in SOEs. The results also showed that the effect of the

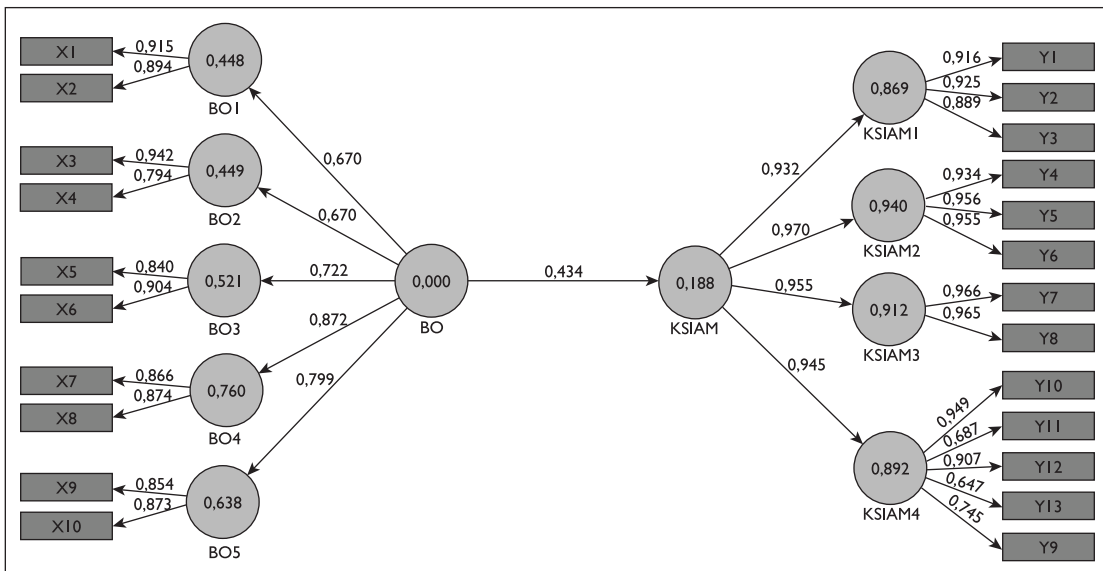


Figure 2. Model of Organizational Culture Research on the Quality of MAIS

coefficient value of the organizational culture on the quality of MAIS is R^2 value of 0.434 or 43.4 per cent. It means that the organizational culture effect has a value of 43.4 per cent and the difference showed that there are other variables that contribute to affect the quality of MAIS in SOEs. Organizational culture significantly affects the quality of MAIS in SOEs. It is shown on the t_{count} value. T_{count} value of 2.958 is still above the critical value that has been set at 1.96. Thus, the hypothesis constructed in this study can be accepted.

From the research model picture, it can be explained that the validity value of the indicators and dimensions used to construct research models are already qualified. Where the model testing is done using second order in which the first order is to test loading factor of the indicators to the research dimension and the second order test loading factor of the dimensions to the research variables. Loading factor test used SmartPLS 2.0 software.

Organizational culture. Based on the first order results of the confirmatory factor analysis, it can be seen the loading factor value of each factor is greater than 0.50. It means that all valid factors are as a measuring instrument for each dimension. Then the composite reliability (CR) of each dimension is greater than 0.70 which indicates that the indicators have consistency in measuring each dimension. Likewise, the average variance extracted (AVE) value of each dimension is greater than 0.50 which indicates that on average it is more than 50 per cent of the information which is attached to each indicator can be reflected through its dimensions.

Based on the second order results of the confirmatory factor analysis, loading factor of each dimensions is greater than 0.50. This means that all dimensions are valid in shaping the organizational culture variables. The CR value is 0.864 and greater than 0.70 which indicates that the five dimensions have consistency in measuring organizational culture. Furthermore, the AVE value shows that on average the information contained in each dimension can be reflected through the organizational culture variables. These results indicate that the outcome orientation dimension is the most important factor in reflecting the organizational culture, followed by aggressiveness and team orientation, while attention to detail and innovation dimensions are the smallest dimensions in shaping the organizational culture in BUMN.

The quality of MAIS. Based on the first order results of the confirmatory factor analysis, it can be seen that the loading factor value of each indicator is greater than 0.50. This means that all indicators are valid as measurement tool for each dimension. The CR value of each dimension is greater than 0.70 which indicates that the indicators have consistency in measuring each dimension. Furthermore, the AVE value of each dimension is greater than 0.50 which indicates that on average more than 50 per cent of the information contained in each of the indicators can be reflected through its dimensions.

