Internal Sources of Competitiveness in Small and Medium Indonesian Food Processing Companies

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Abstract. In this paper, we explore the relationship between market orientation, innovation and business performance of Small and Medium Enterprises (SMEs) in Indonesian food processing industry. We examine the potential of market orientation and innovation as the sources of competitiveness of SMEs food processing in Indonesian context. Primary data was collected from five districts in West Java, Indonesia. The sample includes only companies with fewer than 100 employees and those operate in the food processing industry. To understand relationship between market orientation, innovation and performance we used path analytical model approach. Several major findings were found through data analysis. First, this research show that market orientation and innovation affect business performance of SMEs. Second, innovation in SMEs food processing is affected by market orientation. Overall, these research results indicate that market oriented and innovative behavior can be considered as the potential source of competitiveness of SMEs food processing. The valuable contribution of this paper is to strengthening body of knowledge related to SMEs competitiveness, market orientation and innovation since the relevance of modern management theory in practice is still questioned in the context of developing country like Indonesia. Another contribution is to give guidance for business owners and government in improving the competitiveness of SMEs food processing.

Keywords: competitiveness, market orientation, innovation, small and medium enterprises, Indonesian food processing

JEL code: M31, O31

Introduction

Food processing SMEs in Indonesia have existed for a long time and have always played an important role in the distribution of cheap food to low-income people all over the country, etc. Indonesia has a large population of 240 million consisting of relatively young people. Indonesians used to eat mostly rice, cassava, and maize, but they now consume much more fruits, fish, meat, dairy products and processed food. The shift in consumption has been driven by the rapid income growth and urbanization, and concomitant changes in lifestyle. The market opportunity for the food industry in Indonesia is wide open as consumption of food in Indonesia is people’s dominant expenditure. Indonesian Statistics (BPS, 2010) data shows people spend 54 percent of their income on food. Moreover, the GDP share of food processing increases from year to year. Figure 1 gives evidence that the food processing industry is the industry that is growing fastest.
However, the environment faced by food-processing SMEs has changed dynamically. The structure of the industry has also changed, affecting the nature of competition. Recently, we are entering an era of hyper-competition as a consequence of globalization in which competition occurs not only among domestic companies, but also companies from overseas. In this highly competitive and fast changing environment, only firms that are efficient, flexible, innovative, and responsive to changes can survive. Competitiveness becomes an important issue for dealing with such an intense rivalry. Companies with a higher level of competitiveness have greater opportunities to succeed in exploiting the market and dealing with competitors. Therefore, companies must pay attention to sources of competitiveness and must have the ability to maximize their competitiveness.

Unfortunately, not all SMEs in the Indonesian food-processing industry could develop sufficient competitiveness due to a lack of resources. Classical problems such as a lack of capital, simple technology, difficulties in accessing markets, etc., are often considered to be constraints that make SMEs in food processing less competitive in the market. However, whatever the situation, SMEs in the Indonesian food-processing industry have to develop their competitiveness if they want to survive and grow. For developing competitiveness, SMEs should explore the sources of competitiveness they have. By understanding existing sources of competitiveness, SMEs will be able to develop a strategy for improving their overall competitiveness.

Performance such as profitability is generally considered to be the most important measure of competitiveness. Many researchers argue that performance is affected by market orientation (Kohli & Jaworski, 1990; Kara et al., 2005; Nair, 2010). Meanwhile, in the food sector, innovation is considered one of the most important factors to enhance competitiveness (Grunert et al., 1996; Rama, 1996). Based on this literature, we posit that market orientation, and innovation can be sources of competitiveness in Indonesian SME food processing. That is why in this paper, we would like to investigate the sources of competitiveness for SMEs in the food-processing industry. Specifically, the objective of this paper is to analyze the role of market orientation and innovation as
sources of competitiveness for SME food processing. The purpose of this paper is also to explain the effect of market orientation and innovation on the business performance of the SME food processing industry in developing countries such as Indonesia.

