

Can Environment Uncertainty Risk and Environment of Management Accounting System Affect Managerial Performance?

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Abstract

This research aimed to examine the effect of environment uncertainty risk on managerial performance and to analyze the moderation of the environment of management accounting system to the effect of environment uncertainty risk on managerial performance. Research population includes manufacture firms listed in Indonesia Stock Exchange 2019. The sample consists of big and middle-sized manufacture firms. Purposive sampling was used as a sampling technique, which is implemented by distributing a questionnaire to production managers, marketing managers, and financial managers. The total sample was 107 managers. Data analysis is conducted with computer software of WarpPLS Version 5.0. Research has obtained some results. Environment uncertainty risk has a negative but significant effect on managerial performance. Therefore, the first hypothesis was accepted. The environment of management accounting system was moderating the effect of environment uncertainty risk on managerial performance. This moderation relationship was significant, and therefore, the second hypothesis was accepted. The environment of a management accounting system attenuates environment uncertainty risk but corroborates managerial performance. It is believed that the environment of management accounting system can suppress environment uncertainty risk, which then, as a result, increases managerial performance.

Keywords: environment uncertainty risk; environment of management accounting system; managerial performance.

1. Introduction

Global economic change has forced many firms to compete on each other to have been more effective operational in current days or the future. Consumers are becoming more dynamic, and it compels firms to redesign the function of their service to be more effective, efficient, responsive, and representative. Every firm must increase its managerial and operational capabilities. Firm management plays a significant role to achieve organizational goals. In general, firm success is much dependent on firm management. Both the rise and subside of managerial performance are affected by environmental factors used in contingency approaches, such as strategy, competition intensity, and environmental uncertainty risk. It seems that environment uncertainty risk is one of the essential contingency factors (Tjahjadi, 2011). Previous accounting studies showed that managerial performance might be low due to the decadence of environment uncertainty risk and environment of management accounting system. Globalization and economic growth implicate strict competition among many business enterprises. To survive and develop in a business environment with a high level of environmental uncertainty risk is posing a hard challenge to them. Dealing with this challenge, the management must have an instrument to help them planning and allocating limited resources. Any firms need relevant information, which must be collected on time. This information will be used and processed starting from the planning to the controlling stages.

Environment uncertainty risk is a factor that keeps firms adapting to the existing conditions of business competition by exercising changes or developing better managerial controlling. Environment uncertainty risk is also an external environment

condition that affects a firm's operational process (Lesmana and Gunawan, 2016). Moreover, environment uncertainty risk can also leave managers with difficulty in planning and controlling a firm's operational process. To do planning during a high level of environmental uncertainty risk is always problematic. Managers are incapable of predicting future conditions, and therefore, managerial decision making is often bogged down.

The environment of the firms is becoming more dynamic nowadays. The success of the firms is determined more by the flexibility of the firms' adaptive capacity and employee skills because this flexibility is needed if the firms intend to survive in environment change (Tjahjadi, 2011). To achieve good organizational performance, one instrument that can be used by management to cope with business competition is the environment of management accounting system. It is a facility of the supporting function to produce reliable and relevant information for planning, controlling, decision making, and performance evaluation (Gordon and Miller, 1976). If the environment of management accounting system is achieved already and also good, it might help reduce environment uncertainty risk and increase managerial performance. Managers that use the information to create a good environment of management accounting system can help the firms to materialize as the planning to respond to their competitive environment.

Moreover, the environment of management accounting system has been perceived as a system that provides benchmarking to monitor information about internals and traditional histories of the firm, which then lay the base where the management accounting system stays upon it (Corynata, 2011). The environment of management accounting system is also considered as an information system that consists of activities of

collecting, processing, saving, and reporting financial and operational data to users and executives (Atkinson et al., 1995). One function of the environment of management accounting system is to be a valuable source of information that helps managers to control activity and to reduce environment uncertainty risk in order to achieve the goals (Atkinson et al., 1995).