Based on loading factor test, it can be interpreted that 'simplification of business processes' indicator becomes the most powerful indicator in reflecting the integration dimensions, while 'centralized master data management' indicator becomes the weakest indicator in reflecting integration dimension. For the indicators that reflect flexible dimension, 'system has input selection' indicator becomes the most powerful indicator in reflecting flexible dimension, while 'useful for everyone who would need it' indicator has the smallest loading factor which means that this indicator is the weakest indicator in reflecting flexible dimension.

The most powerful indicator that reflects reliability dimension is 'system is available for users to use' dimension, while 'system provides reliable information for decision-making' indicator becomes the weakest indicator in reflecting reliability dimension. On efficient dimension, 'fast system time response' indicator has the greatest loading factor, which means that this indicator is the most powerful indicator in reflecting efficient dimension, whereas 'specifies the time amount needed to complete the work' indicator becomes the weakest indicator in reflecting efficient dimension.

Discussion

The results of this study have accepted the hypothesis that was built, that organizational culture affects the quality of MAIS (see Figure 2). This study has proved the research of Eber and Pliskin (1996), Kappos and Rivard (2008), Indej and Zhneg (2010), Careno and Turolla (2010), and Agbejule (2011). This study has also proven the concept that is built, as proposed by Stair and Reynolds (2010), K. C. Laudon and J. P. Laudon (2012), Turban and Volonino (2011), and K. E. Kendall and J. E. Kendall (2011) that organizational information system is affected by organizational culture. Thus, organizational culture is one important factor in the spread of MAIS and determinant in deciding to use MAIS in the organization.

Organizational culture can always be found in accounting information system (K. C. Laudon & J. P. Laudon, 2012, p. 115). The information system used will add value to the company when it is affected by culture (Stair & Reynolds, 2010, p. 43). Organizational culture in SOEs in total is in 'good' category. Based on SOEs sector, five SOEs sectors have good categorized organizational culture value, and the quality of MAIS which in terms of its dimensions also has a good category. As for industry of agriculture, forestry and fisheries have value of organizational culture of 'good', but for the quality of MAIS which was used still have low value with 'less good' category. This proves that good organizational culture does not always affect the quality of MAIS in SOEs. Thus, the conditions that occur in agriculture, forestry and fisheries are in contrast to a statement that is filled by Eber and Pliskin (1996) that organizational culture plays an important role in the effective implementation of information system integration.

During this time, organizational culture issues that arise in SOEs, which has work culture tends to be more waiting, is still a lack of competitive value, not creative and not think global, highly bureaucratic and highly centralized (Arifin, 2010). Referring to these problems, the dimensions used to measure organizational culture are attention to detail, innovation, team orientation, outcome orientation and aggressiveness (McShane & Glinow, 2010, p. 419; Robbins & Coulter, 2012, p. 52).

Totally, dimensions of attention to detail, innovation, team orientation and outcome orientation have respondent values which are into good category. This dimension shows the positive direction to the quality of MAIS in SOEs. Culture of attention to detail, the personals in SOEs has high accuracy level, it is evident that every time he does a job, personal checks and examines what is to be done and does a proper job analysis based on data owned. The accuracy of every personal has become a culture, because the accuracy level of the error will be smaller and can be used as a benchmark if the work performed is really efficient. To obtain a thorough personal, at the beginning of putting a person whether at the first time he works or someone will occupy a position in the office, a capability test is done. The goal is that every work that is done can be completed efficiently, is not wasting time just because of reworking previous work.

Personal in SOEs has the habit of working as a team (team orientation dimension), doing a job which is able to collaborate with other divisions. Teamwork will reflect that the company is more moderate, due to continuously trying to improve performance. Teamwork can make the company be more superior because teamwork is able to unite the power of ideas in facing the challenges in order to realize the company's goals. Personal in SOEs also has high level of confidence for all the work produced and reflects the effect of his work results (outcome orientation dimensions), although the thought is to maintain the position or obtain a better promotion.

