THE EFFECT OF MANAGEMENT ACCOUNTING SYSTEM TO TASK UNCERTAINTY AND MANAGERIAL PERFORMANCE IN COOPERATIVE

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Abstract: The aim of this study was to investigate the effect management accounting system to task uncertaninty and managerial performance. Data from 58 manager cooperative manager were to test management accounting system, task uncertainty and managerial performance. Data were analyzed with SPSS and Smartpls. SPSS is used for non response bias and descriptive statistic. SMartPLS is used to hyphothesis test. Reseacrh finding, management accounting system has a positive effect on managerial performance and management accounting system has a negative effect on task uncertainty.

Keywords: Management accounting system, task uncertainty, Managerial Performance

1. Introduction

Decision making is one of management tasks (Cosgrave, 1996) and the heart of management practice (Baba and HakemZadeh, 2012). Furthermore Pedarpur et al. (2013) cite Peter Drucker's statement that the management future depends on the process and the understanding of decision making because it is related to manager task and organizational effectiveness (Abdalla, 1983). In another word, manager decision making represents the required work (Borman and Brush, 1993) and provided accountant information in a certain organization supports the decision making (Siyanbola, 2012).

Performance problem is classic problem in companies and should be addressed by economists (Kahn and Shere, 1990) to determine the performance (Kathuria, 2000). One of performance standard is manager (managerial performance) which is measured how it works (Lathi, 1978). Managerial performance is a comprehensive place to investigate the consequence of behavior influences (Staw and Barsade, 1993). Besides, managerial performance is a profitability and economic performance indicator reflection so there many studies that focus on managerial performance in economic social context and provided accounting information (Arcelus et al., 2014).

Management accounting system (MAS) is a part of accounting information system that provides services for manager and other internal users (Alikhani et al., 2013). Traditionally, MAS is considered as an important matter in the management process (Ajibolade et al., 2010)

and it results information (Ajibolade, 2013). MAS plays a significant role in providing information for decision making(Chong and Eggleton, 2003, AL-Hazmi, 2010). Besides Chong and Eggleton (2003) added that the use of MAS is addressed to improve the managerial quality.For this reason, many researchers are interested to study MAS, focusing on investigating the relationship between MAS with managerial performance.
However, management accounting system (MAS) is not a new issue. Since there is a contradictory result based on previous studies, so the researcher wants to verify and re-analyze the relationship between MAS and managerial performance.
Based on previous studies, the role of MAS toward managerial performance still showed different results. Those differences can be caused by the type of organization or uncertainty matter existed within the organization.Therefore, this current study uses another external object of manufacturing company and hospital, a cooperative.
In Indonesia, cooperatives have been known since colonial period as an economical company used by the people where its role is only limited for providing fund supports for its members (Subandi, 2008). Cooperatives are not just developed, stated by Hatta (1987) cooperatives are based on a kinship to create a well-being for people in the future. Even in the difficult situation, cooperatives can still survive and be developed (Birchall and Ketilson, 2009).
Cooperatives are economical alternatives and worthy to be developed from powerlessness (Bello and Zaria, 2005). Cooperatives are organizations that make a change and those are created to survive in the massive economic structural change which comes from globalization and agricultural industrialization (Royer, 1999). Cooperatives have long been represented an economical organization designed to provide services for their members and not to give profits for investors (Valentinov, 2004).

2. Literature Review

Contingency Theory

Contingency theory is one of approaches, besides using organization design, used for studying organization (Van de Ven et al., 2013). Moreover, contingency theory dominates scientific research toward: organizational attitudes, design, performance, planning, and management strategy (Van de Ven and Drazin, 1984). Besides, contingency theory is a new approach implemented situationally (Luthans, 1973).

Contingency theory has an ability to predict a performance based on “appropriateness” from company strategy, information technology and environmental uncertainty (Buttermann et al., 2008). Moreover, contingency theory is based on the suitability between particular components from organizational managerial and contingency which will improve organizational performance (Çakır, 2012). Therefore, it is not so much that if Ajibolade (2013) stated that organization theory adopts contingency theory as the basic analysis in the organization.

