

The Effect of Total Quality Management, Application of Competitive Strategies on the Quality of Management Accounting Systems

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Abstract: The purpose of this study is to determine the quality of management accounting information systems that are influenced by total quality management and the application of competitive superior strategies. The unit of analysis in this study is managers of sub-units of State-Owned Enterprises in Indonesia. All organizations need information as a basis for decision making. Information has become the main resource for most organizations, both for profit and for profit organizations. All management efforts in total quality management are directed at one main goal, namely the creation of customer satisfaction. Management accounting information systems, become a very important system in an organization because it produces financial and non-financial information for organizations. To prevent and minimize errors and fraud in implementing a management accounting information system so that it can produce information needed for the company's internal control to be applied in the system. Total quality management and the application of competitive competitive strategies that are effective in producing quality improvements and reducing costs. Total Quality Management and the application of competitive leading strategies emphasize continuous improvement of manufacturing processes by eliminating damage, improving quality, developing employee capabilities and reducing product costs.

Keywords: Total Quality Management, Implementation Competitive Strategy, Management Accounting Information Systems.

1. Introduction

Companies have a large role in the economy of the country, especially the community, companies have the ability to create employment opportunities, provide goods and services consumed by the community, so companies get legitimacy to move freely to carry out their activities (Hertati, 2016). But on the one hand, the company also has a negative impact on its business activities such as economic, social and environmental impacts. The development of information technology is part of the 4.0 industrial revolution, applied in various lines can help ease the burden of the company

quickly. The information technology function in the industrial era 4.0 enters a virtual world that is integrated with the internet network. The development of information technology increases production efficiency and increased productivity and industrial competitiveness 4.0 brings benefits to the industrial sector, but also new challenges for workers (Widiarini, 2018). Business competition occurs globally where companies maximize their competitiveness through continuous improvement by utilizing the use of information (Drury, 2012). The role of information is very large and functions as a company resource (Hall, 2011). Information is one of the supporting tools for companies in making business decisions (Loudon & Loudon, 2016). Jae (2000) states that information is the output of information systems. Information system is an arrangement of people, data, processes and quality of information technology that are mutually integrated to produce information needed in decision-making processes (Whitten & Bentley, 2007). Management accounting information systems are part of information systems that measure processes, and report management accounting information that is useful in decision making (Richardson, *et al.*, 2014, Hertati *et al.*, 2020). Quality decisions are produced by quality information (Loudon & Loudon, 2016) between the specifications needed compared to the specifications produced (used) by the company called quality (Susanto 2004: Hertati, 2015).

Quality information is obtained from a quality management accounting information system (Mowen, 2014: Hertati, 2015). High-quality information that is relevant in making decisions to achieve organizational goals or objectives is called a management accounting information system (Hoque, 2005). Management accounting information systems are intended for internal users of the company, such as managers, executives and employees in decision making (Hansen & Mowen, 2007: hertati, 2015). Thus Olson (2003) stated that without quality data management accounting information would not be of quality. Furthermore, Huang, *et al.* (1999) and Hertati *et al.*, (2019) argued that management accounting information that is not qualified results in information users making various decisions to be wrong and ultimately causing losses so that it can be stated that the quality of management accounting information produced affects the quality of strategic decisions taken by information users on A number of cases show that at present various organizational units in Indonesia have not been able to produce quality management accounting information that hinders managers from carrying out decision-making activities (Loudon & Loudon 2008: Hertati&Safkaur, 2019).In fact, management accounting information systems are not of quality due to not yet integrated. Integration is measuring the extent to which a system facilitates a combination of information from

various sources to support business decisions. As disclosed by RamlanSitompul (2016), the reference for BPJS health is difficult to access because the referral system is still manual and has not been integrated. Srimulyani (2018), said that the cooperation of the Directorate General of Taxes (DGT) of sales invoices generated by Pertamina every year of approximately 3.7 million has not been integrated. If done manually, it certainly not only requires a lot of time and a lot of people, but also the possibility of a large level of error. Information directly related to the problem will help in making decisions and be useful so that data integration gets information in realtime. Data integration can minimize technical errors when calculations are performed. Realtime data will be shared directly between Pertamina which has data with the DGT. So the possibility of a dispute, regarding underpayments becomes smaller. The credibility and certainty of payment can be more accurate.