This paper contributes to the literature by providing theoretical and empirical insights regarding market orientation and innovation as sources of competitiveness for SME food processing in developing countries. Moreover, another valuable contribution of this paper is to strengthen the body of knowledge related to SME competitiveness, by investigating the relationship among variables of market orientation, innovation and business performance. We hope that it will provide guidance to managers or policy makers on how SMEs can leverage their competitiveness by matching innovation with market orientation in SME food processing. Most previous studies were involved with large companies (Armario, Ruiz & Armario, 2008), while this work deals with specifically SMEs, making it unique in its area. In addition, many studies have been done in developed countries rather than developing countries. Therefore, in this paper we would like to discuss the results of research on SMEs in developing countries such as Indonesia.

Theoretical Background

General Concept of Competitiveness

Porter (2008) said that competitiveness is a relative concept, concerned with how competitive a company is when compared to the rest of the industry. According to Waheeduzzaman and Ryans (1996), the competitiveness concept involves different disciplines, such as from an economics perspective, a strategic management perspective, and historical and socio-cultural perspectives. In the strategic management view, Grant (1996) said that an organization or company has a competitive advantage when it achieves a higher return on investment than its competitors, or it is able to do so. Man et al. (2002) argue that competitiveness is ultimately concerned with the long-term performance of the subject related to its competitors, which is the result of being competitive. Nevertheless, competitiveness is also concerned with what factors lead to being competitive, as well as how it can be achieved.

According to Traill and Silva (1996), competitiveness can be considered at different levels: firm, industry, and country. Firm level analysis focuses on the behaviors and performance of a firm. Firm level competitiveness indicates a firm’s ability to design, produce, and market products superior to those offered by competitors, where superiority can be evaluated from several factors such as price, quality, technological advancement, etc. The competitiveness of the firms within a particular industry reflects the competitiveness of that industry. Therefore, competitiveness improvement at the firm level not only benefits the firms themselves, but it also has a direct impact on the competitiveness of an industry as a whole (Sirikraim & Tang, 2006).

Recently, the concepts of competitiveness are very relevant to implementation in SMEs due to the fact that SMEs are facing the same competitive forces as being faced by large companies. To perform in competition, SMEs should define their competitive advantages. A competitive advantage refers to the position of superiority within an industry that a firm develops in comparison to its competitors. It can be interpreted as the asymmetry or differential among firms along any comparable dimension that allows one firm to compete better than its rivals (Ma, 2000). At the product level, competitive advantage can be defined as an attribute or feature that significantly differentiates a company’s product from the products offered by competitors (Smith at al., 1992).
As mentioned above, competitiveness is also concerned with what factors lead to being competitive. Firm resources are generally seen as including all the assets, capabilities, organizational processes, firm attributes, information, and knowledge controlled by the firm which makes it able to generate and implement strategies that give it a competitive advantage (Alvarez and Barney, 2000). In other words, firm resources could be factors that lead the company to become competitive. Therefore, SMEs have to pay attention to the sources determining their competitiveness. Sources of competitiveness are those assets and processes within an organization that provide a competitive advantage. These sources can be tangible or intangible.

Recently, an increasing number of studies have focusing on the determining factors of business competitiveness. However, the literature in this field shows that intangible factors (Grant, 1991), such as behavioral management (Bacon et al., 1996), market orientation (Esslemont & Lewis, 1991), innovation, and technological resources (Hitt et al., 1990), among others, are elements that clearly contribute to the competitiveness and success of a business. In this paper, we would like to investigate whether market orientation as behavioral management and innovation can be internal sources of competitiveness for SME food processing in Indonesia.

**Market Orientation and Innovation**

Narver and Slater (1990) define market orientation as the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for business. Market orientation is a construct with several dimensions. Following Narver and Slater (1990), market orientation is composed of three components: customer orientation (understanding customer needs and wants), competitor orientation (understanding a rival's strengths and weaknesses and how they satisfy the needs and wants of their customers), inter-functional coordination (the firm-wide use of the organization's resources in creating superior value for customers).

The previous research that predicted a positive relationship between market orientation and performance was using the assumption that a market orientation provides a firm with a better understanding of its environment and customers. Some empirical studies found a positive relationship between market orientation and manager perceptions of overall firm performance (Jaworski & Kohli 1993), manager perceptions and financial performance (Pelham & Wilson 1996; Slater & Narver 1994), and manager perceptions and new-product performance (Atuahene-Gima 1996; Pelham & Wilson 1996; Slater and Narver 1994). At the same time, several studies did not support a direct positive relationship between performance and market orientation (Han, Kim, & Srivastava 1998; Jaworski & Kohli 1993). A possible explanation for the lack of clear relationship with market orientation is that it is a more complex relationship than those tested for in previous studies (Pelham 1997).

