Application of Management Accounting System at Indonesian Startup Companies

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Abstract

This research was conducted on Indonesian startup companies. This study examines the effect of innovation on the management accounting system, the effect of the management accounting system on financial performance and examines the mediating effect of the management accounting system on the effect of innovation on financial performance. This study involved 42 Indonesian startup companies domiciled in Jabodetabek. Questionnaires were distributed to sample companies to obtain the required data and processed using smart PLS 2.0. The results of this study are that there is a significant positive effect of innovation on the management accounting system, there is a significant positive effect of the management accounting system and there is evidence that the management accounting system has a mediating effect that strengthens the influence of innovation on financial performance.

Keywords: innovation, management accounting system, financial performance

INTRODUCTION

Competitive advantage is demonstrated by above-average returns and can be achieved by implementing strategies. In carrying out innovation, an organization needs to develop a comprehensive strategy. Alignment of overall business strategy is very important to create superior company performance (Bag et al., 2018). This strategy expresses the organization's goals in innovation, namely the explanation and planned management. Innovation consists of leadership orientation, process, innovation, product innovation, internal source of innovation, external source of innovation, implementation of innovation, and level of investment. Management performance measurement using one aspect or perspective cannot provide comprehensive performance information. Business success is determined by innovation (Thrikawala, 2011). Innovation is a process that utilizes skills and resources to achieve performance. Innovation in new product development is carried out by developing new production processes and operating systems to meet customer needs. Innovation makes organizations more competitive. Competitive advantage is very important for every organization to win the competition (Parnel, 2011). In order to have a sustainable competitive advantage, companies need to improve operational performance and move across value chain, strategic, operational, and project levels (Hong et al., 2012).

Business success is determined by innovation (Thrikawala, 2011). Innovation is a process that utilizes skills and resources to achieve performance. Innovation in new product development is carried out by developing new production and operating systems to meet
customer needs. Competitive advantage is indicated by returns above the average competitor and can be achieved by implementing a competitive strategy (innovation). In carrying out innovation, an organization needs to develop formally and have a comprehensive strategy. Alignment of strategy with the business as a whole is an important strategy to improve the company’s superior performance (Bag et al., 2018). This strategy expresses the organization's goals in innovation, namely the explanation and planned management of an innovation. The dimensions of the innovation strategy consist of leadership orientation, process, innovation, product innovation, internal sources of innovation, external sources of innovation, implementation of innovation, and level of investment. The successful implementation of the innovation strategy will have a significant impact on organizational performance.

The latter area, in particular, includes communication, construction and design of systematic or strategic integration. In this study, we investigate how strategic innovation provides value to organizations on the grounds that design is the intellectual capital of business. In business, a combination of natural innovation and professional ability strives to produce superior organizational results. Friedman (2016) has studied the application of innovation in organizations developing themes such as innovation management, design and business and innovation and strategy. These investigative trends have shown that incorporating innovation into business results in benefits for companies and society at large. Junginger (2015) states that innovation is part of business DNA because there are three innovation heritages that have organizational components: tradition or practice (applied design methods), approach (individual-focused, process-oriented, problem resolution or cost minimization) and organizational goals. (vision, mission and strategic objectives). These design legacies, in certain cases, become flawed or inadequate, as they must be coordinated, visualized, and dedicated to achieving tangible organizational change. Basically, the legacy elements of business design refer to what, how or why design is important to the organization.

The successful implementation of innovation will have a significant impact on organizational performance. Contingency theory supports the relationship between innovation and financial performance by stating that organizational design will be effective only under certain conditions (Otley, 1980). Possibility Theory is used in this study because the theory explains organizational design effectively and is universally applicable under certain conditions. Different conditions make design differences. In short, organizational design is only suitable for certain conditions. Strategic innovation is one of the contingent factors that affect financial performance intensely in competitive conditions (Zigan and Zeglat, 2010). Innovations that are applied continuously depend on contingency factors. The contingency approach also states that the effect of innovation on performance depends on structural arrangements including management accounting systems, human resource capabilities, and internal process performance (Chenhall, 2006). Strategic innovation can be turned into performance improvement. However, it requires the support of the organization's internal and external environment (Bisbe and Otley, 2004). Management accounting system, internal process performance, and customer performance variables can be used as mediating variables.

