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The Effect of Organizational Structure on Quality of Management Accounting Information Systems (Survey on Indonesia State-Owned Enterprise)

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Abstract: Having a high quality management accounting information system is essential for the company. This study investigates the effect of organizational structure on the quality of management accounting information systems. Data obtained through survey by questionnaire. The questionnaire was addressed to the functional managers at 114 Indonesia state-owned enterprises. The 190 questionnaires from 62 companies (54.38%) were returned and completed. Smart-PLS was used to data processing. As expected, organizational structure has significant effect on the quality of management accounting information systems. This results confirms to the previous studies on the effect of organizational structure on the quality of management accounting information systems.

Key words: Organizational structure, quality of management accounting information systems, Indonesia state-owned enterprise, investigates, questionnaire, functional managers

INTRODUCTION

For many organizations, information is a valuable resources and has vital role in organization (Azhar, 2013; Richardson *et al*., 2014). Therefore, managing information has become a significant challenge for organization (Chaffey and Stave, 2005). Information produced by information systems (Boczko, 2007; Heidmann, 2008). There are many types of information systems in organization (Bodnar and Hopwood, 2012; Rainer Jr. *et al*., 2014). One of them is management accounting information systems (Belkoui, 2002; Atrill and McLaney, 2009). The role of management accounting information system is to produce management accounting information (Heidmann, 2008) that used by managers to make various decisions in carrying out its managerial functions in order to realize the company's objectives effectively and efficiently (Drury, 2012; Hilton and Platt, 2013).

In Indonesia, there are number of phenomena concerning with the lack of quality of management accounting information system both government and private sector, specifically in state-owned enterprises as stated by Mamahit (2014), Prahadi (2016) and Susilawati (2016).

There are many factors that affect the quality of management accounting information systems. One of them is organizational structure (Emmanuel *et al*., 1990; Belkoui, 2002; Eldenburg and Brooks, 2011). Based on above phenomena, we investigates the effect of organizational structure on quality of management accounting information systems in context of Indonesia state-owned enterprise.

MATERIALS AND METHODS

Organizational structure: Organization structure is a formal system of relationships that determines lines of authority (who reports to whom) and the tasks assigned to individuals and units (who does what task and with which department) (Gomez-Mejia and Balkin, 2012). The other definition about organizational structure are: organizational structure refers to the division of labor as well as the patterns of coordination, communication, workflow and formal power that direct organizational activities (McShane and Von Glinow, 2010) and organizational structure related to how job tasks are formally divided, grouped and coordinated within an organization (Robbins *et al*., 2014).

Based on above definition, in this study, we define organizational structure as a formal systems that governing how job/duties, responsibilities and authorities are divided, grouped and coordinated in organization to enable the achieving the organizational goals.

Quality of management accounting information systems: Drury (2012) see management accounting information

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systems as accumulate, classify, summarize and report information that will assist employees within an organization in their decision-making, planning, control and performance measurement activities. According to Heidmann (2008) management accounting information systems are the formal systems to prepare and provide information from the internal and external environment that helps managers to monitor organizational performance. Belkoui (2002) define management accounting information systems as 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.

Based on above definitions, we defined management accounting information systems as formal system consisting of a set of components/resources/sub-systems that integrated harmoniously to provide information (both internal and external, financial and nonfinancial) to managers that allows them to perform their manajerial functions.

American society for quality define quality as the total features and characteristics of a product or a service made or performed according to specifications to satisfy customers at the time of purchase and during use (Horngren *et al*., 2015). Stair and Reynolds (2010) pointed out that quality is the ability of a product or service to meet or exceed customer expectations. So, quality can be defined as ability of a product or service that is reflected from attributes or characteristics it has to meet the needs or expectations of users (customers).

Based on the definitions about management accounting information systems and quality above in this study we define quality of management accounting information system as the ability of management accounting information systems (through attributes or characteristics possessed) to produce management accounting information that required by managers to performs their managerial functions. This definition in line with Petter *et al.* (2008) which states that quality of information systems is the expected characteristics of an information system.