However, market-oriented firms have been demonstrated to be successful at maintaining a strong competitive position (Wang, et al. 2011). This occurs because market-oriented behavior leads the firms to be more innovative. Johnston et al. (2011) argue that market-oriented firms are strategically and tightly aligned with the market in such a way that they are able to act on the needs expressed by customers when creating new products. Research shows that number of SMEs in the manufacturing industry have survived and thrived through the release of innovative new products (Laforet, 2008; Zhou, et al. 2005). Therefore, Slater and Narver (1994) suggest that innovation and new-product success are intermediaries for the relationship between market orientation and business performance. Further, Han et al. (1998) empirically established that market orientation facilitates organizational innovation, as measured
in terms of the absolute number of both technical and administrative innovations implemented. Many studies that focus on factors discriminating between successful and unsuccessful innovations conclude that market orientation is one of the main contributing factors to innovation success (Cooper, 1979).

Moreover, Liao and Rice (2010) said that firm performance can only be improved by innovation when accompanied by concrete and effective changes to the market presence of a firm (in response to market dynamics and customer demand). In other words, innovation and market orientation should go together in order to develop competitiveness. Therefore, based on such literature, we want to investigate whether this is also the case for food-processing SMEs that lack the resources for innovation.

Innovation and Performance

The importance of innovation for developing the competitiveness of food-processing SMEs may be demonstrated by the relationship between innovative activity and business performance. Innovation in the food-processing industry is a rather complex process and can involve different parts throughout the food system, from the development of new ingredients to the formulation of new food products, and from the improvement of methods of food preservation to new ways of packaging (Earle, 1997). In addition, each firm can be involved at different stages, from basic research up to market penetration with new products to gain a competitive advantage over other firms (Hollenstein, 1996).

Raymond and Pierre (2010) argue that innovation is a concept that has been defined and characterized in many ways by researchers. Innovation, according to Verhees and Meulendberg (2004), can be defined as the process of developing a new item, the new item itself, and the process of adopting the new item. In a small firm, innovativeness implies a willingness of the owner to learn about and to adopt an innovation, both in the input and output markets. Forsman (2010) defines innovation as the generation and implementation of new or improved processes, services, products, production methods or single actions aimed at increasing the competitiveness of an enterprise.

According to Sundbo (2003), there are various types of innovation and innovative activity, such as product innovation, process innovation, and market innovation. He explained that product innovation refers to the introduction of a new product to the market. Process innovation refers to the introduction of new production processes such as those enabled by new technology or new work routines. Market innovation denotes a firm’s new market behavior such as a new strategy, new marketing, new alliance, etc.

Parrilli and Elola (2011) argue that competitiveness is guaranteed by an innovation and quality upgrade. A study by Deshpande et al. (1993) indicated that innovativeness is positively related to organizational performance in terms of relative profitability, market share, and growth. Baldwin and Johnson (1996) showed the significant impact of innovation on a wide variety of business performance measures, including market share and return on investment. Salavou (2002) also found that product innovation was a significant determinant of business performance based on Return on Assets. Further, in the food sector, innovation is a strategic factor for the firm since it allows a reduction in production costs and/or a better response to the needs of consumers who increasingly require the enhancement of food products with service components and technological processing characteristics, such as quality, safety, ease of use, and storability (Capitanio, et al., 2010).

Most of the research had been done in developed countries using large companies as the objects of the study (Armario, Ruiz & Armario, 2008). For example, Barney (1991) suggests that firms derive their competitiveness by producing unique products
and by creating entry barriers to prevent others from imitating their activities. Gordon and Sohal (2001) suggest that firms can improve their performance by using advanced technology. Such kinds of suggestions are not entirely relevant for small firms from developing countries like Indonesia. Further, some theoretical models established in developed countries are probably not relevant to a developing country’s situation. As they differentiate in terms of culture, ability to pay, consumer behavior, etc., between developed and developing countries, this may affect the relationship between innovation and business performance. In this research, we would like to analyze the relationship between innovation and performance in the context of the SME food processing industry in developing countries.