Different results obtained from the respondents' answers on innovation and aggressiveness dimensions. This study shows that innovation and aggressiveness dimensions become the lowest dimension when it is compared to other dimensions. Innovation, personal involved in SOEs still lack the courage to make trial and error act to improve the work quality performed. There were respondents who do not have their own tricks in deciding an action to complete the job even though they have long worked in the same field. The trick is not to make a fraud. It's just how someone makes an extra effort to facilitate the

completion of a work that has been done routinely. Such as how a manager makes a scheme of work that can be delegated to subordinates who are considered capable, so in that way the work that is done so far by himself will be easier. In addition, it often makes work groundbreaking that is not unusual after the work is completed. The results are discussed with the highest leader for the interests of large meeting/annual meeting.

Innovation is very close to aggressiveness habits, in which the aggressiveness is how far employees aggressively do their work (Robbins & Coulter, 2012, p. 52) and has competitive power (McShane & Glinow, 2010, p. 419). Habit to do initiative and to have competitive power on each SOEs still varies for each SOEs business sector. These dimensions are low when compared to other three dimensions, but still in good category. The initiative is how a member of the team working does all his work without any command, because each team member has had their own responsibility, so that the work that is charged will run based on the expected target. The work results will be compared with the work of other teams, then this is where the competition between the team members is done.

Many people consider that competition is a negative thing. Competition is said to be something negative when someone acts for profit but to hurt or take the others rights. Competing in generating job performance is a positive thing. It is seen from the perspective of Goleman motivation theory, where motivation is the drive and energy in a person to achieve results, to balance short-term and long-term goals and pursue the ideals of a person even in facing of various challenges and rejection (David & Richard, 2007). When one works well and always wants to be perceived better by the leader then it is a form of competition. When one compares the work results that are carried out by others work in achieving employment targets, it is also a competition.

When it is associated with the implementation of information system, or when there is the development of information system, encouragement from the managers themselves to know earlier systems developed is a form of competition. Creativity and innovation of the system users will help in the evaluation system used, so that it will be able to continue in improving the quality of MAIS used in company.

For innovation and aggressiveness dimensions on industry of agriculture, forestry and fisheries have 'good' category; however, this sector MAIS still has condition that is 'less good'. The conditions that occur in this sector because the information system is still under development, even there are still companies that do not have a proper computerized information system. Because MAIS is not in good quality yet, then it appears every personal's creativity to be able to finish the job. On a sector that has had good information system it appeared the assumption that the personals search for secure position, so that it is waiting. Personal in SOEs is bound by the rules, procedures and systems that have been built, thus inhibiting the competitiveness and creativity of each personal. Chatterjee's research (2014) found results that innovators can reduce environmental uncertainty within the organization and also indicate that the innovators follow interactive control system.

To promote a culture of innovation, since 2013, the Ministry of SOEs conducting award given naman 'SOE Innovation Award' aim to improve the innovation and competitive value of SOEs. This award is given as a token of appreciation or appreciation to the state that has innovating technologies and products and has been active in encouraging the development, the spirit and practice of innovation in Indonesia. The Ministry of SOEs also gave a special category award, which is associated with *Green Product*, *Green Technology*, *Innovation Commitment for SMEs* and *Culture Innovation*.¹

Performing work using information systems and procedures are also a form that culture has been well functioning in the organization, because the culture function is the social glue that helps to unite the organization in providing precise standards of what should be said and not done by the employees, and culture also serves as a meaning maker mechanism and control mechanism that guide and shape the attitudes and behaviour of employees (Robbins, 2007, p. 725).

As we know, culture is a set of shared values, beliefs and norms that affect employees to think, feel and behave towards each other and towards those who are outside the organization (George & Jones, 2010, p. 502). If from the system point of view, K. C. Laudon and J. P. Laudon (2012, p. 85) said that culture is a powerful unifying that withstands the conflicts and encourages the mutual understanding, agreement on procedures and common practice. It means that the habits that are made by employees of the company may inhibit or facilitate the development and implementation of MAIS. Accordingly, referring to the concept of organizational culture in the implementation of information systems, the organizational culture that is either owned by an organization will be able to support Green IT/IS, where Green IT/IS is an important domain of green information systems as utilization of environmentally sustainable in decision-making process organization (Khor, Thurasamy, Ahmad, Halim, & May-Chiu, 2015).

When MAIS is considered to facilitate the relation between the workers and facilitate the work of users, it will have an impact on the creativity of an employee and also on the competitiveness to achieve more innovative, hence it will become part of a culture. So, when he completes the work he always pays attention to the systems and procedures, it has become the culture in organization. He considers that the company information system has provided simplification in the process; thus, making the company more competitive is also a culture.