Management Accounting System (MAS)

Information is always an important element within human activities (Tokic et al., 2011). Information necessity for both individual and organization will improve in line with the development of technology (Alikhani et al., 2013). Accounting is one of information or a part of information system (Tokic et al., 2011). Further, Tokic et al. (2011) state that

accounting information system is an integrated sytem that links between environment and human potential and technical element into a particular unit which then is processed. The accounting information system of an organization has two accounting systems: (1) financial accounting system and (2) management accounting system (Alikhani et al., 2013).
MAS gives internal information related to decision making for management unit (Watts et al., 2014). Further, Watts et al. (2014) added that tactical management position depends on MAS. In addition, MAS has an ability to determine a change within organization. MAS is a formal sub-system information within organization that ensures a utility as a tool for manager (Moliner and Ruiz, 2004). MAS which is a combination from multidimensional planning and control sub-system (Williams and Seaman, 2002) gives required information for the manager to make decisions (Jerman et al., 2012). According to Zimmerman (2001) in his study, MAS of a company, in facilitating decision making, aims to provide relevant information on time. Additionally, MAS can be used to motivate employees in achieving organization goals. Therefore, MAS gives information for management and other internal users (Alikhani et al., 2013).

Task Uncertainty

Task Uncertainty is defined as the imperfection of the relationship between information and environment (Palmer, 2005). Thus, uncertainty is the central concept within organization (Milliken, 1987). In organization, uncertainty implicates organization structure, strategy, and process (Regan, 2012). Based on uncertainty theory, it has three types: (1) task, (2) environment dan (3) interdependence (Daft and Lengel, 1986). In summary, Lu (2012) defines uncertainty task as a level of work that is difficult and complex to do and to understand. In his study, Perrow (1967) suggested two basic dimentions of uncertainty task: task variability and task analyzability.

Managerial Performance

Managerial performance has been an interesting topic of research since Fayor published his work in 1916 (Borman and Brush, 1993). It is because the managerial performance is able to influence cultural organization and productivity (Young et al., 2000), and consequence of attitude (Staw and Barsade, 1993). Similar to a study conducted by Emmanuel et al. (2007), it is stated that teoritical literature in controlling management improves managerial performance through managerial motivation. This statement is also emphasized by Mia (1989) with her argument that participation has a potential to improve managerial performance.

Managerial performance has necessary domains: (1) knowledge, (2) leadership, (3) communication, and (4) interpersonal behaviors (Young et al., 2000). Three domains identified as parts of managerial performance are: leadership, communication, and interpersonal behaviors (Borman and Brush, 1993). In addition, according to Saari et al. (1988) this behavior seems important for managerial performance and its successful achievement.
Mahoney et al. (1965) conducted a study which contributes to improve an understanding of managerial performance character. Two dimensions that are relevant to managerial performance are managerial functions dan managerial competence. These two dimensions

provide a framework which analyzes managerial performance (Mahoney et al., 1965). Therefore Mahoney et al. (1965) use the dimension of managerial functions in their study and this instrument is used by many researchers.

The Hypothesis Development

This study has teoritical model which is displayed in figure 1

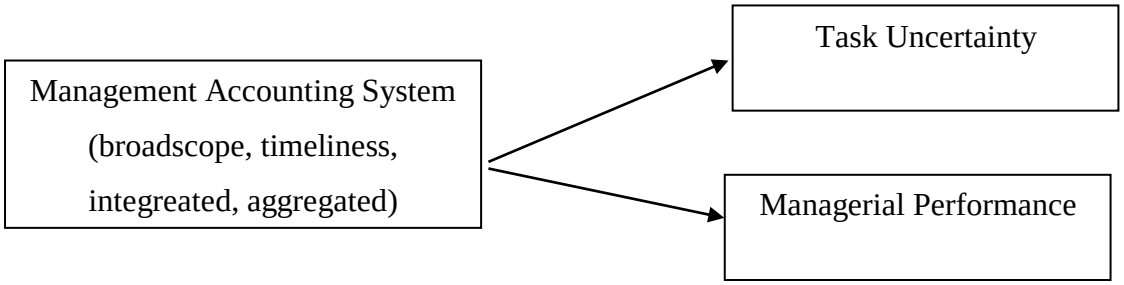

Figure 1. Theoritical Model

This model shows an interaction between MAS and task uncertainty in developing the relation of MAS and managerial performance.