Methodology

Research Model and Hypotheses

Competitiveness in this research is represented by business performance. Based on the literature above, we suggest that the performance of SMEs in food processing is affected by innovation. We agree that innovation is one of the most important factors to enhance competitiveness, either in small companies or large companies, due to in many cases, products from both size companies competing in the same market. Market orientation (customer orientation, competitor orientation, and inter-functional coordination) will affect innovation due to the fact that market oriented companies usually always monitor the needs and wants of their customers, and at the same time, they have to deal with competitors better. In order to satisfy their customers and compete with their competitors, companies should develop innovative products based on customer needs and wants.

To ascertain the empirical relationship between the market orientation, innovation and business performance of SME food processing, business performance function is estimated econometrically. The estimation model is represented by following formula:

\[
\text{Business Performance} = \alpha + \beta_1 (\text{Innovation}) + \varepsilon_i \quad (1)
\]

\[
\text{Innovation} = \alpha + \beta_1 (\text{Customer orientation}) + \beta_2 (\text{Competitor orientation}) + \beta_3 (\text{Internal coordination}) + \varepsilon_i \quad (2)
\]

The first equation describes the relationship between innovation and business performance, while the second equation describes the relationship between market orientation and innovation. \(\varepsilon\) is the error term, and \(\alpha\) and \(\beta\) are parameters to be estimated. In this study, we attempt to test the link between market orientation and innovation, as well as the link between innovation and business performance. Figure 2 shows the model used in the study.

We developed two general hypotheses based on the previously mentioned objective of this study. The first hypothesis is intended to examine the effect of market orientation on innovation in SME food processing. The second hypothesis is intended to examine the determinant factors of business performance; in this case, we would like to examine the relationship between innovation and the business performance of SME food processing. The overall hypotheses are described as follows:

- H1: market orientation in SME food processing positively influences innovation
  - H1a: Customer orientation in SME food processing positively influences innovation
  - H1b: Competitor orientation in SME food processing positively influences innovation
• H1c: Internal coordination in SME food processing positively influences innovation
• H2: Innovation in SME food processing positively influences business performance

**Figure 2** the relationship between market orientation, innovation and performance

- H1: market orientation in SME food processing positively influences innovation
  - H1a: Customer orientation in SME food processing positively influences innovation
  - H1b: Competitor orientation in SME food processing positively influences innovation
  - H1c: Internal coordination in SME food processing positively influences innovation
- H2: Innovation in SME food processing positively influences business performance

**Sample and Data Collection**

Empirical data was obtained through a convenience sampling. Through this technique, the researcher chose the SMEs based on certain considerations. We used convenience sampling since the sample needed in this research should fulfill several criteria. First, the sample includes only companies with fewer than 100 employees. We categorized SMEs based on the number of employees in compliance with the definition of SMEs provided by the Central Bureau of Statistics and the Ministry of Cooperatives and Small and Medium Enterprises of Indonesia. Second, the sample is companies that operate exclusively in the food-processing industry. The third consideration was the ease with which data could be obtained, as not all the company owners could be interviewed or wished to participate in this study.

We collected data from the SME food processing industry in five districts located in West Java Province, notably Bandung, Sumedang, Majalengka, Bogor, and Depok. To obtain the list of SMEs, we consulted with three institutions involved with SMEs in West Java province, namely the Small and Medium Enterprises Division of West Java province, Asosiasi Industri Kecil Menengah Agro (AIKMA, Small and Medium Industry
The respondents involved in this research were comprised of 120 managers and owners who had comprehensive knowledge of past and present organizational practices, particularly with regard to market orientation, innovation, and business performance. Those who agreed to participate were asked to complete the questionnaire. Some managers or owners could be interviewed directly, while others answered the questionnaire in lieu of an interview.

**Measurements of variables**

To measure market orientation, we adapted the measurement model developed by Narver and Slater (1990), which has been used in a variety of market orientation studies (e.g., Gatignon & Xuereb, 1997; Han et al., 1998; Lukas & Ferrel, 2000). They identified three components of market orientation: customer orientation, competitor orientation, and inter-functional coordination. In this research, we used the term internal coordination rather than inter-functional coordination due to the fact that our object of study was SMEs. With a small number of employees, it is difficult for SMEs to separate their employees into many functions.

The concept of innovation used in the survey is rather broad. It includes both small improvements in product, processing techniques, and marketing strategy, as well as more radical changes such as the introduction of new products, processes, and marketing strategies. To measure innovation, we adapted the three types of innovation defined by Sundbo (2003), i.e., product innovation, process innovation, and marketing innovation.