The effect of organizational structure on quality of management accounting information systems: The main factor affecting the management accounting information system is the organizational structure (Eldenburg and Brooks, 2011). Belkoui (2002) states that efficient management accounting information system is influenced by organizational structure. Similarly, Emmanuel *et al.* (1990) states that, the design of management accounting information systems are evidently influenced by organizational structure.

The effect of organizational structure on the quality of management accounting information system is supported by previous research results such as Moores and Yuen (2001), Soobaroyen and Poorundersing (2008) and Strumickas and Valanciene (2010).

Hypothesis formulation: The hypothesis to be tested in this study is the quality of management accounting information significantly effected by organizational structure.

Research methods: The qustionnaires used to data collection. Questionnaires addressed to functional managers at 114 Indonesia state-owned enterprises. Smart-PLS used to data processing.

The Organizational Structure (OS) measured by 3 dimensions, namely departmentalization, spand of control and formalization (McShane and Glinow, 2010; Robbins *et al*., 2014). Departmentalization measures the degree to which the same tasks are grouped in the same group, so that, tasks can be well coordinated. Span of control measures how many subordinates are supervised by a direct supervisor or how many subordinates reports to the direct supervisor. Formalization measures the degree to which tasks, authorities and responsibilities are standardized through formal procedures and rules. Six items five point Likert scale was used to get responses of functional managers about their organizational structure in related to the quality of management accounting information systems.

The Quality of Management Accounting Information Systems (QMAIS) measured by 4 dimensions, namely integration, flexibility, accessibility and media richness (Heidmann, 2008; Azhar, 2013). Integration measures the degree to which the components and sub-sub systems are integrated harmoniously to facilitates the provision of management accounting information. Flexibility measures the degree to which systems can adapt to a variety of user needs and to changing conditions. Accessibility measures the degree to which systems can be accessed with relatively low effort. Media richness measures the degree to which systems uses channels that enable a high level of personal interaction. Eight items 5 point Likert scale was used to get responses of managers about the quality of their management accounting information systems.

RESULTS AND DISCUSSION

Descriptive statistics: The 190 questionnaires from functional managers that working at 61 Indonesia state-owned enterprise (54.38%) were returned and completed. A summary of respondent's responses on

Table 1: Summary of respondents responses on each dimension of Organizational Structure (OS) and Quality of Management Accounting Information Systems (QMAIS)

Dimensions of OS	Mean score	Category	Dimensions of QMAIS	Mean score	Category
Departementalization	3.60	Fair	Integration	3.23	Fair
Span of control	3.45	Fair	Flexibility	3.48	Fair
Formalization	4.09	Good	Accessibility	3.35	Fair
-	-	-	Media rischness	3.27	Fair
Mean score OS	3.67	Fair	Mean score QMAIS	3.33	Fair
Mean score (Ideal)	5.00	Good	Mean score (Ideal,	5.00	Good
Gap	1.33	-	Gap	1.67	

Table 2: Summary of Items validity and reliability of Organizational Structure (OS) and Quality of Management Accounting Information Systems (QMAIS)

Dimensions/Items	LF	t-statistics	CR	AVE
Departmentalization (OS1)				
OS1.1	0.962	62.421	0.960	0.924
OS1.2	0.961	64.249		
Spand of control (OS2)				
OS2.1	0.949	45.264	0.949	0.904
OS2.2	0.953	56.068		
Formalization (OS3)				
OS3.1	0.939	29.000	0.941	0.888
OS3.2	0.947	53.248		
Integration (QMAIS1)				
QMAIS1.1	0.948	65.963	0.940	0.887
QMAIS1.2	0.936	45.366		
Flexibility (QMAIS2)				
QMAIS2.1	0.962	66.565	0.959	0.921
QMAIS2.2	0.958	49.182		
Accessibility (QMAIS3)				
QMAIS3.1	0.897	22.701	0.818	0.693
QMAIS3.2	0.763	5.591		
Media richness (QMAIS4)				
QMAIS4.1	0.892	20.493	0.886	0.796
QMAIS4.2	0.892	27.310		

LF = Loading Factor; CR = Composite Reliability; AVE = Average Variance Extracted

each dimension of Organizational Structure (OS) is presented at left side Table 1 and summary of respondent's responses on the quality of management accounting information systems are presented at right side of Table 1.