Phenomenon related to flexibility, which can be measured from the level at which the system can adapt to various types of user needs and can adapt to various kinds of changes in conditions that occur in the organization. The World Economic Forum (2017) states that there is a change in the condition of the company, the needs of corporate customers engaged in goods and services in Indonesia are faced with a tough challenge to maintain market share flexibly, given the competitiveness of Indonesian products in the global market from time to time change.

Furthermore, BPS, Industrial Statistics (2016) states that the manufacturing industry sub-sector is one of the strictest sub-sectors feeling business competition. Manufacturing companies are required to produce high-quality products, intense competition but do not follow environmental changes such as business world industry groups that have different competition, namely manufacturing industry sub-sector, processing industry sector, forest product sector, basic metal industry sector who are not able to accommodate technological changes in innovation that have increased sharply.

The phenomenon related to accessibility is to measure the level at which systems and information in them can be accessed easily such as phenomena related to changes in the paradigm of goods and services that are difficult to access resulting in changes in the system of goods and services from mass production to period adjustments, designs that lack focus in produce quality products that are in accordance with customer needs, followed by market considerations to set prices, and investment aspects to determine production costs. The planning phase that cannot meet market acceptability as reported by the national industry development master plan for the year (2015-2035).

A phenomenon related to formalization is measuring the extent to which a system contains rules or procedures. Agungsetya (2017) stated that the misuse of salt imports originated from the assignment received by PT Garam to import consumption salt, the permit failed to be realized because the auction winners (companies from Australia and India) in fact were industrial salt suppliers. Regarding the support request to change the plan to import consumption salt into industrial salt, violations committed, industrial salt which is then packaged as consumption salt with the SEGI THREE G stamp violates the Consumer Protection Act which utilizes rules and procedures set by the government. The phenomenon conveyed by Aqua Dwipayana (2016) states that Garuda's decision to measure the extent to which a system containing rules or procedures (formalization) that cannot be prevented by the Minister of BUMN proves weak communication, especially coordination between SOEs and ministries.

Due to the lack of rules or procedures in the application of customer satisfaction that cannot be done through a collection of functions that create the value that customers want to service customers so that the customer is not satisfied. The phenomenon related to media richness is measuring the extent to which the system uses various alternative media to facilitate and strengthen communication. The role of information technology digitalization is manifested in formal innovation and slow business sophistication and the process of creating new products and services and new ways is quite weak in producing business sophistication closely related to income levels. Important factors that cause low levels of competitiveness of products or services, namely: (1) protective economic policies that cause less innovative and expensive prices; (2) Roles and achievements of sub-national economic institutions; (3) The development and diffusion of technology which is slow; (4) Weak law enforcement, making Corruption, Collusion and Nepotism easy (KKN); (5) The nature and structure of an inflexible and not dynamic labor market; (6) Low Human Resources (HR) competencies; (7) Capital ratio per workforce is relatively low; and (8) Low productivity growth rates (Depperin, 2017; The World Bank, 2017).

From the description of the above phenomena, it can be concluded that management accounting information systems in state-owned enterprises are not qualified because management accounting information systems are not yet integrated, inflexible, it is difficult to access, does not adhere to the formalization rules and procedures and the lack of communication and the role of digitalization information technology are realized in the rnnno media so that it is feared wrong in decision making and impacts on the quality of management accounting information produced. Management accounting information systems have specific objectives to generate information for

external users for appropriate decision making activities, increase productivity, budgeting and reduce operational costs and expand market share (Laudon and Laudon (2008).

Furthermore, management accounting information systems are used to solidify the organization so that succeed in an integrated business environment and increase customer satisfaction, on time and reduce the time needed to develop and bring new market products (Susanto, 2013). Management accounting information systems are designed to manage financial data and other data into information (Bondar & Hopwood, 2014). Homgren (2009) said that the objective of measuring strategies is so that competitive advantage can be compared to current achievements with the achievements of the previous year or achievements achieved by competitors. Hertati & Dini (2016) explained that Competitive advantages are obtained by: (1) providing the best Value for customers and (2) making distinct organizations from competitors. A strategy is said to have a competitive advantage if the strategy is seen as superior to its competitors, for example, among others, in the quality and price of the products produced (Barney, 1999: Hertati *et al.*, 2020).