Two problems of research are identified. The first problem is whether environment uncertainty risk has a significant effect on managerial performance. The second problem is whether the environment of management accounting system moderates the relationship of environment uncertainty risk on managerial performance. This research has few results that are expected to contribute previous studies, to strengthen the relationship of environment uncertainty risk on managerial performance, and to assure the position of contingency factor, namely environment of management accounting system. It must be noted that the management accounting system is vital information needed by manufacture firms, and it concerns with scope, timeliness, aggregation, and integration. Moreover, the environment of management accounting system shall help managers to control the activity of the firms and reduce environment uncertainty risk, which then allows them to increase managerial performance and attain the goals. The objective of this research is to conduct examination and analysis on the effect of environment uncertainty risk on managerial performance and the moderation of environment of management accounting system to the relationship of environment uncertainty risk on managerial performance.

2. Literature Review

2.1. Environment Uncertainty Risk

Environment uncertainty risk is an individual's sense of incapability in predicting something in an accurate way (Abdullah, 2018). An individual can still predict situations and based on that, determine the steps needed to help the organization to make plans accurately (Duncan 1972). According to Miliken (1987), there are three types of environmental uncertainty risk. It first is stated uncertainty. When someone feels the presence of state uncertainty, it means that an organized environment cannot be predicted. Second is effect uncertainty, which is related to incapability to predict nature, depth, and time of the effect. Third is response uncertainty to understand the options of available response that the firms have. Each response is reflecting the absence of knowledge about response uncertainty options and the incapability to predict consequences shown up due to response options.

2.2. Environment of Management Accounting System

Hansen and Mowen (2009) explained that the environment of management accounting system is an information system that produces inputs, outputs, and processes needed to achieve specific managerial goals. Management accounting system has three common goals such as:

1. To provide information used to calculate the prevailing prices of service, product and other goals that the management wants to achieve.
2. To provide information used in planning, control, evaluation, and sustainable improvement.
3. To provide information for decision making.

Chenhall and Morris (1986) have identified four characteristics of the environment of management accounting system. These characteristics are:

1. *Scope*. The information system in recent days is described with a broad scope. Few dimensions are defining this broad scope, such as focus, quantification, and time horizon. Tra-

ditionally, the environment of management accounting system provides information about organizational events, which then the firms utilize them through monetary terms based on historical data. The environment of management accounting system at a broad scope can provide management with information about the external environment. This information is either economic, such as Gross National Product, total market sale, and post-industrial market, or non-economic, such as demography, consumer taste, competitor action, and technological development. Besides, the environment of management accounting system provides estimations about future events, and these estimations are used with probability rate.

2. *Timeliness*. Environment of management accounting system provides information in the form of aggregation. This aggregation can be the aggregate of primary materials, the aggregate of unprocessed data, and the minor aggregations arranged based on period or area. Another aggregation type is various formats consistent with formal decision models, such as discounted cash flow analysis for capital budgeting, simulation and linear programming for budget application, cost analysis for estimating earning's volume, and supply control model.
3. *Aggregation*. It is a controlling aspect of the firms. The example of this aspect is the coordination of various segments in sub-organizations. The environment of a management accounting system is helpful to coordinate target specifications concerning the effect of interaction across the segments, and also to manage information about the effect of decisions on the operation of all subsidiaries.
4. *Integration*. It is the respondents' opinion about the complexity of the management accounting system and its relation with complete information.

2.3. Managerial Performance

According to Armstrong and Baron (2011), managerial performance is work output that has a strong relationship with the strategic goals of the organization, consumer satisfaction, and economic contribution. In general, managerial performance is the capability of a manager to do something with organizational goals. A control system is needed to ensure that the manager can achieve organizational goals. Some factors are influencing managerial performance, and one of these factors is the environment of management accounting system (Mowen, 2006). Managerial performance is an expression for work achievement of the management at a specific time in a particular field. Rivai and Sagala (2009) said that performance is the apparent behavior of employees based on the role they play in the organization. Aguinis and Kraiger (2009) asserted that managerial performance is a sustainable process to identify, measure, and develop the performance of individual and team, and to harmonize performance with strategic goals of the organization. George and Jones (2005) said that managerial performance is about how efficient is the manager in using resources to satisfy customers and to achieve organizational goals.