The relationship between management accounting system (MAS) with managerial performance

MAS is a formal system designed to provide information to manager (Bouwens and Abernethy, 2000). It is broadly said that MAS aims to give information to plan and to control business for management (Wessels and Vermaas, 1998). MAS is a phenomenon among accounting academicians and this increases a willingness to investigate MAS (Seaman and Williams, 2006).

A study conducted by Chia (1995) resulted that MAS contributes to managerial performance. Chang et al. (2003) also found that performance can be improved by MAS. By using multiple regression, Chong (1998) found that interaction MAS with tolerance for ambiguity influences managerial performance. From this finding, it can be stated an alternative hypothesis (H1): MAS gives an positive impact to managerial performance.

The relationship between MAS with task uncertainty

MAS is a formal system designed to give information to manager (Bouwens and Abernethy, 2000). It can be widely said that MAS has proposed to support information to plan and to control business for management (C.B. and H.F., 1998). MAS has motivated the researchers to conduct studies deeper related to this topic (Seaman and Williams, 2006).

A study conducted by Chia (1995) resulted that MAS contributes to managerial performance. Chang et al. (2003) also found that performance can be improved by MAS. By using multiple regression, Chong (1998) found that interaction MAS with tolerance for ambiguity influences managerial performance.

Otley (1980) described that contingency approach for management accounting is based on premise that there is no appropriate universal accounting system that is used for all organizations in the same condition. On the other hand, management accounting will depend on a particular condition where an organization is settled. Thus, the existing contingency

theory there should identify specific aspect of accounting system related to particular condition.

A study by Chong (1996) tried to review interactive impact of MAS toward managerial performance. In his study, Chong (1996) included contingency variable, uncertainty task, as a moderating variable. The findings gained by Chong (1996) showed that a high situation of uncertainty taskwith the use of broadscope MAS will improve managerial performance. A study by Chong and Eggleton (2001) tested three the directions of interaction among locus of control, uncertainty task, and management accounting system (MAS) which influences managerial performance. The result of the study from Chong and Eggleton (2001) shows that three transaction directions: locus of control, uncertainty task, and MAS affect the performance. It means management accounting system gives an impact to managerial performance.

By using questionnaire survey from 131 senior managers of companies in Australia, Vincent K Chong (2004) analyzed his study to test the job relevant information,between management accounting system and uncertainty task toward managerial. The result of the study found that three direction-interaction of job relevant information, management accounting system and uncertainty task influence managerial performance. Besides, on the other side, a high situation of uncertainty task in the use of information of management accounting systembroad scope and timely, and job relevant information to make decisions influence the improvement managerial performance.

In some studies, task uncertainty plays a role how a manager takes a decision by using information. When the level of uncertainty task is low, a manager needs less informantion of management accounting system to take decisions (Chong, 2004). The condition of contingency through task uncertainty influences the behavior of manager in decision making. The decision making is an important thing for a manager. Moreover, some studies state that uncertainty task is the main strategy in making decisions (Grandori, 1984) and give effective feedbacks (Geer, 2009). In addition, task element cotrolled by employees also depends on the level of uncertainty task.

It is task uncertainty which was a focus in reviewing the suitability of contingency variables in the study by Chang et al. (2003). In this study, uncertainty task as moderating variable interacted with accounting information system characteristics to identify its relationship with accounting information system performance.

Task Uncertainty is also a moderating variable in the study by Chong (2004). This moderating variable is interacted with management accounting system and relevant job information. This is founded by Chong (2004). It is showed that a high uncertainty task using management accounting system broadscope and relevant job information will improve the managerial performance. By reviewing the theories and the results of previous studies, so alternative hypothesis (H2): Management accounting system effect to the task uncertainty.

3. Method

Data and Source of the Data

The data used in this present study are primary data. These primary data are collected from perspectives or managers' opinions taken individually to investigate the information related to management accounting system, task uncertainty and their performance. The source of the

data used in this study is all managers in Ponorogo, East Java, Indonesia which is popularly known as a Reyog town.

