

Influence of User Involvement and Management Accounting Information Systems on User Satisfaction

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Abstract: The scope of Management Accounting Information Systems (MAIS) is positively related to changes in the organization's strategy to meet management objectives in particular, so that the manager is satisfied when using MAIS services for economic decision making both short and long term. User involvement (the manager) in the information system can also increase the satisfaction of the use of information systems. The contribution of this study is to introduce the concept of user involvement in user satisfaction of management accounting information system. This research was conducted at the operational managers of manufacturing companies in Indonesia using explanatory survey approach. The data testing with path analysis by SPSS. The results showed the effect of user involvement on the quality of MAIS. It was also found that the quality of MAIS become intervening between user involvement on user satisfaction. But, the effect of user involvement on user satisfaction directly showed no significant effect.

Key words: Management accounting information systems, user satisfaction and user involvement, information, organization's, explanatory

INTRODUCTION

The integrated concept of information system takes an important role in business entity (Nookabadi and Middle, 2006) because it reflects the success of organization of information system (Bentley and Whitten, 2007). The information system integrates the sub-system whether physic or non-physic which are related at each other (O'Brien and Marakas, 2005) and works together in harmony to achieve one goal that is processing data into the useful information. It's built of various component, they are software which is built specially, built or bought, hardware and network (Bentley and Whitten, 2007).

Accounting information system in an organization that has two main system, they are financial accounting information system and management accounting information system (Wilkinson, 1989; Hansen and Mowen, 2007). Both of the subsystems are divided, the input characters and the kind of process which is used to change the input becomes the output based on the purpose (Hansen and Mowen, 2007). The financial accounting information system gathers and process the transactional data and then spreads the financial information to related party (Kieso *et al.*, 2005). MAIS produces information to help manager, the executive and the workers in making decision to manage the

organization (Kaplan and Atkinson, 1998). Therefore, MAIS should consider the nature of the information that corresponds to a particular organization (Hidayah, 2015).

MAIS is similar to the common information system which is able to support and serve the aim of the corporation strategy (Kaplan, 1984). The managers use MAIS to look for the specific information to help them to strengthen the information about strategic issues from the informal resources (Heidmann *et al.*, 2008), it's also used to give the competitive superiority of the corporation. The scope of MAIS positively relates to the strategy alteration of organization (Naranjo-Gil and Hartmann, 2007), to fulfill the aim of management in certain way (Hansen and Mowen, 2007) and also to success the long-term economic decision (Hoque, 2002). So, the qualified MAIS has an influence in the user satisfaction of information system (Melchor and Julian, 2008; Stair and Reynolds, 2001; Aggelidis and Chatzoglou, 2008).

MAIS refers to the normative things, yet it's implemented it could raise the unpredictable consequences, it's caused by the context of the organization and socially not understood by the users (Lawrence *et al.*, 1997). To avoid the user miss understanding which could impact the quality of information system, the user involvement could be the solution the problem.

The contribution of this study is to introduce the concept of user involvement in user satisfaction of management accounting information system. This research will also examine the involvement of operational manager in increasing the quality of MAIS and the user satisfaction. Therefore, the research problems that may rise are; user involvement have influence to the quality of MAIS, the quality of MAIS have influence to the user satisfaction, user involvement have influence to user satisfaction and then the user involvement have the influence to user satisfaction through the quality of MAIS.

Literature review:

User involvement and the quality of management accounting information system: The user involvement has a positive effect to the success of a system (Tait and Vessey, 1998; Stair and Reynolds, 2001), if it's managed well (Magnusson *et al.*, 2003), whether it's the arrangement or the implementation of the information system. For business purposes, the user is often involved in the information system development (Laudon and Laudon, 2009), in order to the corporation could achieve the strategic target and earn the competitive advantages. The user involvement is a good approach to give the user responsibility and authority in making own decision about operation (Warren *et al.*, 2009). The user involvement in information system is emphasized in how the user takes part in the information system arrangement and what steps need to do in supporting and aiming the contribution. Psychologically, the user involvement in developing the information system will increase the use of the information system and user satisfaction (Valusek and Fryback, 1987). Kujala (2003) also said that involvement is useful and has positive effect to the quality of information system and user satisfaction.