Regarding the explanations above, it can be said that managerial performance is the outcome obtained by the management after completing various managerial activities. Managerial performance is also viewed as how far is the manager in completing managerial functions such as planning, investigation, coordination, evaluation, supervision, staff selection, negotiation, and representation. In other words, managerial performance is a performance produced by individuals of organizational members when they decide managerial activities. Performance assessment is a periodic assessment concerning the operational effectiveness of an organization, organizational structure, and organizational personnel based on targets, standards, and criteria previously determined (Siegel et al., 1989). This research is an attractive one and also the base for further analysis.

2.4. Hypotheses Development

2.4.1. Environment Uncertainty Risk on Managerial Performance

Environment uncertainty risk is one of the factors affecting the success of the firms. When the firms are capable of predicting its success, it can reduce environment uncertainty risk. High level of environmental uncertainty risk is a crucial factor. It might hamper planning and controlling activities. Planning can be stressful when the operational situation remains uncertain because future events are hardly predicted. Indeed, a high level of environmental uncertainty risk can leave the firms with adequate planning and controlling. Miliken (1987) declared environment uncertainty risk as a sense of incapability in making accurate predictions. High level of environmental uncertainty risk is related to low level of managerial performance. Successful firms are always adaptive to various environmental changes and proactively able to change their environment. The firms shall manage their environment uncertainty risk effectively. Environment uncertainty risk is an external environment condition that affects the operational process of the firms (Lesmana and Gunawan, 2016).

Daft (2002) proposed two fundamental strategies to deal with high level of environmental uncertainty risk. The first strategy is to adapt to various environmental changes, while the second is to create an environment that is more harmonious with the demand of the firms. When environment uncertainty risk is applied to the environment of management accounting system, environment uncertainty risk is measured by examining its effect on information usage and information characteristic. Planning is stressful under the situation of the high level of environmental uncertainty risk because future events are hardly predicted. Controlling the firms' activities is always tricky in an uncertain situation. Based on this statement, it can be said that a low level of managerial performance follows a high level of environmental uncertainty risk.

H1: Environment uncertainty risk has a negative but significant effect on managerial performance.

2.4.2. Environment Uncertainty Risk and Environment of Management Accounting System on Managerial Performance

Environment uncertainty risk is the risk emanating from the environmental factor that the firms encounter with. This risk is potentially disturbing managerial performance as measured in terms of technology, competitors, customers, and suppliers, especially when the firms fail to adapt with any rates of changes or dynamics (Tjahjadi, 2011). Chenhall and Morris (1986) explained that environment uncertainty risk was a critical contingency factor because it can impede planning and controlling. However, Gordon and Narayanan (1984) asserted that environment uncertainty risk is related to managerial performance. These findings were not consistent with one another, and therefore, researchers took preliminary inference that there is another factor influencing the relationship between environment uncertainty risk and managerial performance. When environment uncertainty risk is low, managers can predict the future and take the necessary steps to help the organization in making final plans (Duncan 1972). If a high level of uncertainty is predicted, managers will only find difficulty to ensure whether the decision they have made is failed or success.

Problem with a high level of environmental uncertainty risk might force managers to seek for information about the reliable accounting system. The environment of management accounting system can help managers to control activities of the firms and reduce uncertainty, which then allows the firms to achieve the goals (Gordon Miller, 1976). The environment of management accounting system is also facilitating the firms in predicting the possible consequences from various activities including planning, controlling, and decision making. The environment of

management accounting system supports the firms in coping with a competitive market, especially when the firms decide to increase the substantial added-value over its competitors, and also helps out the managers to monitor the performance of the firms afterward (Bromwich, 1990).