Business performance is operationalized as a composite of three measures; sales volume, profitability, and market share. To measure business performance, we used the subjective measurement method. This method was selected because SMEs in Indonesia generally do not keep good and consistent records, especially monthly and yearly records of finance and production. Under such conditions, it was better to use subjective measurement to measure performance rather than objective measurement. Moreover, a study by Dawes (1999) showed that there is a positive correlation between subjective and objective performance measures.

**Data Analysis**

To test the hypothesized relationship in our models, we used a path analytical approach. Path analysis allows us to assess the magnitude and significance of the underlying causal relationship between our study variables (Asher, 1983). In addition, path analysis can examine mediator effects within a single model, instead of several separate regressions. Path-analytical modeling involves using regression analysis to estimate the main path coefficients from the independent variables to the dependent variables. A path coefficient is a standardized regression coefficient (beta), showing the direct effect of an independent variable on a dependent variable in the path model; a path model is a diagram that shows the independent, intermediate, and dependent variable.

In the path-analytical model, we first develop a measurement model based on the theory and previous research findings. We determine the relationship between endogenous and exogenous variables, and it is shown using an arrow. The measurement model is based on the idea that latent constructs cause the measured variable, and the error term is uncorrelated within measured variables. The path model in this study can be seen in Figure 1. This study focuses on a single time period in which market orientation can be seen as a predecessor of innovation and business performance.
performance, and innovation is a predecessor of business performance. These causal relationships were captured by employing path models estimated using covariance structure modeling.

The hypothetical model in path analysis involves two kinds of variables: observable/manifest variables and latent/non-observable variables. Observable variables serve as indicators of the underlying construct and latent variables are usually theoretical constructs that cannot be observed directly. In this study, each construct of market orientation (customer orientation, competitor orientation, and internal co-ordination), innovation, and business performance are considered to be latent variables.

For processing data by the path analytical approach, we used AMOS 16. The focal point in the analyzing path model is the extent to which the hypothesized model fits, or, in other words, adequately describes the sample data. In evaluating the fit of the model, three goodness-of-fit indices were used (Normed Fit Index [NFI], relative fit index [RFI], incremental fit index [IFI], and Tucker-Lewis index [TLI], root mean square error of approximation (RMSEA)) in addition to the $\chi^2$ statistic. These indices were selected because they represent somewhat different interpretations of congruence between the actual (or unrestricted) covariance matrixes with the covariance matrix based on the hypothesis model. A non-significant $\chi^2$, NFI greater than 0.60, RFI, IFI, and TLI greater than 0.92, and RMSEA less than 0.08, indicate a good fit of a model (Williams & Hazer, 1986; Gupta & Lonial, 1998).

Research Findings

Before we can proceed to our main hypotheses we must assess whether the questionnaires yielded reliable results across the population. The reliability estimates we obtained are shown in Table 1 for the market orientation component and in Table 2 for the innovation and performance variable. As we show in Table 1, Cronbach’s alpha coefficient of the three components of market orientation – customer orientation (0.972), competitor orientation (0.978), and internal coordination (0.974) – surpass the 0.70 threshold recommended by Nunnally (1978) for the test of scale reliability. In the case of innovation and business performance, Cronbach’s alpha also reached 0.994 and 0.973 for each construct respectively, indicating high internal consistency.