The user involvement is similar to the participation in development (Olson and Ives, 1981; Damodaran, 1996), aims to the quality of information system which is considered more useful will be understood and more genuine (Magnusson *et al.*, 2003). It also helps the user to receive the change and reduce the inappropriateness of the function of information with the organization structure and support the MAIS performance when the uncertain condition happens. The positive result of the user participation in information system arrangement and operation will shape the suitable system with the priority and business needed and the better chance to control the result, also the user reacts more positive to the information system (Hunton and Beeler, 1997; Laudon and Laudon, 2009). The user involvement becomes an important factor in arrangement of the information system and its Implementation because it may increase the use of

itself. Furthermore, Rouibah *et al.* (2009) explains when an organization trusts to the user, the use of the information system will increase more:

- H₁; user involvement influence to the quality of management accounting information systems

The quality of management accounting information system and user satisfaction: The quality of MAIS has some influence to the user satisfaction of information system (Melchor and Julian, 2008; Anggelidis and Chatzoglou, 2008). The satisfaction of the user will increase if it's well distributed (Curtis and Cobham, 2005) and it depends on the quality of MAIS that could help the user duty (Weber, 1999), it also helps the manager on making the decision, in short term or long term (Mia and Patiar, 2002; Hamdan, 2012). MAIS can be determined qualified if it shows the final result according to management purpose (Laudon and Laudon, 2009). The aim of the final result is the user satisfaction when the MAIS produces qualified information such as the accuracy of the information, the punctuality and the relevance for the monetary or non-monetary (Weisenfeld and Killough, 2001).

User satisfaction is an important thing and the contribution for the main idea of the qualified information system (Melchor and Julian, 2008). It could be said high quality of the user in the company feels satisfied in using the system (Bokhari, 2005). It's also depends on how for it helps the user and its intensity of being used by the user (Stair and Reynolds, 2001). So, the measurement of user satisfaction could be seen in how it could help the user in finishing their job, the quality and the reliability of the system itself (Weber, 1999; Ong *et al.*, 2009).

The previous research found the quality of the information system influence the user satisfaction like DeLone and McLean (1992, 2003). Seddon and Kiew (1996) and Rai *et al.* (2002) examined the success of DeLone and McLean model shown that the user satisfaction is measurement to explain the quality of information system. The other researcher proved about influence of information system for the user satisfaction such as Wixom and Todd (2005), Dastgir and Mortezaie (2012), Aggelidis and Chatzoglou (2008) and Chang *et al.* (2012).

Characteristics of qualified information system are efficiency (Stair and Reynolds, 2001), reliability, integration and flexibility (Ong *et al.*, 2009; Wixom and Todd, 2005). Information system that combines the technical efficiency with sensitivity to the organization needs and the user could influence the work satisfaction and higher productivity (Laudon and Laudon, 2009). If the user isn't satisfied with information system integration, that it won't be used and the provided information is not right (Ribiere *et al.*, 1999). It also happens with not flexible

information will affect the satisfaction of the user because it will obstruct the effectiveness of finishing work (Wixom and Todd, 2005). Therefore, the information design could be useful for the people who need it.

- H₂; the quality of management accounting information systems influence the user satisfaction of information systems

User involvement and user satisfaction: The user involvement could increase the user satisfaction (Davis and Olsen, 1984). Psychologically the user involvement in arranging the information system will increase the use of the system and also the user satisfaction (Valusek and Fryback, 1987). You could feel it when you take part in designing and developing it, so that it makes the significant business impact (Dennis *et al.*, 2009). Kujala (2003), also said that the involvement of the user is also useful and has positive effect to the quality of information system and user satisfaction.

The research result by McKeen *et al.* (1994) explain that the user participation is the most important factor in determining the user satisfaction according to variant condition. The active activity of the user could affect the satisfaction (Choe, 1996; Baraoudi *et al.*, 1986) and organization productivity (Martinsons and Chong, 1999). Therefore, providing are real time system to the manager and involve then in the whole process will also increase the satisfaction with information system accountancy (Weisenfeld and Killough, 2001). This thing is emphasizes by Rouibah *et al.* (2009) research that the user involvement takes part in their satisfaction even though it has no direct impact:

- H₃; the user involvement influence to the user satisfaction of information systems
- H₄; the user involvement influence to the user satisfaction of information systems through the quality of management accounting information systems

MATERIALS AND METHODS

The research method that will be used in this study is the explanatory survey that will explain the relation of the causal among the variable through the hypothesis examination. Survey will be done to could the fact through questions for certain people to answer the research hypothesis. The population of this research is the operational manager in manufacture corporate in Medan-Indonesia that has been using the computerized