Inter-Quartile Range (IQR) was used to categorize the respondent's responses. These category are: a mean score : 1.00-1.99 (poor), 2.00-2.99 (less), 3.00-3.99 (fair) and 4.00-5.00 (good).

Evaluation model: At the first order on outer model, we found that all items used to measure each dimension of the organizational structure and quality of management accounting information systems are valid and reliable items. This is indicated by loading factor of each items >0.70 and the composite reliability of each dimensions >0.70 (Latan and Ghozali, 2012) as shown in Table 2.

At the second order on outer model, we found that all dimensions used to measure organizational structure and quality of management accounting information systems are valid and reliable dimensions. This is indicated by the loading factor of each dimensions >0.70 and the composite reliability of variables >0.70 (Latan and Ghozali, 2012) as shown in Table 3.

Table 3: Summary of dimensions validity and reliability of Organizational Structure (OS) and Quality of Management Accounting Information Systems (QMAIS)

Variables/Dimensions	LF	t-statistics	CR	AVE
Organizational Structure (OS)				
Departmentalization (OS1)	0.924	28.101	0.930	0.693
Span of Control (OS2)	0.894	27.976		
Formalization (OS3)	0.799	9.123		
Quality of Management Accounting Information Systems (QMAIS)				
Integration (QMAIS1)	0.842	16.274	0.909	0.561
Flexibility (QMAIS2)	0.890	24.579		
Accessibility (QMAIS3)	0.776	9.588		
Media Richness (QMAIS4)	0.774	10.498		

LF = Loading Factor; CR = Composite Reliability; AVE = Average Variance Extracted

At inner model, we found that path coefficient between organizational structure and quality of management accounting information systems is 0.824, coefficient determination (R^2) is 0.680 dan t-statistics is 11.527 as shown in Fig. 1 and 2.

Hypothesis testing: The hypothesis to be tested in this study are:

- H_o: the quality of management accounting information significantly is not affected by organizational structure
- H_a: the quality of management accounting information is significantly affected by organizational structure

H_o is accepted if t-statisctics is smaller than t-table in significance level 5% (1.96). Based on result of data processing as shown in Fig. 2, we found that t-statisctics is greater than t-table (11.527>1.96). This means that H_o is rejected or in other words the quality of management accounting information system is significantly affected by organizational structure.

Based on the result of hypothesis testing, we found the empirical evidence in the context of Indonesian state-owned enterprise that organizational structure has a siginificant effect on the quality of management accounting information systems.

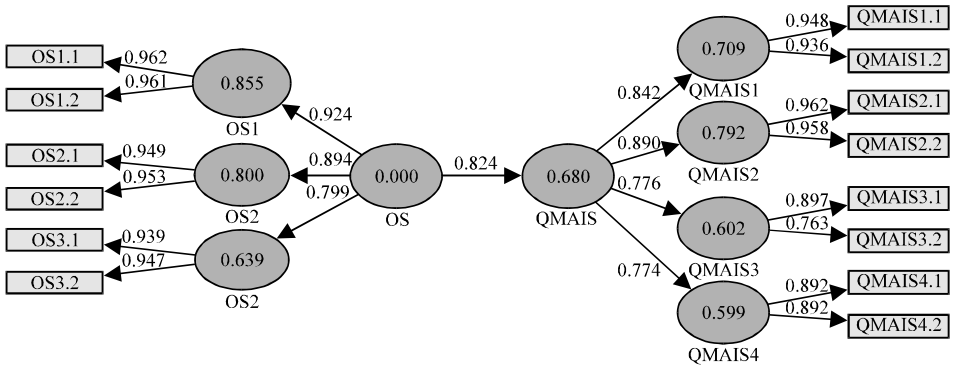

Fig. 1: Path diagram (PLS algorithm)