Conclusion

This study results prove that organizational culture affects the quality of MAIS in SOEs, it means that organizational culture is always there and a consideration in any development and implementation of information system at company. The study also found that MAIS integrated into business processes simplification, so that company can compete. MAIS flexibility is marked because of the input selection at computer-based MAIS software. When the system is available to all users for use in carrying out the work process, then MAIS can be reliable in order to achieve the company's goals. MAIS is into the efficient category when MAIS which is used has fast response time or not slow when it is used.

The implication of this study is the satisfaction of information systems users. Thus, if you want to do the research on the quality of MAIS, you can use a dependent variable of information systems user satisfaction. For the independent variables as the supporting factor of the quality of MAIS, it can be used user involvement, effectiveness of internal controls and the user competence of information systems (Napitupulu & Dalimunthe, 2015).

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Appendix

The quality of MAIS is a specification that can be used as a framework that is integrated into the company by utilizing the resources for providing relevant information to managers and employees in an organization, both financial and non-financial information, for decision-making in reaching goals specifically within the organization. When the system can meet the needs of users, the quality of MAIS can provide satisfaction to the users of the system itself (Napitupulu, 2015b).

Questioner items of the quality of MAIS:

1 = Very Inappropriate, 2 = Inappropriate, 3 = Less Appropriate, 4 = Appropriate and 5 = Very Appropriate

Characteristics of MAIS	Questionnaire Item					
Integration	Information system which is used is fused (integrated) with other departments in the local office (software, hardware and networks fused), so it is easy to access the necessary data.	1	2	3	4	5
	Information system which is used is fused (integrated) with branches or other units (in the city or outside the city), so it is easy to access the necessary data.	1	2	3	4	5
	Information system which is used is to simplify the work communication with the colleagues in different departments.	1	2	3	4	5
	Information system that is used is able to make company more competitive (competition).	1	2	3	4	5
	During this time, obtain the information based on the work authority and responsibility of the without having to contact the one in data processing.	1	2	3	4	5
Flexibility	While outside of the office and was in other department rooms may access the information system to obtain information based on the needs and authority.	1	2	3	4	5
	Information system which is used can quickly be adapted to work if there are changing conditions (both internal policy changes and the changes from outside of the company).	1	2	3	4	5
	Information system which is used has an input option based on the work needs.	1	2	3	4	5
	The systems which are used have selection report based on the needs required.	1	2	3	4	5
Reliability	It is certain that the present available information system meets the needs based on the undertaken authority and responsibility.	1	2	3	4	5
	Information system which is used generates reports that can be relied on to take a decision based on the authority and responsibility.	1	2	3	4	5
Efficiency	Information system can obtain various reports from the same data input.	1	2	3	4	5
	Information system that is used has a rapid response in producing a report (not slow).	1	2	3	4	5
	Information system which is used saves data with small capacity, without spending large memory.	1	2	3	4	5
	Information system which is used simply conducts backup data.	1	2	3	4	5
	Each work that is performed has predetermined time completion.	1	2	3	4	5

Source: Compiled from Table 1 and 2.

Organizational culture is the habits, norms and beliefs of all employees in company which encourage mutual understanding, agreement on common procedures and practices to be considered as a truth in order to reach the company's goals.

Questioner items of the organizational culture:

1 = Never, 2 = Ever, 3 = Seldom, 4 = Often and 5 = Always

Characteristics of MAIS	Questionnaire Item					
Attantion to Detail	Re-examine in detail the work that has been done or will be done.	1	2	3	4	5
	Use available data, users do work analysis appropriately.	1	2	3	4	5
Innovation	Make tricks/with its own way in deciding an action to complete the job as the responsibility.	1	2	3	4	5
	Do trial and error to improve the quality of work that is performed.	1	2	3	4	5
Team Orientation	Work in teams rather than individually.	1	2	3	4	5
	Do the work in collaboration with other teams (other divisions).	1	2	3	4	5
Outcome Orientation	Convince that any work undertaken will achieve the expected results.	1	2	3	4	5
	The activities which were undertaken give high hopes to the system users to obtain maximum results.	1	2	3	4	5
Aggressiveness	Have the initiative to do the work in advance without waiting for work team to perform a task.	1	2	3	4	5
	Compare the work results that were performed to others' work results in reaching the work targets as the responsibility.	1	2	3	4	5

Source: Compiled from Table 1 and 2.**Note**1. Retrieved 27 May 2017, from www.bppt.go.id**References**

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