Several previous studies have proven that management accounting information systems affect management accounting information such as the results of research by Mia & Winata (2005) stating that the use of management accounting information systems is positively related to broad accounting information processing data so that information is available at the time of need for survey decision making on 76 general managers in Australia. Then the results of the study of Guidiene&Skyrius (2006) show that management accounting information systems produce quality accounting information (scope, timeline, aggregation, integration) that are perceived as useful by managers in companies in Lithuania. Research by Rani & Kidane (2012) states that to measure a quality management accounting information system produces management accounting information that is quality (accurate, up to date, completeness, consistency) that is useful for managers in large and medium-sized printing companies in Ethiopia. Susanto (2016) researchers with the existence of information will improve the ability of managers to understand the state of the environment and information functions also in identifying relevant activities. Research Hertati (2016) found the effectiveness of the application of a system depends on the compatibility between the system and the environment in which the system is applied.

Research by Xu *et al.* (2005) and Hertati, *et al.* (2020) proves that management accounting information systems are very important in producing quality information that is used by managers for planning,

evaluation, control in an organization, and for making appropriate decisions on the use of sources of survey accountability managers of small and medium-sized organizations in Hong Kong. Furthermore, the results of the study of Ghanem & Sulaiman (2016) show that the usefulness of management accounting information systems, accuracy, format, ease of use are positively related to production and other completeness, relevance, and effective consistency. Hertati (2015) conducts research on manager sub-units working in different sectors in Indonesia. Hertati (2016) sector conducted research on BUMN in Indonesia management accounting information systems related to software and finance to be widely and accurately accessed. Susanto (2018) furthermore, the results of research shown by Susanto (2010) suggest that the management account system has not fulfilled the full requirements because the integration between the components and between subsystems has not been perfectly harmonized.

2. Literature Review

2.1. Total Quality Management

Total Quality Management is the latest breakthrough in the field of management, with all its activities aimed at optimizing customer satisfaction through continuous process improvement. TQM is a comprehensive activity on quality management (Hertati, 2015). Hansen further & Mowen (2014) argues, TQM. A philosophy and set of guiding principles that represent the foundation of a continuously improving organization. Haidmann (2008) tries to explain the meaning of TQM from the words that make it up, namely total, quality and management. TQM is a concept of continuous improvement, which involves all employees at every level of the organization through the management process. It is clear that TQM is an activity aimed at meeting customer expectations. The aim is to improve the organization to eliminate waste, simplify the process and focus on the use of quality practices that will ultimately affect every management activity, so that customer satisfaction is achieved and the company can achieve competitive advantage.

Total Quality Management is a system, effort and continuous activity in the organization in satisfying customers (exceeding customer expectations). The implementation of this activity is carried out every person in an organization that continues with the aim of satisfying or meeting consumer expectations. TQM has three basic philosophies, namely focusing on customer satisfaction, employee empowerment and invoicing and continuous improvement. McLeod (1995), The three pillars of TQM can be explained as follows:

1. Focusing on customer satisfaction (Customer focus)

Customer identification, both internal and external customers is the initial stage in the effort to realize TQM. All company employees involved in the process of providing products and services must fully understand that the results of their work will affect the overall satisfaction felt by customers.

2. Employee empowerment and involvement (Employee empowerment and investment)

In intense competition, employees are required to have high expertise and knowledge in carrying out their duties.

3. Continuous improvement

Changes in the business environment occur continuously, requiring companies to know the direction of business development and encourage progress in the future.

Furthermore, Cherrington (1995) said that TQM is a special program for each company formed with several important elements, namely customer focus, strategic planning, continuous improvement, and empowerment. Tenner and Detoro (1993), Dean and Bowen (1994), McLeod (1995), Danny and Mile (1999), to overcome the ambiguity of the definition of TQM, TQM has three basic philosophies that can be drawn as meeting points of various opinions about TQM then used in this research variable. The three basic philosophies in question are as follows:

1. Focusing on customer satisfaction (Customer Focus).

The design of products and services is based on efforts to meet consumer needs. The philosophy underlying this principle is the belief that customer satisfaction is an important prerequisite for long-term organizational success.

2. Employee Empowerment and Involvement.

In intense competition, employees are required to have high expertise and knowledge in carrying out their duties. Task expertise must be expanded, not only to complete the main tasks (basic work tasks), but also includes problem solving skills (problem solving skills) in order to change the company's perspective in carrying out their activities.

3. Continuous quality improvement.

Continuity of quality improvement requires a commitment to carry out continuous quality testing (in better research methods), both in administrative processes and technical processes.