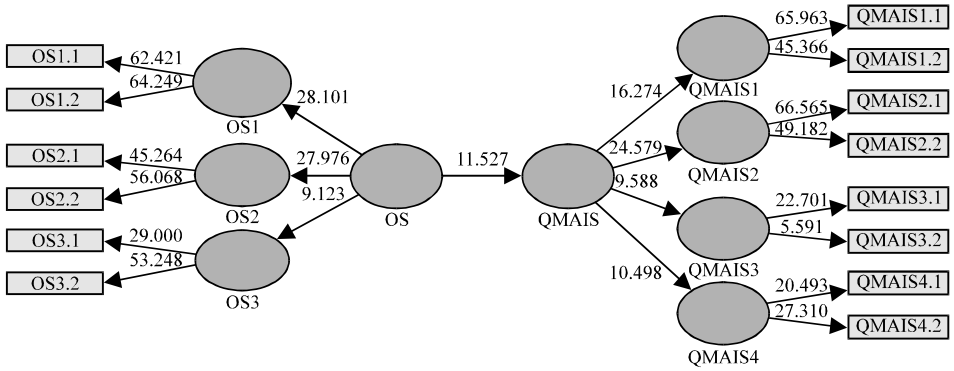

Fig. 2: Path diagram (Bootstrapping)

These empirical evidence confirms the theoretical framework that developed based on Eldenburg and Brooks (2011), Belkoui (2002) and Emmanuel *et al.* (1990) which states that organizational structure is an important factor that affects quality management accounting information system. These empirical evidence also supports the results of previous study conducted by Moores and Yuen (2001), Soobaroyen and Poorundersing (2008), Strumickas and Valanciene (2010).

The organizational structure has effect of 67.97% (R^2 = 0.6797) on the quality of management accounting information systems. This evidence indicates that the lack of quality of management accounting information system is caused by the ineffectiveness of organizational structure.

As shown in left side of Table 1, the mean score of the respondent's responses to the organizational structure is 3.67 (fair). The highest response was given to the formalization (4.05/good) and the lowest response was given to the span of control (3.45/fair) while the departmentalization is 3.60 (fair).

When compared with the ideal score (5.00) there is a gap of 1.33 or 26.67% equivalent. This gap indicates that as much as 26.67% of tasks, responsibilities and authorities have not been well grouped, coordinated and standardized. These gap is accumulation of gaps that occur in departmentalization (1.40 or 27.90%), span of control (1.55 or 33.6%) and formalization (0.95 or 19.03%).

Problems (gaps) that occur in the organizational structure has implications on the quality of management accounting information systems. The right side of Table 1 shows the respondent's responses to the quality of management accounting information system. The mean score of the respondent's responses to the quality of management accounting information systems is 3.33 (fair). The highest response was given to the flexibility (3.48/fair) and the lowest response was given to the media richness (3.27/fair) while the accessibility is 3.35 (fair) and integration is 3.28 (fair).

When compared with the ideal score (5.00) there is a gap of 1.67 or 33.15% equivalent. This gap indicates that as much as 33.15% management accounting information systems have been not well integrated, flexible, accessible and media richness.

These gap is accumulation of gaps that occur in integration (1.72 or 34.35%), flexibility (1.52 or 30.48%), accessibility (1.65 or 33.06%), media richness (1.73 or 34.68%).

Any problems that occur, both on the organizational structure and on the quality of management accounting information systems should be the top management's attention to be solved.

Problems related to the organizational structure are the existence of tasks, responsibilities and authorities that have not been well grouped, coordinated and standardized. This problem can be solved by: carefully remapping all types and characteristics of tasks, responsibilities and authorities within organization. Carefully regrouping the tasks, responsibilities and authorities based on their types and characteristics so that each tasks, responsibilities and authorities can be grouped, coordinated, supervised and reported properly and then the implementation is standardized through formal procedures and regulations. Accommodate the results of point b into the design of management accounting information system.

Problems related to the quality of management accounting information systems are the system has not been well integrated, flexible, accessible and media richness. This problem can be solved by: Evaluate the components of management accounting information systems (hardware, software, brainware, database, procedures and communication networks) currently in use to determine their level of compliance with current needs taking into account future needs.

Based on the results of the evaluation, make partial improvements and if necessary make a total change to the management accounting information system by considering the characteristics of integration, flexibility, accessibility and media richness to meet current needs and anticipated needs in the future.

CONCLUSION

Based on the discussion above, we conclude that the organizational structure has a significant effect on the quality of management accounting information system. Lack of quality of management accounting information system due to the lack of organizational structure. The quality of management accounting information system can be improved by increasing the effectiveness of organizational structure.

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