Chong and Chong (1997) found that there is an indirect relationship between strategy, environment uncertainty risk, and performance through a broad scope accounting system operated by managers during the decision-making process. It is believed that a dependable environment of management accounting system can increase managerial performance of the condition of environment uncertainty risk. Yubiharto (2003) conducted a study in the context of the banking industry and examined the effect of environment uncertainty risk and business strategy on managerial performance with characteristic of the management accounting system as an intervening variable. Yubiharto found that a dependable environment of management accounting system can increase managerial performance of the condition of environment uncertainty risk and facilitate the use of prospector business strategy. Environment uncertainty risk is a sense of incapability among individuals in assessing probability, whether the decision, they have made is failed or success. In case of failure, individuals will face difficulty to predict situations around them. Environment uncertainty risk can constrain individuals from obtaining information from the environment. This constraint might put individuals in difficulty from ensuring whether the decision they have made is failed or success. Considering this explanation as a guideline, it can be said that in the condition of a suitable environment of management accounting system, environment uncertainty risk is declining while managerial performance is increasing.

H2: Environment of management accounting system is moderating the relationship between environment uncertainty risk on managerial performance.

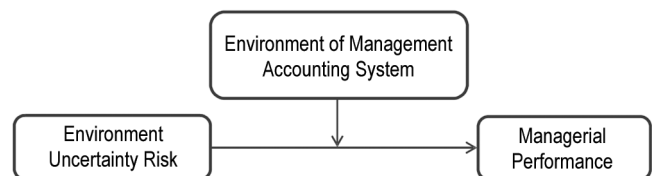


Figure 1. Theoretical Framework

3. Method

This research is a causative study. Population, sample, and respondents of this research are manufacture firms listed in the Indonesia Stock Exchange 2019. The sample consists of big and middle-sized manufacture firms, which was taken through purposive sampling by distributing a questionnaire to production managers, marketing managers, and financial managers. The total sample obtained was 107 managers. Data are collected through field study using a questionnaire. Questions in the questionnaire are measured in the scale of an answer from 1 to 5, which is defined from very agree to very disagree.

3.1. Data Analysis

Data processing is done by tabulating the questionnaires. The answers from each question for each variable is summed for the total. Data analysis is performed using a statistic technique such as testing data quality with validity and reliability tests, and Partial Least Square (PLS) Test. The research uses WarpPLS version 5.0 to assess outer model, and the assessment involves two measures, namely, Convergent Validity and Composite Reliability. Convergent Validity of the measurement model with reflexive indicators is estimated with a score of correlation across items/components, and the estimation process is performed with PLS. The individual reflexive unit is considered as high if the correlation rate of constructs with measurement

items is more than 0.70. According to Ghozali (2011), if the researcher is for the first time conducting such measurement, then the measurement scale with loading rate starting from 0.5 to 0.6 is quite satisfying. Discriminant Validity of the measurement model with reflexive indicators is assessed based on the rate of cross loading across the constructs with measurement items. If the rate of correlation across constructs with measurement items is higher than the rate of correlation across constructs without measurement items, it means that latent construct is better in predicting the size of its block rather than the size of another block. Another method to determine discriminant validity is by comparing the rate of the square root of average variance extracted (AVE) of each construct with the rate of correlation across constructs in the model (Ghozali, 2011). If the rate of AVE square roots of each construct is bigger than the rate of correlation across constructs in the model, then the model has good discriminant validity.

Inner Model or structural model is assessed to understand the relationship of constructs, significance value, and R-square value of the research model. The structural model is evaluated only with R-square in case of the dependent construct. Stone-Geisser Q Square Test is used for predictive relevance. A t-test is performed to determine the significance value of the structural path parameter coefficient. Assessing model with, PLS may start with looking for the R-square value of each latent dependent variable. Interpretation of PLS result is same as that in regression. Any changes in R-square value can be used to assess the effect of an independent latent variable on the latent dependent variable to see if the effect is substantive or not (Ghozali, 2011). Besides scrutinizing R-square of the model, the PLS model can also be evaluated through Q-square predictive relevance of the constructed model.