From the explanation above it can be concluded that supporting and having a high commitment to achieving organizational goals, namely satisfying consumer needs in the long term by implementing TQM will result in changes in organizational structure, organizational goals, operations processes, manager and employee roles, how to evaluate performance and so.

The purpose of management accounting is to provide information for planning, evaluating and controlling within an organization (Hertati, 2016). One function of the management accounting system is to provide important sources of information to help managers control their activities and reduce environmental uncertainty in an effort to achieve organizational goals successfully (Atkinson *et al.* 1995). Milgrom and Roberts (1995) state that the successful implementation of new manufacturing techniques (TQM) requires complementary management accounting systems. Kaplan (1990) states that a company's performance is low, due to its dependence on a company's management accounting system that fails to determine the right targets, performance measurements and reward or reward system systems.

Wruck and Jensen (1994) state that the effectiveness of TQM implementation requires fundamental changes to organizational infrastructure, including: decision-making authority allocation systems and performance measurement systems, reward and punishment systems or punishments According to Ittner and Larcker (1995) the greater use of management accounting systems including measurement of non-financial performance and the provision of incentives based on performance the possibility of having a relationship (association) with higher performance in companies with less extensive TQM practices, thus the effectiveness of TQM practices requires changes in management accounting systems. Ittner and Larcker (1995) describe perubahan as a collection of new information and its dissemination (dissemination) in the organizational hierarchy and changes in the reward system. From this description, an important component of the management accounting system used in this study consists of; performance measurement system and reward system.

The main objective of performance measurement is to motivate employees in achieving organizational goals and in adhering to predetermined standards of behavior, so as to produce the desired actions and results Mulyadi (1998). Banker *et al.* (1993) results show that periodic financial information is in focus main management accounting is currently used by managers for various planning and control purposes, in their study also found that the frequency of reporting manufacturing performance measurements for employees is positively related to the application of TQM practices Drucker (1990) stated that quality improvement programs such

as TQM individuals can effectively improve quality continuously compared to competing organizations that make improvements by not using TQM practices Hansen & Mowen (2014) provide a theoretical framework for change simultaneously in competitive strategies with elements of organizational design when experiencing change, namely from traditional manufacturing that emphasizes mass production to manufacturing with TQM techniques. Furthermore, management accounting systems are often used as a mechanism to motivate and influence employee behavior in a variety of ways that will maximize welfare in both the organization and employees (Alles *et al.* 1995). Research on competitive advantage strategies, Total Quality Management, Management Accounting Systems, Cost of Quality and performance measures, among others, can be attributed to agency theory. Sarkar (1997) states that the process of improving quality will increase if the distribution of Young *et al.* (1988) these findings indicate an interactive influence between TQM by using incentives on performance, thus providing incentives is a stronger motivator for employees to improve the quality of their performance. From the explanation above, it can be concluded that human resources who are experienced in supervision can increase continuously in making quick decisions and can improve performance and contribute greatly to the strategic decision making process.

2.2. Application of Competitive Strategies

The definition of the strategies put forward by the strategists is of various kinds. Thompson *et al.* (2004) define "Strategies consist of a collection of competitive movements and related business management approaches in order to produce a successful advantage". According to Kaplan and Norton (2001), an advantage must begin with formulating a strategy before implementing and putting the strategy into action or action. Understanding the strategy according to Anthony and Govindarajan (2007) is the general direction used by the strategy through planning to achieve competitive goals. It can be concluded that strategy is a grand plan of competitive competition as a whole, which is interrelated between planning, operations and integrated supervision and functioned as a basis for achieving superior goals or objectives.

The term competitive advantage that emerged in the early eighties has become the most popular term when discussing superior strategies in the face of competition. As Porter (1980) stated, competitive advantage can be achieved in various ways, including offering products at minimum prices, or offering unique and more specific products from rivals, or focusing on certain segments. Diosdad's research (2003) states that competitive advantage can be seen and the position of the strategy in competition that

is analyzed by looking at the strengths and weaknesses of the strategy when compared to its competitors. Furthermore Porter (1980) there are six main sources of entry barriers (Porter, 1980), namely as berikut: (1) Economies of Scale. (2) Product Differentiation. (3) Capital Requirements (4) Cost Constraints Independent of Size. (5) Access to Distribution Channels (Access to Distribution Channels). (6) Government Policy.