Management needs reliable information to make good decisions. The accuracy and reliability of the management accounting system must meet the criteria of broad coverage, timeliness, aggregation, and integration. A management accounting system that provides information for management to make better decisions requires information technology. Every innovation, requires information. The innovation strategy influences the design of the firm’s management and accounting systems in terms of breadth, timeliness, aggregation, and integration. There is a strong interaction between business strategy and management accounting system management with company performance (Ali et al., 2012). Terziovski (2002)
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has confirmed the impact of innovation on firm performance. Innovation makes organizations more competitive. Competitive advantage is very important for every organization to win the competition (Parnel, 2011). For a sustainable competitive advantage, innovation goes beyond the operational level and moves across the value chain, strategic, operational, and project level (Hong et al., 2012).

THEORETICAL FRAMEWORK AND HYPOTHESIS

Contingency theory supports the relationship between innovation and financial performance by stating that organizational design will be effective only under certain conditions (Otley, 1980). Possibility Theory is used in this study because the theory explains organizational design effectively and is universally applicable under certain conditions. Different conditions make design differences. In short, organizational design is only suitable for certain conditions. Strategic innovation is one of the contingent factors that affect financial performance intensely in competitive conditions (Zigan and Zeglat, 2010). Innovative solutions obtained through the process can be applied to policy makers, researchers and practitioners (Shrotriya et al., 2018).

Competencies that have been identified are supply-demand coordination and product pricing, logistics, marketing, procurement, manufacturing simplicity and product quality and preventive maintenance.

The successful implementation of the innovation strategy requires the role of a competent and reliable company management accounting system. The information age is driven by information and knowledge. Each strategy requires certain HR competencies to create a strategy of continuous innovation and competitive advantage. An innovation strategy that is applied continuously depends on contingency factors. The contingency approach also states that the effect of strategy (including innovation strategy) performance depends on structural arrangements including management control systems, human resource capabilities, and internal process performance (Chenhall, 2006). Strategic innovation can be turned into performance improvement. However, it requires the support of the organization's internal and external environment (Bisbe and Otley, 2004). Intellectual capital, management accounting information systems, internal process performance, and customer performance variables can be used as mediating variables. Management needs reliable information to make good decisions.

The management accounting system must have criteria of broad coverage, timeliness, aggregation, and integration. A management accounting information system that provides information for management to make better decisions requires information technology. Every strategy, including the innovation strategy, requires certain information. The innovation strategy influences the design of management accounting information systems in terms of breadth, timeliness, aggregation, and integration. There is a strong interaction between business strategy and management accounting information systems (Abdallah, 2014). Competent human resources and accurate and reliable management accounting information systems have a significant influence on the performance of internal processes.

Internal processes are related to the innovation process, operation process, and after-sales service process (Tavitiyaman et al., 2012). The innovation strategy is also related to more efficient production processes, more timely delivery to customers, and better after-sales services. Continuous implementation of advanced innovations improves company performance. Manufacturing companies must innovate and develop products in relation to performance in order to increase productivity and keep up with global competition. The results of Moffet et al. (2008) suggest that new innovations, forward-looking, predictive benchmarks need to be developed to support prospect benchmarking and performance measurement activities. Good
internal process management improves performance in terms of production efficiency, cost savings, quality improvement, and increased asset utilization. Management of accounting information systems plays an important role in improving internal process performance (Goh et al., 2012). Good internal process performance is linked to good overall business performance. It describes the logic of the research model in the relationship between innovation strategy and financial performance through human resources, management accounting information systems, and internal process performance. Based on the description above, the following hypothesis can be proposed:

H1a: There is a significant positive effect of innovation on the management accounting system-broad scope in Indonesian start-up companies.
H1b: There is a significant positive effect of innovation on the management accounting system-time lines in Indonesian start-up companies.
H1c: There is a significant positive effect of innovation on the management accounting system-integration in Indonesian start-up companies.
H1d: There is a significant positive effect of innovation on the management accounting system-aggregation in Indonesian start-up companies.

To implement the strategy effectively, company management needs an information system that can provide information for better decision making. The match between the information and the needs of decision makers will improve the quality of decisions made, and ultimately the company’s performance. Management accounting systems play an important role in generating reliable information for managers to make better tactical and strategic decisions. Innovation strategy requires specific information that is different from other business strategies. Reliable management accounting Information systems can produce information needed by managers to make better decisions in creating good financial performance.