Table 1: Number of respondents

Description	Amount	Percentage
No. of questionnaires distributed	268	
No. of questionnaires returned	139	51.87
No. of questionnaires that can be processed	97	41.27

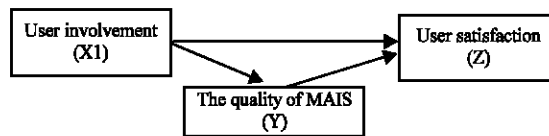


Fig. 1: Research model

information system. The selection of the respondent, the operational manager is caused in doing their daily job, they use it and need to make decision over it (Table 1).

The hypothesis examination uses (path analysis). The aim is to identify the caused path of a certain independent variable or more the dependent one, whether it has direct impact or not. The hypothesis examination uses the support of statistic program which is known as Statistical Product and Service Solutions (SPSS). Research hypothesis could be visualized such (Fig. 1).

RESULTS AND DISCUSSION

The statistic result shows that the variable contribution of user involvement to the quality of MAIS has significant influence with the score of R² as 0.276 (27.6%) and the rest 72.4% is explained other variable that is not counted in this study. For the variable contribution of the user involvement and the MAIS quality to the user satisfaction is about 0.817 (81.7%) where the variable of user involvement directly affects the user satisfaction isn't react significant and the quality of MAIS to the user satisfaction affects significantly. The summary of statistic research could be seen on the Table 2.

From Table 2, it could be said that the user involvement through the quality of MAIS (PY.X) has score beta standardized coefficients for 0.276 (27.6%) with significant score 0.000. The score of the quality of MAIS influence to the user satisfaction (PZ.Y) has the score beta standardized coefficients for 0.810 (81.0%) with significant 0.000. Meanwhile the influence of user involvement to the user satisfaction (PZ.X) is not react significant, it shows on beta standardized coefficients for 0.027 (2.70%) with significant score 0.667.

For indirect influence user involvement to the quality of MAIS can be counted by the PY.X score for 0.276 (27.6%) with the PX.X for 0.027 (2.70%) that will be got the result for 0.0075 (0.075%). The total score of the influence

Table 2: Statistical test

Dependent variable	Independent variable	β-standardized		
		R ²	coefficients	Sig.
Quality of MAIS	-	0.276	0.276	0.006
User satisfaction of Information system	User involvement	0.817	0.027	0.667
	Quality of MAIS		0.810	0.000

of the user involvement and the user satisfaction for 3.45% (2.70+0.075%). The indirect influence has significant influence, therefore the MAIS quality could be interviewing variable of user involvement to user satisfaction.

User involvement and the quality of management accounting information system: The statistic test shows the supporting hypothesis than has been built H₁ the user involvement affects the MAIS quality.

The research result shows that the user involvement is really needed in developing the system because it will attract the user to use what they have built up. This research supports the research result done by Tait and Vessey (1998), Choe (1996) and Baroudi *et al.* (1986). When an organization put a trust to involve the user, then the use of the system will increase (Rouibah *et al.*, 2009). But, the influence of the research result is a little. It's caused by the involvement of the managers in the corporation isn't high enough. It's proven by the answers of the spreaded questionnaire to the respondents, there's only 54.80% of managers who is often and always involved in developing the information system.

The user involvement is highly emphasized on how the user takes part in the process of arranging/designing the information system and the steps that need to do in supporting and aiming in contribution for the whole system, the user involvement is an important thing in a successful information system (Stair and Reynolds, 2001). If its seen from the user psychologies, it shows the user involvement will raise the use of system and the user satisfaction (Valusek and Fryback, 1987).

The quality of management accounting information system and user satisfaction: The positive influence in the same way with coefficients score has proven the hypothesis that has built H₂. The user satisfaction depends on the quality of the system that could help the finishing task of the user and base on the number of use and the characteristic of system user (Weber, 1999). This thing is in the same way as DeLone and McLean (1992, 2003) and Stair and Reynolds (2001), that the user satisfaction could be seen in the information system quality and its result quality in the MAIS context, the research goes the same way with research, the user

satisfaction of MAIS based on information accuracy, reliability and relevancy (Mia and Partiar, 2002; Hamdan, 2012; Fleischmen *et al.*, 2010).