Strategies are said to have competitive advantages when implemented and create values that are not simultaneously implemented by potential competitors (Ferdinand, 2003). A strategy is said to have a competitive advantage if the strategy is seen as more than its competitors, for example, among others in the quality and price of the products produced. The requirements that must be possessed to be a superior strategy in competition, as stated by Homgren (2009) are the strong desire of management to master the four main areas, namely:

1. Cost is all the sacrifices that need to be made for a production process, which is expressed in units of money according to the prevailing market prices, both those that have occurred and those that will occur
2. Quality is conformity with the needs of the market or consumers or quality is a company that controls market share because its production results are in accordance with consumer needs, thus giving rise to customer satisfaction. If consumers feel satisfied, then they will faithfully buy the company's products in the form of goods and services
3. Time is part of the basic structure of the universe of time is a dimension in which events occur that can be experienced from the past through the present to the future, and also the size of the duration of events and intervals.
4. innovation.

Innovation) is a renewal of various resources so that these resources have more benefits for humans. The process of innovation is greatly influenced by the advancement of technology and science because both of these things can make it easier to produce something new and different.

From the explanation above it can be concluded that competitive strategies are basically different approaches to creating excellence. Through competitive advantage, companies can have performance above the average of other industries. Competitive advantage is the performance of companies that can appear above the average in order to obtain a competitive advantage.

The following are some of the previous studies that support this research (Endah, 2001), information systems, management accounting have several

characteristics including accurate, source and focused, can be quantified, high frequency of use, oriented to the future and past, relevant, complete, high levels of aggregation and timeliness (Hansen & Mowen 2014), Xu et al. (2003), which states that the relationship between strategies is indirect, namely through management accounting information. Porter (1980) says that competitive advantage is complex and a big challenge for a researcher. It is said to be a big challenge because as a construction, it is multidimensional so that the use of a single measurement is not able to provide a comprehensive understanding. From the explanation above it can be concluded that management accounting systems provide information that interacts with market organizations, competitors, and environmental factors strategy how to survive in an increasingly modern world through continuous improvement to control the strengths and weaknesses of competitors and leadership that gives direction and understanding market reality for the better.

2.3. Quality of Accounting Management System

Increasing business competition today requires companies to make the most of existing capabilities to excel in competition. Therefore management needs to have the ability to see and use opportunities, identify problems, and select and implement the adaptation process appropriately. Management is also obliged to maintain survival and control the organization so that the expected goals are achieved. Planning management accounting systems (management accounting system) is part of the organization's control system needs to get attention, so that it can make a positive contribution in supporting the success of the organization's control system. Management accounting system is an organizational control mechanism and is an effective tool in providing useful information to predict the possible consequences of various activities that can be done.

Corngrnt *et al.* (2009) states that management accounting is the process of measuring, analyzing, and reporting of financial and non-financial information that helps managers make decisions to meet organizational goals. Furthermore Drury (2017) revealed that the management accounting information system influences management accounting information through the provision of financial and non-financial information that will help good decision makers and know about the decision making process. Furthermore Hilton & Platt (2014) states that the management accounting system provides all types of information. The management accounting system for accounting management accounting information systems can be measured from 5 (five) characteristics of Integration, Flexibility, Accessibility, Formalization, Media Richness, namely:

1. **Integration:** measures to facilitate a combination of information from various sources to support business decisions. Measure the extent to which a system facilitates a combination of information from various sources to support business decisions. Based on the statement, it is said that an integrated system is a relationship between systems components integrated with other systems.
2. **Flexibility:** a system that can adapt to a variety of user needs and to changing conditions. "A flexible system can be measured from the level at which the system can adapt to various user needs and can adapt to various changes conditions that occur in the organization.
3. **Accessibility,** measures which can be accessed with relatively low effort. Measure the level at which the system and information contained in it can be accessed easily (2008). There is a match between the user and the service system, there is a good match regarding the service system with what is needed by the user so that access will be easy to obtain and meet the needs between the two.
4. **Formalization:** measures for the system which contains rules or procedures. Formalization measures the extent to which a system contains rules or procedures; Formalization is the degree to which jobs in a standardized organization.
5. **Media richness:** measures that the system uses channels that enable a high level of personal interaction. measure the extent to which the system uses various alternative media to facilitate and accelerate communication (Haidmann: 2008), then Daft (2009) states that the clarity of a message can be compromised when there is communication between departments, since each department may be trained to have different skills or norms conflicting communication with each other. Based on the explanation above it can be said that reliability is a system functioning correctly, able to minimize errors and operate full time.