Population and Sample

There are 760 active cooperatives in Ponorogo regency (Indakop, 2015) but not all of them have managers. There are only 115 cooperatives which have managers (Indakop, 2015). All managers are identified as analysis unit based on their functional roles in cooperative organization structure. The respondents of the study are addressed to cooperative managers in Ponorogo Regency – East Java. The sample of the study is taken by using Rao (1996) formula. Non probability sample is used and finally there are 54 managers taken as the respondents. Data that can be analyzed 58 respondents from 115 questionnaires were distributed.

The Definition of Operational and Variable Measurement

Management accounting system (MAS)

MAS in this study is defines as information used by managers to make decisions Chong (1996). This current study does not use aggregated dimension because according to Hammad et al. (2013), it is less beneficial for evaluating managerial performance since there are huge information. Therefore, it has less function in decision making and it obstructs managerial performance. Based on this reason, this study utilizes three dimensions: Broadscope, timeliness and integreated. Those dimensions are measured through a questionnaire instrument with a likert scale 1-7 developed by Chenhall and Morris (1986). In this study: broadscope is a wide characteristic scope from MAS involving focus dimension, time horizon and quantification (Gordon and Narayanan, 1984). Timeless is the punctuality determined by information provider based on the requiremet systematically from those gathered information (Chenhall and Morris, 1986). Meanwhile, integrated is a degree of measurement that facilitates information system combination from various sources and areas to support business decisions (Nelson et al., 2005).

Task Uncertainty

Task uncertainty is defined as the difference of required information with processed information (Chong, 1996). Task uncertainty in this study is measured by the instruments developed by Chong (1996). This instrument has been developed by Chong (2004) from Withey et al. (1983). This instrument of task uncertainty is measured by using Likert scale 1-7.

Managerial Performance

Managerial performance is one's quality and quantity of working result during his or her performance according to the responsibility given. Managerial performance is measured by using instrument Mahoney et al. (1965) which is known as 9 items.. Each manager is asked to measure his or her self managerial performance with Likert scale 1-7.

Technique of Data Analysis

The analysis technique used is non-response bias test and descriptive statistic with the SPSS program. while testing the hypothesis is analyzed by the SmartPLS program. the data is analyzed with the outer model and the inner model. Outer model is used to test the construct validity and instrument reliability (Jogiyanto, 2011). Outer model to know loading factor value and AVE value. provisions for Loading Factor > 0.70 and AVE> 0.50 as a condition convergent validity (Abdillah and Jogiyanto, 2015). Inner model is used to analyze

hypothesis that are accepted or rejected. The hyphotesis is accepted if t-statistic > 1,96 and p-value < 0,05 and the hyphotesis is rejected if t-statistic < 1,96 and p-value > 0,05 (Hair et al., 2010)

4. Result and Discussion

Non-response bias test and descriptive statistic

115 questionnaires are distributed and 65 of them are taken. Yet, there are only 58 questionnaires that can be analyzed. the data collected can then be displayed in a table: non-response bias and descriptive statistic as follows

Tabel 1. Non-response bias test

construct	Mean Early (n = 53)	Mean final (n = 5)	t-stat	p-value
Management accounting system	79,4906	75,6000	0,978	0,332
Task uncertainty	44,1509	49,6000	-1,851	0,069
Managerial performance	54,0755	57,0000	-0,849	0,400

Sources: primary data processed

Table 2. Descriptive statistics

Variable	N	Theoretical range	Theoretical mean	actual range	Mean actual	Standard deviation
Management accounting system	58	14-98	56	64-96	79,1552	8,49727
Task uncertainty	58	9-63	36	27-57	44,6207	6,42590
Managerial performance	58	9-63	36	35-63	54,3276	7,34701

Sources: primary data processed

Table 1 results show that the p-value of each construct has a value of > 5%. This means that there are no significant differences between the two groups that provide early responses and final responses. So, there is no problem of response bias. Then the data can be analyzed.
Table 2 result show that all constructs have an actual mean higher than the theoretical mean. Means, MAS is many used in cooperatives for decision making, task uncertainty in cooperatives is high and the manager has a high performance.