The research result answers the risen problem, especially about the quality the operational manager of manufacture corporation in Medan-Indonesia agree that the good information system will be able to increase the working relationship along the division and able to increase competitive sense of corporation yet, the manager told that in their company, the information system hasn't been well integrated, the reason why is the system they used wasn't capable yet to provide the personal data without directly confirming to the other person who provide the information needed.

The problem that may rise in manufacture industry, information system that hasn't been integrated could affect the working effectiveness, the more time needed in processing data, the decision making will be late and it will obstruct the growth of the company corporation in the future. In a flight transportation industry, the effect from the bad information system is a flight company couldn't be able to collect and analyze the data of the passenger quickly, so that couldn't give the best service for the customer. It means fact the information system that relates to each other and works together in harmony to achieve a goal hasn't happened. The condition is in the same way with the Georgantzas and Katsamakakos (2010) research that the lack of the information system integration could destroy the business performance income and measurement quality.

The result of the study supports the qualified information system that can be reference in making decision. The user may be satisfy when MAIS that the use could help them in determining the goal in short term and long term and also the user satisfaction relates to the frequencies of the use of the provided information system (Mia and Partiar, 2002; Hamdan, 2012; Fleischmen *et al.*, 2010) also declares that the user satisfaction relates to the usage based on the necessity and the information accuracy, timely and relevancy. Fleischmen's statement is supported by the answer of the manager that shows when information system produce information on time, the managers will convey their satisfaction.

User involvement and user satisfaction: The result of this study shows the user involvement to user satisfaction which is not significantly affected. Therefore, this research is not supporting the hypothesis which had been built before (H₃). It is caused by the intensity of the manager involvement isn't in high rank then, the statistic test doesn't show the significant direct influence. This

research has strengthened Sri's statement (2010) when the company develops the information system, whether it buys or builds its own system without involving internal team, affects the user satisfaction.

The user involvement in developing information system is more emphasized in how the user takes part in designing the information system and what steps that need to do in supporting and aiming its contribution. Yet, when the developing of information system in a corporation happens, the operational manager who explains the daily duty and the manager who explains required information are very a few. The intensity of system information development in asking those things to the user should be higher because the operational manager who will use the information system.

The other thing that cause the user involvement doesn't affect significantly because the operational manager who is required to explain the working environment is also very low while the tradition in a company becomes the basic in the suitable information system development. Next, the operational manager who is asked to explain the characteristic of information system user is also low. While, the user characteristic is used as the consideration in the company the equal ability to use the information system that has been built.

If the user is involved, the newest system will be introduced, so than it's applied it will be much easier accepted. Psychologically, the user involvement in arranging of a system will increase the user satisfaction (Valusek and Fryback, 1987) because the user will experience him in seeing the thing that they build has an impact to the business (Dennis *et al.*, 2009). This research support the previous research by Choe (1996) and Baraoudi *et al.* (1996) that the user involvement affects to the user satisfaction. The same thing goes to Waisenfeld and Killongh (2001) when the manager is provided the real time information system and involved to the whole process, there will be change in change in increasing of MAIS user satisfaction.

Directly influence of user involvement on user satisfaction isn't really significant but indirectly the influence of user involvement on user satisfaction through the quality of MAIS is a significant. Therefore, the user involvement hasn't gave enough satisfaction to their work. This study also proves that the quality of MAIS is capable in relating the user involvement to the user satisfaction. It has also been proved that operational manager in manufacture company uses MAIS because of its reliability. The operational manager of manufacture corporate in Medan-Indonesia answers that the good information system will be able to enhance the relationship among the division, to help in finishing the

job and increase the competitive feelings and to support in making a decision. The user involvement doesn't affect directly to the user satisfaction.

CONCLUSION

Based on the result discussion that explained above, it can be concluded that the user involvement, especially for the manager, can increase the quality of MAIS. Psychologically, when the user is involved that usage has a positive response to the built information system, so that it affects positively as its usage. An information system will be qualified and the usage will be increasing because the usage has the good competence, especially in the understanding of information system that is built and used in a company.

The qualified MAIS that is used by the user will increase the user satisfaction. When, a system that has been built isn't capable in helping the manager to finish their job that becomes their responsibility then, the company manager of the company will feel satisfied to the used MAIS. But, the user involvement isn't capable to increase the user satisfaction without using the qualified MAIS. Therefore, the qualified MAIS is the positive intervening between the operational manager involvement in developing the information system to the satisfaction of information system user.

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