From the explanation above it can be concluded that the management accounting system can be viewed as a type of accounting that provides both financial and non financial information for management to carry out the functions of planning, controlling and making decisions.

3. Methodology

Quantitative methods using questionnaires were used this study. The sampling is based on a simple random sampling technique on Fuctional Units in Indonesia SOE's Indonesia. The data were measured using Likert scale five-point. Structural Equation Modeling based on component or

variance (PLS-SEM) is used for analysis tool. Evaluation of PLS-SEM model includes measurement model evaluation (outer model) and structural model (inner model). In this study, exogenous and endogenous variables are latent variables. The latent variable measurement model in this research includes: (1) the first order is the dimension measurement model. In measuring reliability in SEM, a composite reliability measure (measure of composite reliability) and variance extracted measure will be used (size of extract variant). The construct reliability is calculated as follows:

$$CR = \frac{(\sum std.loading)^2}{(\sum std.loading)^2 + \sum e_j}$$

Where std loading (standardized loadings) can be obtained directly from the LISREL-8.7 and ej program output is a measurement error for each indicator or variable observed. Extract variants reflect the total number of variants in the indicators (observed variables) explained by latent variables. Size of extract variant (extracted variant) can be calculated as follows):

$$Variance\ Extracted = \frac{\sum std.loading^2}{\sum std.loading^2 + \sum e_j}$$

Hypotheses: Total quality management affects the quality of management accounting system Statistical hypothesis:

$H_0: \gamma_{1.1} \geq 0$: There is no influence of Total quality management on the quality of the Management Accounting System

$H_1: \gamma_{1.1} < 0$: There is an influence of Total quality management on the quality of Management Accounting System.

The test statistics used are

$$t = \frac{\hat{Y}_{1.1}}{SE(\hat{Y}_{1.1})}$$

Hypotheses: Application of competitive strategies affects the quality of management accounting system Statistical hypothesis:

$H_0: \gamma_{1.2} \geq 0$: There is of Application of competitive strategies on the quality of the Management Accounting System

$H_1: \gamma_{1.2} < 0$: There is an influence of Application of competitive strategies on the quality of Management Accounting System.

The test statistics used are

$$t = \frac{\hat{Y}_{1,2}}{SE(\hat{Y}_{1,2})}$$

3. Measurement Model

Hair, Jr. *et al.*, (2014) based on the framework developed in this study, for the purpose of testing the hypothesis is made the structure of the analysis of the overall research variable which is a combination of the measurement model and structural model that describes the causality relationship between exogenous variables and endogenous variables. states that to build an indicator precisely the formative combination of indicators. If it is reflective and if a combination. Indicators represent consequences that reflect or cause constructs. if there are consequences and if formative causes. If the assessment of changes in nature, all items will change in the same way (assuming they are both coded), if it is reflective and if not formative. The structure of the analysis of research variables is described as follows: The recapitulation of the average value of respondents' responses to 2 (two) dimensions of the Total Quality Management variable in the SOE management accounting unit in Indonesia is presented in the following table 4.1:

Table 1: Recapitulation of Average Values of Respondents' Responses in Dimension Total Quality Management

No	Statement	Average	Standard deviation	Category
1	Customer Focus	1,42	0,93	Very low
2	Employee Empowerment and Involvement	1,49	0,86	Very low
3	Continuous Improvement	1,76	0,78	Low
4	Total Quality Management,	1,77	0,79	Low

Source: Result of calculation of score factor and score component

Table 1 shows the average value of respondents' responses to the dimensions of the Total Quality Management variable in the SOE management accounting unit in Indonesia as a whole in the medium

Table 2: Recapitulation of the Average Values of Respondents OnDimensions of the Application of Featured Strategies Compete

No	Pernyataan	Rata-rata	Simpangan Baku	Kategori
1	Cost	1,56	0,87	Is being
2	Quality	1,70	0,96	Is being
3	Time	1,48	0,94	Very low
4	Innovation	1,46	0,95	Very low
5	Competitive advantage strategy	1,56	0,90	Is being

Source: Result of calculation of score factor and score component

category can be interpreted in general respondents state Customer Focus, Employee Empowerment and Invoivement, Continuous Improvement have not been accommodated in the application of management accounting systems currently available at the BUMN management accounting unit in Indonesia. Thus it can be said in general the application of Total Quality Management in the application of MAS in the management accounting units of BUMN in Indonesia is included in the medium category so that it can be used by various users in strategic decision making.