Evolution Model

Vinzi et al. (2010) recommends that PLS use two approachs, namely: model evalution (outer model) and structural model (inner model). Outer model multidimention MAS produces values that can be table as follow:

Table 3. Composite Reliability and AVE MAS variable

	Composite Reliability	AVE
Aggregated	0,840	0,637
Broadscope	0,871	0,427
Integreated	0,870	0,698
Man.Accounting System	0,903	0,408
timeliness	0,832	0,554

Sources: primary data processed

Table 3 result show that AVE < 0,5, then its need to issue items factor loading < 0,70. 3 items of broadscope dimension and 1 item of timeliness dimension removed in analyzed.

Then the data is analyzed with smartPLS obtained Composite Reliability and AVE and path coeficient, as follows:

Table 4. Composite Reliability and AVE MAS variable after issued 4 item

	Composite Reliability	AVE
Aggregated	0,840	0,637
Broadscope	1,000	1,000
Integreated	0,870	0,690
Man.Accounting System	0,909	0,502
timeliness	0,824	0,610

Sources: primary data processed

Table 5. *Path coeficient Management Accounting System* (MAS)

	Original sample	Sample mean	Standart deviation	t-stat	p-value
MAS →*aggregated*	0,873	0,876	0,035	24,843	0,000
MAS → *broadscope*	0,576	0,562	0,103	5,492	0,000
MAS →*integreated*	0,942	0,943	0,012	80,052	0,000
MAS →*timeliness*	0,878	0,881	0,026	33,483	0,000

Sources: primary data processed

Table 4 result show that composite reliability > 0,70 and AVE > 0,50. Thus the MAS construct fulfills convergent validity. Table 5 result show that t-statisctic > 1,96 and p-value < 0,05. Means, construct first order has a significant on the second order MAS construct. So, broadscope, timeliness, integreated and aggregated is shaper MAS construct.

Outer model research

SmartPLS produces table Composite Reliability and AVE and outer model figure as follows:

Table 6. Composite Reliability and AVE

	Composite Reliability	AVE
Aggregated	0,840	0,637
Broadscope	1,000	1,000
Integreated	0,870	0,690
Man.Accounting System	0,909	0,502
Managerial performance	0,928	0,591
Task uncertainty	0,496	0,228
timeliness	0,824	0,610

Sources: primary data processed

Table 6 result show that task uncertainty has Composite Reliability value < 0,70 and AVE value < 0,50. So, it's necessary to drop some items that have factor loading < 0,70. On outer model then deleted 7 items task uncertainty dan 1 item managerial performance.

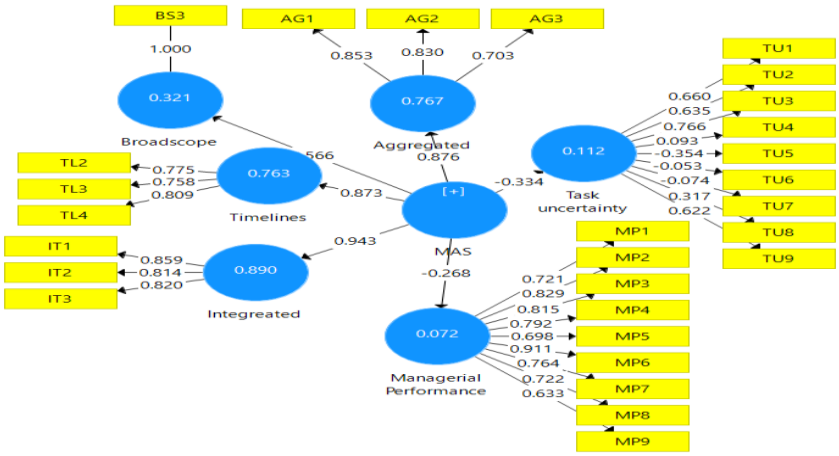

Figure 1. outer model
Sources: primary data processed

Then, the data is analyzed. So, it's obtained table 7 as follows:

Table 7. Composite Reliability and AVE MAS, task uncertainty and managerial performance

	Composite Reliability	AVE
Aggregated	0,840	0,637
Broadscope	1,000	1,000
Integreated	0,870	0,690
Man.Accounting System	0,909	0,502
Managerial performance	0,928	0,591
Task uncertainty	0,721	0,577
timeliness	0,824	0,610