### Table 1 Market orientation component reliability

<table>
<thead>
<tr>
<th>Market Orientation component</th>
<th>Item to total correlation</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Orientation</strong></td>
<td></td>
<td>0.972</td>
</tr>
<tr>
<td>• Understanding customer’s need</td>
<td>0.958</td>
<td></td>
</tr>
<tr>
<td>• Creating value for customer</td>
<td>0.911</td>
<td></td>
</tr>
<tr>
<td>• Measuring customer satisfaction</td>
<td>0.950</td>
<td></td>
</tr>
<tr>
<td><strong>Competitor Orientation</strong></td>
<td></td>
<td>0.978</td>
</tr>
<tr>
<td>• Respond rapidly to competitor’s action</td>
<td>0.968</td>
<td></td>
</tr>
<tr>
<td>• Top managers discuss competitor’s strategies</td>
<td>0.958</td>
<td></td>
</tr>
<tr>
<td>• Target opportunities for competitive advantage</td>
<td>0.933</td>
<td></td>
</tr>
<tr>
<td><strong>Internal coordination</strong></td>
<td></td>
<td>0.974</td>
</tr>
<tr>
<td>• Cooperation among cross functional department</td>
<td>0.945</td>
<td></td>
</tr>
<tr>
<td>• Sharing information across departments</td>
<td>0.925</td>
<td></td>
</tr>
<tr>
<td>• All staff contributing to company strategy</td>
<td>0.964</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 Innovation and Business Performance Reliability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Item to total correlation</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation</td>
<td></td>
<td>0.994</td>
</tr>
<tr>
<td>• Product innovation</td>
<td>0.989</td>
<td></td>
</tr>
<tr>
<td>• Production process innovation</td>
<td>0.987</td>
<td></td>
</tr>
<tr>
<td>• Marketing innovation</td>
<td>0.987</td>
<td></td>
</tr>
<tr>
<td>Business Performance</td>
<td>0.973</td>
<td></td>
</tr>
<tr>
<td>• Sales volume</td>
<td>0.881</td>
<td></td>
</tr>
<tr>
<td>• Profitability</td>
<td>0.832</td>
<td></td>
</tr>
<tr>
<td>• Market share</td>
<td>0.897</td>
<td></td>
</tr>
</tbody>
</table>

A confirmatory factor analysis was also conducted to confirm the underlying dimensions in each scale of market orientation. In order to enable the construction of indices of market orientation, a principal component analysis with varimax rotation was conducted. Factors were only retained if they possessed an eigenvalue greater than one, accounted for more than 5 percent of variance, and if they were conceptually clear and interpretable (Hair et al., 1998).

As expected, the principal component analysis of market orientation items led to the extraction of three-factor solutions (see Table 3) which cumulatively explain more than 80 percent of variance. The items in the factor of market orientation are conceptually consistent and easily interpreted into the labels of customer orientation, competitor orientation and inter-functional coordination.

Table 3 Principal components analysis of measures of market orientation

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Understanding customer’s need</td>
<td>.209</td>
<td>.900</td>
<td>.269</td>
</tr>
<tr>
<td>• Creating value for customer</td>
<td>.248</td>
<td>.885</td>
<td>.251</td>
</tr>
<tr>
<td>• Measuring customer satisfaction</td>
<td>.207</td>
<td>.922</td>
<td>.223</td>
</tr>
<tr>
<td>Competitor orientation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Respond rapidly to competitor’s action</td>
<td>.921</td>
<td>.224</td>
<td>.173</td>
</tr>
<tr>
<td>• Top managers discuss competitor's strategies</td>
<td>.925</td>
<td>.234</td>
<td>.182</td>
</tr>
<tr>
<td>• Target opportunities for competitive advantage</td>
<td>.898</td>
<td>.172</td>
<td>.189</td>
</tr>
<tr>
<td>Internal coordination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cooperation among cross functional department</td>
<td>.227</td>
<td>.205</td>
<td>.905</td>
</tr>
<tr>
<td>• Sharing information across departments</td>
<td>.160</td>
<td>.253</td>
<td>.869</td>
</tr>
<tr>
<td>• All staff contributing to company strategy</td>
<td>.167</td>
<td>.257</td>
<td>.921</td>
</tr>
<tr>
<td>Percentage of variance explained</td>
<td>30.317</td>
<td>30.569</td>
<td>30.076</td>
</tr>
<tr>
<td>Cumulative percentage of variance</td>
<td>30.717</td>
<td>61.286</td>
<td>91.361</td>
</tr>
</tbody>
</table>

Note: *principal component analysis with varimax rotation, converging in 5 iterations

Based on the theoretical background mentioned above, we expect that market orientation and innovation are determinant factors of the business performance of SME food processing. Before we tested the hypotheses, we examined a correlation matrix for the major construct (see Table 4). The signs of the bivariate correlations appear to be consistent with the hypothesized relationships.
**Table 4** Correlation among constructs

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitor orientation</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer orientation</td>
<td>0.516</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal coordination</td>
<td>0.248</td>
<td>0.480</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td>0.524</td>
<td>0.780</td>
<td>0.639</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Business performance</td>
<td>0.491</td>
<td>0.858</td>
<td>0.598</td>
<td>0.911</td>
<td>1.000</td>
</tr>
</tbody>
</table>

We estimated path coefficients using maximum likelihood (ML) estimation in the path analytical method. We tested a model that links the three dimensions of market orientation to innovation with business performance, as illustrated in figure 2, with standardized coefficients and other fit statistics. To assess the differential effects, we report standardized coefficients as path coefficients.