3.2. Hypothesis Test

Hypothesis test (β and γ) is done with the bootstrap resampling method proposed by Geisser and Stone. Statistic test used in this research is t-statistic or t-test. Two statistic hypotheses are promoted. First is the statistic hypothesis for an outer model involving i . $H_0: \lambda_i = 0$ against $H_1: \lambda_{H1} \neq 0.2$. Second is statistic hypothesis a statistic statistic the inner model, which is represented into the effect of an exogenous latent variable on endogenous latent variable, or i . $H_0: \gamma_i = 0$ against $H_1: \gamma_i \neq 0.3$. The use of resampling method allows the research to obtain free distribution, without having an assumption of normal distribution, and also without involving big sample (minimum sample of 30). A hypothesis test is done with t-test, and if the p-value is ≤ 0.05 (or alpha 5%), then the hypothesis is significant. The result of the hypothesis test on the outer model is that the model is significant, meaning that indicators can be used as an instrument to measure the latent variable. A result of the hypothesis test on the inner model shows that the model is significant, and it can be said that there is a significant effect of one latent variable on another latent variable.

3.3. Operational Definition of Variable

3.3.1. Environment Uncertainty Risk

Environment uncertainty risk is measured using Likert Scale of 5 points anchored from 1 to 5, and the scale consists of 12 questions inspired from instrument proposed by Duncan (1972). (Point 1) It refers to very disagree and (Point 5) very agrees. Environment uncertainty risk is the constraint of individuals from determining probability if the decision is failed or success. Environment uncertainty risk is also a situation when there is a difficulty for individuals to predict situations surrounding them and to do something with uncertainty at manufacture firms. Indicators that explain environment uncertainty risk are:

- (1) The attitude of producers, users, and competitors of service
- (2) Government regulation

- (3) Economic, political, and environmental conditions
- (4) Technological development

3.3.2. Environment of Management Accounting System

The scope of the environment of management accounting system is operated as a situation that information is available and ready to provide by the management accounting system. The scope of the environment of management accounting system is explored with indicators such as.

- (1) Scope, which refers to respondents' opinions about focus, quantification, and time horizon when they use an information system;
- (2) Timeliness, which is about respondents' opinions concerning frequency and speed of reporting by the management accounting system;
- (3) Aggregation, which relates with respondents' opinions about management accounting information and its function in the decision-making process; and
- (4) Integration, which represents respondents' opinions about the complexity of the management accounting system and its relation with complete information.

3.3.3. Managerial Performance

Mahoney et al. (1965) defined managerial performance about managerial functions such as planning, investigation, coordination, evaluation, supervision, staff selection, negotiation, and representation. Measurement of variables is done with a Likert Scale of 5 points starting from 1 (performance far below average) to 5 (performance far above average). Question items for managerial performance are developed based on Mahoney et al. (1965). Managerial performance is performance among individuals or members of decision makers in manufacture firms in deciding on managerial activities. Measurement of managerial performance is about how far is the managers in accomplishing their managerial functions. Managerial performance is explained by indicators as follows:

- (1) Staffing, which refers to respondents' opinions about their involvement in recruitment, interview, and selection of new employees, placement, promotion, and mutation;
- (2) Planning, which is related to respondents' opinions about their involvement in planning and determining goals, policies and its implementation, scheduling the work, budgeting, designing procedures, and programming accounting system;
- (3) Supervising, which talks about respondents' opinions concerning directing, leading, and developing subordinates, mentoring and training them, explaining work regulation to them, giving proper assignments, and helping them in problem-solving;
- (4) Representing, which is about respondents' opinions concerning their participation to represent the interests of the firm to others;
- (5) Evaluating, which stands for respondents' opinions about their involvement in assessing and measuring proposals, observing performance and reporting it, assessing employees, and examining notes and financial statements;
- (6) Investigating, which represents respondents' opinions about their involvement in preparing and collecting accounting information before writing notes and reports, and measuring and analyzing work outcomes;
- (7) Negotiating, which refers to respondents' opinions about their involvement in exchanging accounting information with other organizations, adapting the program with other organization's program, informing other organizations, and building relationship with other organizations; and
- (8) Representing, which is related to the delivery of information about vision, mission, and activities of the organization in the business group meetings or the consultative meetings with other firms.