Sources: primary data processed

Table 8 result show all item is valid because composite leliability > 0,70 and AVE > 0,50. Thus all indicator are valid. So, the data can be further analyzed using bootstrapping. The result are as follows:

Table 8. Path coeficient MAS, task uncertainty and managerial performance

	Original sample	Sample mean	Standart deviation	t-stat	p-value
MAS → Managerial Performance	0,266	0,313	0,128	2,075	0,039
MAS → Task Uncertainty	-0,364	-0,375	0,110	3,309	0,001

Sources: primary data processed

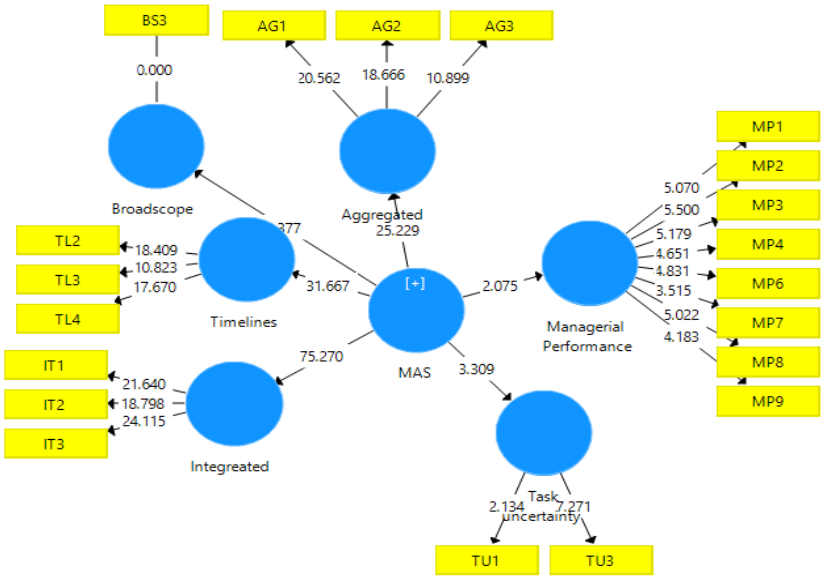

Figure 2. inner model
Sources: primary data processed

Hypotheses test

The result are seen in table 8 show that MAS positifve influence on managerial performance. This is indicated by t-statistic > 1,96, p-value < 0,5 and original sample 0,226. Finding have meanings that an increase in MAS usage will improve managerial performance. conversely a decrease in the use of MAS will reduce managerial performance.

In the same table also seen that MAS has a negative effect on task uncertainty. This is indicated by statistic t-statistic 3,309, p-value 0,001 and original sample -0,364. T-statistic value > 1,96 , p-value < 0,05 and original sample with negative notation. Means, hypotheses is accepted. increased use of MAS will reduce Task uncertainty and decrasing the use of MAS will increasing task uncertainty.

Research findings indicate that MAS positive effect on managerial performance. This means that the dimension are owned by MAS (broadscope, timeliness, integreated and aggregated) affecting managerial performance. The results of this study support the findings research conducted by Agbejule (2005), Agbejule (2005), Agbejule (2011), Ajibolade et al. (2010), Bhimani (2012) , and Ajibolade (2013). All the research findings that MAS affect the performance, managerial performance and organizational performance. Findings that show that MAS has a negative effect on task uncertainty. These finding support research by , Chang et al. (2003), Chong and Chong (2003), dan Kim and Burton (2002).

5. Conclusions

This study provides empirical evidence regarding the effect of MAS on task uncertainty and managerial performance. The results showed that: (1) MAS has a positive effect on managerial performance, and (2) MAS has a negative effect on task uncertainty.

This research has implications that management accounting system (MAS) on managerial performance and task uncertainty. Thus MAS indirectly influences the ups and downs of managerial performance. MAS also helps managers in task uncertainty

The limitations of this study are: (1) The use of managers as objects of sampling in this study is less representative because in fact managers are not included in the organizational structure hierarchy in cooperatives, (2) The instrument used in this research is the respondents' perceptions and it may lead to a problem in case there is a difference between the perception and the factual condition, and (3) It was assumed that managers already understand MAS, task uncertainty and the managerial performance.

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