A study by Otley (1980) revealed that a contingency approach can be used to analyze and design a management accounting system to provide information that can be used for various purposes that affect the better performance of internal processes. The results of the study showing a contingency approach to management accounting systems prove that there is no universal management accounting system that can be applied precisely to all organizations in every country. In management accounting research, a contingency approach is needed to evaluate environmental factors (intensity of competition, strategy, environmental uncertainty) that can affect a more effective and reliable accounting system for management to improve internal processes. Companies that implement an innovation strategy will continuously monitor market opportunities, commit to change, and respond quickly to competitors. Innovative companies are also constantly developing new market opportunities that require flexible and innovative structures. As a result, future-oriented external information and non-financial information are needed by managers to make better decisions. Thus, the various information provided by the management accounting system will be very useful in this kind of decision making. The innovation strategy affects all aspects of the organization including the must-have information provided by the management accounting information system. Bromwich (1990) argues that management accounting information systems can help management face competitive market challenges that focus on increasing the company’s added value to outpace competitors and helping managers to monitor performance in a competitive environment. Based on the description above, the following hypothesis can be proposed:
H2a: There is a significant positive effect of the management accounting system-broad scope on the financial performance of Indonesian start-up companies.
H2b: There is a significant positive effect of the management accounting system-time lines on the financial performance of Indonesian start-up companies.
H2c: There is a significant positive effect of the management accounting system-integrated on the financial performance of Indonesian start-up companies.
H2d: There is a significant positive effect of the management accounting system-aggregation on the financial performance of Indonesian start-up companies.

Conformity between the information needed by decision makers and management accounting information systems will certainly improve the quality of decisions and improve overall organizational performance in terms of better internal process performance, customer performance, and financial performance. Mia and Chenhall (1994) suggest that the characteristics of management accounting information systems are able to improve organizational performance. The characteristics of management accounting information systems, namely broad coverage, aggregation, timeliness, and integration will further increase organizational performance. Characteristics of the broad scope of management accounting information systems are important antecedent variables in improving performance. Mia and Clarke (1999) examined the relationship between the intensity of market competition, management accounting information systems, and firm performance. The results of the study conclude that the use of information in management accounting information systems mediates the relationship between the intensity of market competition and company performance. Based on the description above, the following hypothesis can be proposed:

H3a: Management accounting systems-broad-scope mediate the effect of innovation on financial performance in Indonesian start-up companies.
H3b: Management accounting system-time lines mediate the effect of innovation on financial performance in Indonesian start-up companies.
H3c: Management accounting systems-integration mediate the effect of innovation on financial performance in Indonesian start-up companies.
H3d: Management accounting system-aggregation mediates the effect of innovation on financial performance in Indonesian start-up companies.

RESEARCH METHOD

This research was conducted in 2021 using quantitative research methods. The study was conducted by distributing electronic questionnaires to 552 startup companies located in Jabodetabek which were recorded in the 2018 Indonesian startup mapping & database issued by the Indonesia Digital Creative Industry Society. The choice of startups with addresses in Jabodetabek is based on data from the Indonesia Digital Creative Industry Society, the population of Jabodetabek startups is 52.62% of the Indonesian startup population and the sample in this study were managers in charge of innovation and corporate finance and processed using smart PLS 2.0. To test the hypothesis, this study targets startups engaged in e-commerce and fintech services as many as 271 companies. The choice of this field is because researchers believe that the level of innovation in this field is very high due to very high competition.

We collected data from two groups of respondents at different management levels within each company; upper and middle management levels. Respondents in top management are members of the board of directors, and respondents in middle management are managers.
who are one level below the board of directors. To increase the valid survey response rate, we telephoned each sample company to explain the purpose of the study and the content of the questionnaire, and we asked them to confirm their name and title before sending them the relevant questionnaire.

After two pretests, for the main survey, we called 271 companies and managed to contact 91 companies and who were willing to accept the questionnaire as many as 60 companies and emailed the questionnaire, and of the 60 companies that were sent the questionnaire email, only 49 companies returned the questionnaire. After discarding invalid questionnaires, we obtained valid samples of complete pairwise responses from members of top management and middle managers from 42 firms. Therefore, the sample group consists of mostly medium and large companies. This sample structure represents the Indonesian startup industry.

RESULTS AND DISCUSSION

Results

Of the 271 Indonesian startup companies that were sampled, only 42 companies returned the questionnaire completely according to the research criteria. The data processing carried out in this study resulted in the quality of the data as shown in table 1. All variables in this study obtained the Average Variance Extracted (AVE) value above 0.7. The data criteria are said to be good if they have an Average Variance Extracted (AVE) above 0.7 (Ghozali, 2012). In addition to looking at the Average Variance Extracted (AVE), this study also looks at the Composite Reliability value. The value of Composite Reliability which is considered good is above 0.7 (Ghozali, 2012). The results of the data processing show the Composite Reliability Value above 0.7 so that the data used in this study can be said to be reliable.