4. Result and Discussion

The outputs of WarpPLS Version 5.0 are shown in Table 1 where the values of Convergent Validity and Consistency

Reliability are indicated. All variables in the research model have a high rate of reliability. Composite Reliability and Cronbach's Alpha of all variables are above 0.70. Based on these findings, it can be said that each indicator has internal consistency.

Variable	Code of Items/ Indicators	Outer Loading	AVE	Composite Reliability (CR)	VIF	Cronbach Alpha
Environment Uncertainty Risk	EUR1	0.809	0.724	0.913	1.658	0.872
	EUR2	0.820				
	EUR3	0.786				
	EUR4	0.737				
The environment of Management Accounting System	EMAS1	0.771	0.763	0.928	1.476	0.895
	EMAS2	0.826				
	EMAS3	0.831				
	EMAS4	0.826				
Managerial Performance	MP1	0.811	0.472	0.718	1.652	0.565
	MP2	0.711				
	MP3	0.741				
	MP4	0.821				
	MP5	0.819				
	MP6	0.768				
	MP7	0.860				
	MP8	0.848				

Table 1. Convergent Validity and Internal Consistency Reliability
Source: Results of processing WarpPLS 5.0 (2019)

Model fit is determined and evaluated using the fittest. This test is applied to the structural equation model as presented in Table 2. Average Path Coefficient (APC) is the measurement of coefficient average for the path existing in the model. Value limit for APC is determined from its P-value, respectively <0.05. This research obtains APC value for 0.373 with P = 0.001. Therefore, the research model fulfills the significance criteria. Average R-squared (ARS) is the measurement of R-Square value average of the model. Value limit for ARS is same as APC, and it is also determined from its P-value of <0.05. The obtained value for ARS is 0.321 with P<0.001.

Regarding this position, a research model is fulfilling significance criteria. Average Adjusted R-Squared (AARS) is the

measurement of the average value of the Adjusted R-Square of the model. Value limit for AARS is not different from that of ARS and APC, and this limit is determined from its P-value of <0.05. This research has obtained AARS value for 0.308 at P<0.001. Model built in this research, therefore, is fulfilling significance criteria. Average Block Variance Inflation Factor (AVIF) is a fit size of a model and used to evaluate the collinearity problem in the PLS model. If there is multicollinearity or when predictors in the model are correlated, then the AVIF rate is increasing. The ideal limit for AVIF rate is 3.3, and it can be tolerated at the limit of 5. In this research, the tested model has AVIF rate of 1.045, which. Therefore, the research model does not suffer from multicollinearity. Based on this result, the model is considered as fit.

Quality Indices	Result	P-Value	Information
Average Path Coefficient (APC)	0.372	P =0.001	Model Fit
Average R-squared (ARS)	0.321	P <0.001	Model Fit
Average Adjusted R-Squared (AARS)	0.308	P <0.001	Model Fit
Average Block VIF (AVIF)	1.045	Acceptable if <= 5, ideally <= 3.3	Model Fit
Average Full Collinearity VIF (AFVIF)	1.455	Acceptable if <= 5, ideally <= 3.3	Model Fit
Tenenhaus Gof (Gof)	0.440	Small >= 0.1, medium >= 0.25, large >= 0.36	Model Fit
Sympon's Paradox Ratio (SPR)	0.500	Acceptable if >=0.7, Ideally = 1	Model Fit
R-Square Contribution Ratio (RSCR)	0.894	Acceptable if >=0.9, Ideally = 1	Model Fit
Statistical Suppression Ratio (SSR)	1.000	Acceptable if >= 0.7	Model Fit
Non Linear Bivariate Causality Direction Ratio (NLBCDR)	1.000	Acceptable if >= 0.7	Model Fit

Table 2. Model Fit and Quality Indices
Source: Results of processing WarpPLS 5.0 (2019)

Hypothesis	Relationship	Path Coefficients	Standard Error	P-Value	Sig. Direct Effect
H1	EUR --> MP	-0.588	0.083	<0.001	Accepted
H2	EUR*EMAS --> MP	0.156	0.093	0.048	Accepted