**Figure 3** the result of path analysis

We did three stages to understand the relationships among variables. First, we examined the overall model fit. As can be seen in figure 3, the value of CMIN/DF is 1.128 and $p > 0.05$. Moreover, all the baseline comparison indices (normed fit index [NFI], relative fit index [RFI], incremental fit index [IFI], and Tucker-Lewis index [TLI]) greater than 0.92 and the root mean square error of approximation (RMSEA) value of 0.033 indicate an acceptable fit of the data.

Second, we examined the impact of the three dimensions of market orientation on innovation. Hypothesis 1 predicts that market orientation (customer orientation (H1a), competitor orientation (H1b), and internal coordination (H1c)) affect business performance. The estimation results show that the relationships between the three dimensions of market orientation are significant at the 0.001 and 0.01 levels. Therefore, these research findings prove all of hypotheses 1, since the findings of the study indicate a significant relationship between market orientation and innovation.

Third, we tested the relationship between innovation and business performance. We suggest that innovation is the determinant factor of business performance in SME food processing. Therefore, hypothesis 2 predicts that the innovation of SMEs affects business performance. The impact of innovation on business performance has been the subject of intensive and, especially among smaller firms where there are severe data problems, often inconclusive literature. However, as evident from the data in figure 3, the findings of the study indicate the significant relationship between innovation and...
business performance (coefficient = 0.578, p< 0.001). This means that hypothesis 2 is supported by this study (see Table 5).

Table 5 Path coefficients and significance levels for initial model

<table>
<thead>
<tr>
<th>Path</th>
<th>Path coefficient</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>To Business performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td>0.578***</td>
<td>0.000</td>
</tr>
<tr>
<td>SMC (equal to R²)</td>
<td>0.830</td>
<td></td>
</tr>
<tr>
<td>To Innovation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitor orientation</td>
<td>0.219**</td>
<td>0.003</td>
</tr>
<tr>
<td>Customer orientation</td>
<td>0.530***</td>
<td>0.000</td>
</tr>
<tr>
<td>Internal coordination</td>
<td>0.433***</td>
<td>0.000</td>
</tr>
<tr>
<td>SMC (equal to R²)</td>
<td>0.720</td>
<td></td>
</tr>
</tbody>
</table>

*significant at the 0.05 level (2-tailed)
**significant at the 0.01 level (2-tailed)
***significant at the 0.001 level (2-tailed)

The findings show the importance of market orientation to improve innovation and business performance in food-processing SMEs in Indonesia. However, the role of each variable of market orientation is different. As can be seen in Table 5, the relationship between customer orientation and innovation is strongest (coefficient = 0.530) compared to the competitor orientation (coefficient = 0.219) and internal coordination (coefficient = 0.433) variable. This is because in the Indonesian food-processing market, the customer has freedom of choice. Customers freely buy products from producers who match their needs and preferences. In such a situation, SMEs should pay more attention to customer needs. One of the consequences is they should be more innovative in order to satisfy their customers, since customer needs and preferences are always changing. This is the reason why customer orientation has a higher relationship than other variables.

To respond to customer needs and wants, SMEs must have the ability to manage their workers well. They are only able to serve their customers well and become more innovative if they have excellent internal coordination. Such a variable is also needed when a company deals with competitors. This explains why the internal coordination variable has a stronger relationship with innovation than the competitor orientation variable. Even though competitor orientation seems less important than other variables in the case of food-processing SMEs, it does not mean food-processing SMEs do not need to pay more attention to the actions of competitors. Since the food-processing market in West Java is very competitive, SMEs are always motivated to be more innovative than their competitors.