<table>
<thead>
<tr>
<th>Table 1: Data Quality</th>
<th>AVE</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>0.867</td>
<td>0.949</td>
</tr>
<tr>
<td>Management Accounting System-Broad Scope</td>
<td>0.886</td>
<td>0.912</td>
</tr>
<tr>
<td>Management Accounting System-Timelines</td>
<td>0.765</td>
<td>0.955</td>
</tr>
<tr>
<td>Management Accounting System-Integration</td>
<td>0.736</td>
<td>0.932</td>
</tr>
<tr>
<td>Management Accounting System-Aggregation</td>
<td>0.845</td>
<td>0.973</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>0.887</td>
<td>0.923</td>
</tr>
</tbody>
</table>

The results of data processing using SmartPLS can be seen in table 2, that the influence of Innovation on the Management Accounting System-Broad Scope produces an original sample value of 0.812641 and a T-statistical value of 23.881906 which is more than the T-table (1.96). Thus, hypothesis one-a (H1a) can be concluded that there is a significant positive effect of innovation on the broad-scope management accounting system in Indonesian start-up companies. Data processing the influence of Innovation on Management Accounting System-time lines resulted in the original sample value of 0.829935 and the T-statistical value of 24.543154 more than the T-table (1.96). Thus, hypothesis one-b (H1b) can be concluded that there is a significant positive effect of innovation on the management accounting system-time lines in Indonesian start-up companies. The influence of Innovation on Management Accounting System-integration produces an original sample value of 0.851980 and a T-statistical value of 28.247026 which is more than the T-table (1.96). Thus, hypothesis one-c (H1c) can be concluded that there is a significant positive effect of innovation on the management-integration
accounting system in Indonesian start-up companies. The results of data processing the influence of Innovation on Management Accounting System-aggregation resulted in the original sample value of 0.887208 and the T-statistical value of 30.106896 which was more than the T-table (1.96). Thus, the one-d hypothesis (H1d) can be concluded that there is a significant positive effect of innovation on the aggregation-management accounting system in Indonesian start-up companies.

The results of data processing using SmartPLS can be seen in table 2, that the influence of the broad scope-management accounting system on financial performance resulted in the original sample value of 0.311706 and the T-statistical value of 6.272339 which was more than the T-table (1.96). Thus, hypothesis two-a (H2a) can be concluded that there is a significant positive effect of the broad-scope management accounting system on the financial performance of Indonesian start-up companies. The influence of the management accounting system-timelines on financial performance resulted in the original sample value of 0.314523 and the T-statistical value of 6.856623 more than the T-table (1.96). Thus, hypothesis two-b (H2b) can be concluded that there is a significant positive effect of the management accounting system-timelines on the financial performance of Indonesian start-up companies. The effect of the management-integration accounting system on financial performance resulted in the original sample value of 0.301472 and the T-statistical value of 5.453254 more than the T-table (1.96). Thus, hypothesis two-c (H2c) can be concluded that there is a significant positive effect of the management-integration accounting system on the financial performance of Indonesian start-up companies. The effect of the management accounting system-aggregation on financial performance resulted in the original sample value of 0.292453 and the T-statistical value of 4.953254 more than the T-table (1.96). Thus, the two-d hypothesis (H2d) can be concluded that there is a significant positive effect of the aggregation-management accounting system on the financial performance of Indonesian start-up companies.

In this study, testing the moderating effect using Sobel test analysis. The results of data processing using the Sobel test calculator can be seen in table 3, that the broad scope-management accounting system mediates the effect of innovation on financial performance resulting in a t-statistic value of 20.134552 more than T-table (1.96) with a probability value of 0.000. Thus, hypothesis three-a (H3a) can be concluded that there is a mediating effect of broad-scope management accounting systems on the influence of innovation on financial performance in Indonesian start-up companies. The mediating effect of the management accounting system-timelines on the influence of innovation on financial performance resulted in a t-statistic value of 19.256789, more than T-table (1.96) with a probability value of 0.000.

| Path | Original Sample (O) | T Statistics (|O/STERR|) |
|------|---------------------|-----------------|
| Innovation to Management Accounting System-Broad Scope | 0.812641 | 23.881906 |
| Innovation to Management Accounting System-Timelines | 0.829935 | 24.543154 |
| Innovation to Management Accounting System-Integration | 0.851980 | 28.247026 |
| Innovation to Management Accounting System-Aggregation | 0.887208 | 30.106896 |
| Management Accounting System-Broad Scope to Financial Performance | 0.311706 | 6.272339 |
| Management Accounting System-Timelines to Financial Performance | 0.314523 | 6.856623 |
Thus, the third hypothesis-b (H3b) can be concluded that there is a mediating effect of the management accounting system-time lines in the influence of innovation on financial performance in Indonesian start-up companies. The mediating effect of the management-integration accounting system on the influence of innovation on financial performance resulted in a t-statistic value of 19.556352, more than T-table (1.96) with a probability value of 0.000. Thus, the three-c hypothesis (H3c) can be concluded that there is a mediating effect of the management-integration accounting system on the influence of innovation on financial performance in Indonesian start-up companies. The mediating effect of the aggregation-management accounting system on the influence of innovation on financial performance resulted in a t-statistic value of 19.556352, more than T-table (1.96) with a probability value of 0.000. Thus, the three-d hypothesis (H3d) can be concluded that there is a mediating effect of the aggregation-management accounting system on the effect of innovation on financial performance in Indonesian start-up companies.