Table 3. Relations between Variables (Hypothesis Testing -> Sig. 5% one-tailed)
Source: Results of processing WarpPLS 5.0 (2019)

4.1. The Effect of Environment Uncertainty Risk on Managerial Performance

According to the results of the hypothesis test, Table 3 is made. Concerning the first hypothesis, it is shown that P-value remains at a significance level of 0.001. This value is smaller than the alpha (α) value of 0.05 (0.001 <0.05). Beta (β) value is negative and standing for -0.588. The result shows that environment uncertainty risk has a negative but significant effect on managerial performance, and therefore, the first hypothesis (H1) is accepted. This result is consistent with the theory

proposed by Daft (2009) who identified environment uncertainty risk as an important factor that affects managerial performance because it might create a condition that impedes planning and controlling an organization. Planning becomes problematic in the uncertain operational situation because future events are hardly predicted. Under the situation of environment uncertainty risk, the management is constrained from acknowledging whether the managerial decision is failed or success. It means that a high level of environmental uncertainty risk is causing a low level of managerial performance.

As previously said by Daft (2009), environment uncertainty

risk occurs only if managers do not have information about environmental factors that they must use to understand and forecast environmental demands or changes. Environment uncertainty risk is thus considered as a critical factor because it can affect, or precisely hamper, planning and controlling. Planning is troublesome in the uncertain operational situation because the future is difficult to predict. The environment of the firms is not constant but fluctuating. Both internal and external environments are always changed. For example, government regulations do change, and economic growth remains less predictable. When the environment suffers from volatility, organizational performance is getting lower either financially or non-financially (Jusoh, 2008). When environment uncertainty risk is low, the management can make relatively accurate predictions about the market by the guidance of general parameters derived from information of the management accounting system in conventional accounting. Environment uncertainty risk affects managerial performance, and therefore, a high level of environmental uncertainty risk indeed compels managers to stay in alert on decisions they have made because such situation impacts their daily performance. As previously noted by Miliken (1987), a sense of uncertainty is a sense of incapability to predict something accurately. In other words, environment uncertainty risk is the incapability of individuals to assess probability, whether the decision is failed or success. Environment uncertainty risk constrains individuals from predicting the situation around them and therefore, they try to deal with this problem. It is believed that environment uncertainty risk has prevented individuals from acknowledging whether the decision they have made is failed or success.

The result of the hypothesis test indicates that environment uncertainty risk is significantly affecting managerial performance. It is in line with theory enacted by Miliken (1987) who declared that uncertainty refers to the sense of incapability among individuals when they want to predict something accurately. Despite its significant effect, the relationship between environment uncertainty risk on managerial performance is negative. This position is in accord with previous studies such as Gul and Chia (1994) who determined that there is an effect relationship from environment uncertainty risk on managerial performance. Gordon and Narayanan (1984) explained the importance of the environment of management accounting system, along with its forward-looking orientation, to the managers who cope with environmental uncertainty risk. At least, the environment of management accounting system helps managers to have control over an uncertain environment. It must be noted that environment uncertainty risk is one of many factors affecting the success of the firms. If forecasting capability is increasing, it might reduce the level of environmental uncertainty risk.

Dwirandra (2007) carried out a study about the effect of environment uncertainty risk on managerial performance. Dwirandra concluded that environment uncertainty risk is indeed affecting managerial performance. High level of environmental uncertainty risk is a critical factor because it can put individuals into difficulty to do the planning and controlling. Indeed, planning is always tricky in the uncertain operational situation because it is hard to predict future events. It can be said that a high level of environmental uncertainty risk will reduce managerial performance. A successful organization is one that is always adaptive to environmental changes but also proactively taking exertion to change the environment. A successful organization is one that can manage environment uncertainty risk ineffective way.

The controlling activity of the firms is strenuous in an uncertain situation. High level of environmental uncertainty risk can obstruct controlling. When the future is difficult to predict, controlling is the challenging activity. In case of environment uncertainty risk, individuals are in troublesome or under restriction to ensure whether the decision they have made is failed or success. If the capability to predict the fate of decision is increasing, then the level of environmental uncertainty risk might be decreased. Environment uncertainty risk cannot be allowed

to increase because otherwise, it can reduce managerial performance.