According to Bollen (2006) the validity of each reflective indicator is seen from the significance of loading factors. As explained earlier, in this study the variables of Total Quality Management and the quality of information technology have validity of the significance of dimensions and reflective indicators. The variable environmental uncertainty consists of two dimensions, namely Cost, Quality, Time, Innovation. Furthermore, the Competitive advantage strategy. Hair, Jr. *et al.*, (2014) to determine the significance of testing for each loading, it is done by comparing the p-values with a significance level. Refuse Ho, if the p-value is smaller than 0.05. A summary of the results of testing the validity of the indicators is presented in table 3 as follows:

Table 3: Summary of results of Indicator validity

<i>Latent</i>	<i>Indicator</i>	<i>Weight t</i>	<i>Default error</i>	<i>Value- z</i>	<i>Value- p</i>	<i>Sig</i>	<i>Relevant</i>	<i>Latent</i>
Total quality management	Customer Focus	0,877	1,00	n.a	n.a	0,000	n.a	n.a
	Employee Empowerment and Invoivement	0,826	0,94	0,043	21,92	n.a	sig	valid
	Continuous Improvement	0,812	0,92	0,023	21,82	n.a	sig	valid

Data Source processed Composite Reliability Test Results

According to Setyo Hari Wijayanto (2008) the criteria for an indicator / dimension is said to have good composite reliability, if the indicator has a Reliability Construct (CR) of more than 0.6 and the value of Variance Extract (VE) is more than 0.5. In Table 4.4, a summary of the results of variance Extract (VE) and Construction Reliability (CR) is presented as follows:

Table 4: Composite Reliability Summary

<i>Dimensi</i>	<i>Indicator</i>	<i>Estimates raw</i>	<i>1-Estimate- sraw</i>	<i>R2</i>	<i>CR</i>	<i>VE</i>
Customer Focus	EC 1	0,877	1,00	0,768	0,840527	0,725099
Employee Empowerment and Invoivement	EC2	0,826	0,94	0,682		
Continuous Improvement	EC3	0,812	0,92	0,023		

Structural Model Evaluation Results

Evaluation of structural models is intended to determine the effect of Total quality management(X1) danContinuous Improvement (X2) the results of data processing and model estimation using LISREL software as follows:

Table 5: Structural Model Parameters

<i>Consequence</i>	<i>Mediator</i>	<i>Cause</i>	<i>Standard estimates</i>	<i>Estimates</i>	<i>Default error</i>	<i>Value-z</i>	<i>Value-p</i>	<i>R2</i>
QMAS	-	TQM	0,32	0,360	0,20	1,81	0,035	Sig
	-	CI	0,58	0,626	0,15	4,12	0,196	Sig

Structural Model Evaluation Results

Based on information obtained from table 4.5, the interpretation of the results of evaluating structural equation models can be explained as follows:The magnitude of the Total Quality Management, Continuous Improvement on the quality of SIAM is 0.32 can be interpreted as any increase in Total Quality Management, Continuous Improvement 1 standard deviation resulted in a decrease in the quality of management accounting information systems an average of 0.32 standard deviations assuming other variables are constant.

4. Test Reliability

Testing the reliability of research instruments carried out internally. According to Sugiono (2012) reliability tests were conducted to determine whether the measuring instruments that had been designed in the form of a questionnaire were reliable. Sugiyono, (2012) Instruments that are reliable or reliable, will produce reliable data too. Reliability testing was carried out using Cronbach's Alpha which measures consistency between items in the questionnaire. The general criteria used are: an instrument that is reliable internally if the Cronbach's Alpha coefficient is >0.60 . Reliability testing is done using SPSS software ver. 20 for Window. The following is a summary of the calculation results for testing the validity of the research instruments for each variable.

5. Results of the Path Structure of Sub Structure Two

The hypothesis proposed is that there is an influence of environmental uncertainty on the quality of accounting information systems. The results of statistical testing show that ,Continuous Improvement has a positive and significant influence on the quality of management accounting systems in Indonesia. The hypothesis can be confirmed by data.

6. Conclusion

Competitive advantage has two different but interconnected meanings. The tight competition causes companies to try to win the competition by implementing the right competitive strategy so that they can implement and realize the goals according to what is expected. The function of the management accounting information system is to provide financial and non-financial information to management for decision making.

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