Table 3: Sobel Test

<table>
<thead>
<tr>
<th>Mediating</th>
<th>Test Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Accounting System-Broad Scope</td>
<td>20,134552</td>
<td>0,000</td>
</tr>
<tr>
<td>Management Accounting System-Timelines</td>
<td>19,256789</td>
<td>0,000</td>
</tr>
<tr>
<td>Management Accounting System-Integration</td>
<td>19,556352</td>
<td>0,000</td>
</tr>
<tr>
<td>Management Accounting System-Aggregation</td>
<td>21,362548</td>
<td>0,000</td>
</tr>
</tbody>
</table>

Discussion
The innovation strategy applied also affects the need for reliable information systems, including the Management Accounting System. A reliable, trustworthy, and timely Management Accounting System is information that has coverage, aggregation, timeliness, and integration. Innovation in strategy implementation will determine the need for a reliable management accounting information system. Therefore, innovations in implementation strategies determine the need for reliable management accounting information systems. However, in this study, a reliable accounting information system has no effect on financial performance. Therefore, management accounting information systems do not mediate the relationship between sustainable innovation strategies and financial performance.

Management Accounting Systems mediate the relationship between innovation and financial performance. The results of the study show that startup companies in Indonesia in implementing their strategies emphasize the reliability of the Management Accounting System. Conformity between information and the needs of decision makers will improve the quality of decisions to be taken and ultimately improve company performance. The information technology needed in management accounting systems provides opportunities for companies to improve coordination and control, or can also be used to gain competitive advantage in the market because it affects the performance of internal processes.

Innovation in information technology is an important factor in the strategy. The innovation strategy implemented by the company will determine the need for a reliable management accounting information system that has coverage, aggregation, timeliness, and integration to achieve good internal process performance, which in turn has an impact on good financial performance. Therefore, innovation in the implementation strategy determines the
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need for a reliable management accounting information system which ultimately affects the performance of internal processes that have an impact on financial performance. A reliable Management Accounting Information System has an effect on financial performance if there is a good performance of the company’s internal processes as described in the previous discussion. Therefore, management accounting information systems and internal process performance fully mediate the relationship between sustainable innovation strategies and financial performance.

Management accounting information systems mediate the relationship between innovation and financial performance. The results of the study conclude that startup companies in Indonesia pay attention to the importance of system management accounting information. This can be seen in hardware and software that are already running well. Startup companies in Indonesia have used management accounting information systems. The company's innovation strategy implemented by the company will affect the information needs in strategy implementation. Research that explains information in Management Accounting Systems can help companies face challenges in market competition. The results also illustrate that the information in the Management Accounting System focuses on: increasing the added value of the company so that the company has a competitive advantage that exceeds their competitors. It will also help managers monitor their company’s performance in a competitive and uncertain environment.

The Management Accounting System as one of the management accounting products plays a role in helping predict the possible consequences of various alternative actions taken in various activities such as planning, controlling, and decision making. The characteristics of the information available in the management of accounting companies are said to be effective and efficient if they can support information users to make correct, accurate, and timely decisions. The suitability, accuracy, truth and relevance of information within the company to the needs of decision makers will improve the quality of decisions to be taken and ultimately improve company performance.

CONCLUSIONS

Based on the results of the study, it can be concluded that innovation has a significant influence on the management accounting system of startup companies in Indonesia. In this study also produces evidence that one of the ways to improve financial performance is created by the formation of information systems, especially management accounting systems. Managers can get information quickly and precisely, so they can make accurate decisions. Management accounting systems significantly mediate the relationship between innovation strategy and financial performance.

Research results provide information for startup companies in Indonesia about the importance of innovation and sustainable information technology in strategy implementation so that companies have a competitive advantage and competitiveness in the face of globalization. The research is expected to contribute to increasing the awareness of startup managers in Indonesia about the importance of an adequate accounting information system so that companies are able to provide reliable accounting information systems for decision making.
REFERENCE