The relationship between innovation and business performance is clear in this research. As discussed before, SMEs must adapt to changes in consumer preferences and ever-growing concerns about food quality and safety. Due to changing demographics, the food market in Indonesia is growing fast. Rising living standards make Indonesian consumers more focused on qualities such as hygiene, health, taste, and ease of preparation. Market oriented behavior generates the ability of SMEs to understand the demands and preference of their customers toward innovative products. Innovative behavior gives companies the ability to satisfy their customers, which leads to business performance. In this context, innovation becomes an important variable to winning the hearts of consumers and makes them loyal to the company's products. In other words, the results of this study (coefficient of innovation = 0.578) show the necessity of innovation in keeping Indonesia's food processing SMEs competitive in the market.
Discussion and Conclusions

Managerial Implications

Indonesia, with its huge population, is an emerging market for the food processing industry. Focusing on Indonesian food processing SMEs, the findings of the present research have interesting managerial implications. First, the results of this research indicate that a market orientation that consists of three components (customer orientation, competitor orientation, and internal coordination) is positively related to innovation in food processing SMEs. Further, innovation and business performance have a positive relationship. Since the business performance of SMEs is necessary to better compete in the market, business performance can be a proxy for the competitiveness of SME food processing. Therefore, SMEs that wish to improve their business performance and competitiveness would be well advised to develop market-oriented behaviors.

Food processing in Indonesia is growing dynamically in order to respond to market growth in the food sector. Recently, the Indonesian food market has become more competitive, with many producers and buyers. Such a competitive market will be terrible for SMEs, which are characterized by a lack of resources. Market oriented behavior makes SMEs always alert to market changes, either in customers or in competitors. By understanding every single change that happens to customers and competitors earlier, food-processing SMEs will be able to give suitable response in order to maintain and develop their market share.

Second, the findings of this research show clearly that market orientation affects innovation, and that innovation affects business performance. In this case, the major contribution of the present study was to establish market orientation and innovation as sources of competitiveness. In the context, market oriented behavior makes SMEs conscious of customer needs and the actions of competitors. Such market oriented behavior leads SMEs to become more innovative in order to maintain their market share. Overall, market oriented behavior and innovation could improve the competitiveness of food processing SMEs. In fact, a market-oriented company tends to understand its customers and make an effort to serve customer needs and wants by creating better products than competitors. Consequently, market-oriented behavior should encourage food processing SMEs to improve their innovative behavior. Innovative behavior guided by market-oriented behavior will improve the ability of SMEs to produce a product suited to customer preferences.

Third, these research findings confirm that innovation is needed not only by large companies, but also by SMEs, especially SMEs in the food-processing industry. These results suggest that innovation should be a strategic policy for food processing SMEs in order to deal with their large competitors. Moreover, the innovativeness of the owner appears to be an important characteristic of food processing SMEs, since they have no budget to develop a research and development division.

Limitations and Conclusions

In this case, market orientation and innovation can be considered to be the sources of competitiveness for food processing SMEs, since both variables have positive links with performance. In the context of a developing country such as Indonesia, we can conclude that food processing SMEs which have good market oriented and innovative behavior will have better competitiveness in the market. Overall, the findings support the broad hypothesis that market orientation and innovation are associated with performance.
The positive correlation between market orientation and innovation in this study is consistent with the previous research and references (e.g., Atuahene-Gima, 1996; Appiah-Adu & Singh, 1998; Salavou, 2005). Therefore, our research is strengthening the existing theory. Specifically, this work makes three contributions. First, the study confirms the previous findings relating the correlation between the market orientation and business performance by putting SMEs in the food processing industry in an Indonesian context in the analysis, rather than the large companies in previous research. Second, the study expands current research on the competitiveness of SMEs by including food processing SMEs in emerging markets such as Indonesia. Third, working with the empirical data, this research provides a foundation or framework through the identification of behavioral characteristics (market oriented behavior) that impact innovation and performance in Indonesia positively and gives SMEs operating in an emerging market a way to develop a competitive advantage in a highly dynamic business environment. This study enhances existing theories since the findings of this research are extendable to include SMEs in emerging economies.

However, there are several limitations inherent in this research. First, in this case, it is possible that if the study was conducted on other regions and countries around the world, the magnitude and direction of the relationship model may be different. The degree of economic development may account for distinct SME behavior. Second, the number of samples is relatively small if we consider generalizing the results of this study. Additional research could complement this study with a larger regional sample to enhance the generalizability of these results. Longitudinal design may also provide insight into the long-term impact of innovation and market orientation on business performance.

References


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