4.2. The Effect of Environment Uncertainty Risk and Environment of Management Accounting System on Managerial Performance

As shown in Table 3, regarding the second hypothesis, the significance level of P-value remains at 0.048, which is smaller than the alpha (α) value of 0.05 ($0.048 < 0.05$). Beta (β) value is 0.156, and the sign is negative. The result of the hypothesis test shows that the environment of management accounting system is moderating the effect of environment uncertainty risk on managerial performance. This moderation is significant and therefore, the second hypothesis (H2) is accepted. Every manager needs the support of information to be used as inputs before they make a decision. It is expected that proper inputs will help managers to produce qualified and accountable decision or policy. The balance between information availability and decision maker's demand for information will improve the quality of decision made and finally. It might be helpful to increase the performance of the firms. The environment of management accounting system is the most necessary information by managers in making decisions to improve the performance of the firms, and therefore, the competency of the firms is always utilized for improving performance (Chong and Chong, 1997). Based on this statement, it can be said that the environment of management accounting system is needed to improve the performance of the firms. This position is supported by Nizarudin (2006) who described that environment of management accounting system could affect the performance of the firms. When the environment of a management accounting system is more dependable, then the firms' performance is increasing.

The scope of the management accounting system is the determinant of managerial performance. Based on managers' perception, some empirical results about an information characteristics are obtained. The characteristic of information includes a Broad Scope, Timelines, Aggregation, and Integration. Management accounting information that is integrated into a system is undoubtedly accelerating the reporting process and also helping managers to understand all financial or non-financial information. In manufacture firms, the targeted information is liquidity ratio and profitability ratio. The management accounting system in these firms is designed to facilitate the operation. Accounting information must be appropriately delivered to managers to help them accomplishing their managerial activities and improving their performance (Nuraini, 2019).

If the environment of management accounting system is not supportive, managerial performance might decrease. On the other hand, when the environment of management accounting system is well distributed to each member of the firms, managers are no longer required to boost up their performance because the environment of management accounting system is considered as already capable of delivering all accounting information to the firms. Regarding this statement, the second hypothesis that environment of management accounting system has a significant effect on the managerial performance of manufacture firms is verified.

Some respondents have a notion that the environment of management accounting system is information provided by the management accounting system that is oriented more on earnings and operational goals. Computerization helps management accounting information to be disseminated easily in more significant quantities, which then, as a result, improves the quality of the management information system. A reliable management accounting system will increase the frequency of reporting, or that the reporting can be scheduled more frequently. The presence of a management accounting system might help managers to obtain information faster and utilize it punctually for decision making. The excellent management

accounting system is related to integrated management accounting information.

Moreover, the management accounting system is also helpful to solve complex problems. Good management accounting system would provide complete and comprehensive information, which then gives a good impact on managerial performance. Regarding the result of a hypothesis test on the second hypothesis, environment uncertainty risk has a significant effect on managerial performance, and environment of management accounting system moderates the effect of environment uncertainty risk on managerial performance.

5. Conclusion and Recommendation

This research gives two results. The first result is that environment uncertainty risk has a negative but significant effect on managerial performance. Therefore, the first hypothesis is accepted. When the capability to predict the future is increasing, then environment uncertainty risk is becoming low. Another result is that the environment of management accounting system is moderating the effect of environment uncertainty risk on managerial performance. This moderation is significant and therefore, the second hypothesis is accepted. It can be explained as that high level of environmental uncertainty risk is lowering managerial performance, and environment of management accounting system moderates the effect of environment uncertainty risk on managerial performance.

Method of these research surveys and the instrument to collect the data is a questionnaire only. The researcher did not conduct the interview. The collected data are respondents' answers from the questionnaire. There is a presumption that results of research might be different if the interview is involved. Therefore, it shall be better if research performs the survey not only with a questionnaire but also by having a direct interview with the informants. The result of the interview can provide the actual description of respondents.

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