Process Innovation and the Financial Performance of Malaysian Food Processing Company

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Abstract

The impact of innovation on a firm’s performance has attracted significant research interest among scholars and managers. While empirical researches have shown that innovation is a means of improving the competitiveness of firms and their performance, most of these studies rely on the quantitative research design whereby data are obtained from selected samples of a given population. Using the case study approach to obtain qualitative data, this paper explores the effects of process innovation on the financial performance of a food processing company operating in a northern state of Malaysia. The result reveals that the introduction of new production process has significantly improved the sales of the company.

Keywords: Process Innovation, New Product, Financial Performance, Food Industry, Malaysia

1. Introduction

The Malaysian food industry is dominated by small and medium size companies. The major sub-sectors are the fish and fish products, livestock and livestock products, fruits, vegetables and cocoa (Malaysian Investment Development Authority-MIDA). Hence, a small food processing company serves to be the focus of this paper. Acceleration in technological change, shorter product life cycles, and global competition are some of the major factors forcing firms to introduce innovative processes in developing innovative products. This is so, because product innovation is a key profit driver in both local and international markets (Prajogo and Ahmed, 2006; Stieglitz and Heine, 2007; Im, Montoya and Jr. Workman 2013; Wynarczyk et al., 2013). Schumpeter (1934) identifies different types of innovation, namely new products, new methods of production, new sources of supply, the exploitation of new markets and new ways to organize business. The paradigm shift in innovation research from a high-technology, multi-national firms to small and medium enterprises (SMEs) and the scarcity of empirical research focusing on SMEs (Wynarczyk et al., 2013) on a case-to-case basis have necessitated the conduct of this research.

In order to complement the existing literature about the effects of process innovation on the financial performance of a company, a case study approach is used in this paper. The effects of an improved production process of a product in Asistasia Trading and Food Industries operating in Malaysia have been examined. Since the focus of this paper is on a food processing company, we, therefore, define process innovation in the context of the food industry as the introduction of new methods and processes, resulting in products that are unique or distinctive in some way from the existing products in the market. A process innovation relates to the application of a new or significantly improved method of production or delivery. This improvement can be in terms of the production techniques, processes or equipment aimed at decreasing unit costs of production or delivery, increasing the quality or significantly improving products (OECD, 2005). Organizational innovation refers to the introduction of a new organizational method to the company’s business practices, workplace organization or external relations, which reduce administrative and transaction costs and thus improve employees’ satisfaction (OECD, 2005).

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While recent innovation literature focuses on the effect of innovation on firms’ performances, for example, Lin, Tan and Geng, (2013); Wang and Wang (2012); Gunday, Ulusoy, Kilic and Alpkan (2011); Dunk (2011); Herrera and Sánchez-González (2012), most of the findings of these researches rely on samples that represent the characteristics of the population studied (Sekaran, 2006). This paper notes that innovation and firm performance should also be examined intimately on a case-to-case approach that relies on qualitative data obtained through interviews with the company staffs and also through process observation at the factory.

The focus of this paper is on process innovation, resulting in new products. We note that one of the main business objectives in companies such as food processing is to improve or add value to their products (innovative products). This is exactly the significant change that took place in Asistasia Trading and Food Industries which was established in 2002. Asistasia Trading and Food Industry specialises in making modern fish fried chips, dry crackers and dipping sauce. The company is located in Jitra in the Kedah state, a state which is famously known as the “rice bowl” of the country due to its vast paddy fields. As far as the food industry is concerned, there is a strong link between process and product innovation. It is therefore appropriate to also discuss product innovation in this paper. Although a single case study company is studied, this company is among the few small and medium enterprises’ (SME) that have initiated innovative ideas in their food processing to change the outlook of their products in order to become more attractive to consumers. The company, Asistasia Trading and Food Industry, introduces innovative processes to increase its long-term profitability through its main business activity.

This paper has six sections. Following the introduction section, the paper briefly presents a review of relevant literature. In Section 3, the research methodology is presented followed by the research findings in Section 4. Finally, in Section 5, the discussion of findings, also the conclusions and limitations are presented in section 6.

2. Literature Review

Innovation would not be complete merely by introducing new ideas, but rather when that new idea has been implemented (Damanpour, 1991; Aitmanbetova and Tagaibekova, 2014). We therefore define innovation in general terms as the generation and implementation of new ideas for new products and services in an organization. In order to survive in a competitive environment locally and globally, firms must develop innovative products that are superior compared to their competitors’ products (Aggeri and Segrestin, 2007; Booker, Drake and Heitger, 2007). While innovation has generally been associated with firms’ superior competitive advantage, product innovation has been specifically found to be critically important to a firm’s performance (Prajogo and Ahmed, 2006; Cho and Pucik, 2005). Empirical researches have shown that product innovation significantly enhances the financial performance and enables an organization to create value (Aggeri, and Segrestin 2007; Balkin, Markman and Gomez-Mejia, 2000). According to Bisbe and Otley (2004), product innovation is a means through which an organization can effectively influence changes in the markets, technology and competition as well as the operational environment.

Empirical studies have mostly found a positive relationship between product/process innovation and the financial performance of companies. When a company introduces an innovative product into the market, it enables the firm to command price premiums, which are likely to promote profitability (Jermias, 2007). For example, the findings of Kleinschmidt and Cooper (1991) suggest that product innovation has a positive and significant relationship with regard to the profit of a firm. The work of Stock, Greis & Fischer (2002) also suggests the possible linkages between technological innovation, service innovation and product innovation. The authors argue that technological innovation is the use of new technology to produce changes in products or services, or the ways in which products or services are produced by incorporating technology into the development of new products or processes. Incorporating new technology in an organization such as food processing or any production-related companies may require a new production process which is different from its previous and usual processes. The company might just decide to generate, introduce and implement
a new innovative process while using the existing technology to make improvements in their products or services. Based on the literature above, this paper proposes a theoretical framework as shown in Figure 1.

![Diagram](image)

**Figure 1: Link between Product Innovation and Company Financial Performance**

Figure 1 depicts the effect of product/process innovation on a company’s financial performance. It usually begins with the company’s management decision to innovate in processes (in service-providing organization) and/or in products (in production-related organization), leading to process and product innovation. As soon as the product reaches the market, consumers pass through the decision stages and eventually decide to adopt or not to adopt the product. Adopting the innovative product eventually leads to more sales and consequently increases the company’s financial performance.

3. Methodology

While cross case analyses have always been favoured by researchers to provide a better comparison of issues being studied, if a conclusion from a single factor-based case is congruent with the facts, it could be acceptable (Yin, 1981). Following Crowther & Lancaster (2009), an appointment was arranged over the phone with the company manager for an interview session in the manager’s office of the Asistasia Trading and Food Industry. The first visit to the company site located at the Alor Biak Industrial Area near the Jitra town was made in February 2013 and a follow-up trip to the company site made in early May 2013. The second visit was conducted to confirm the earlier response from the interviewees and to observe the innovative process and product. Each interview session lasted for about 60 minutes. Data obtained were mainly transcripts of responses recorded on papers based on a set of questions finalized. The following questions were asked during the interview session with the company manager: why was there a need to introduce process innovation; what was the new process innovation; has the new process brought any impact or added value to the product; was there any increase in sales of the new product; what is the current percentage of profit realized compared to the old product in the last six months; and what are the barriers to introducing process innovation?

4. Results

The following are the questions asked and the responses received during the interview session:
Question One: Why Was There A Need To Introduce Process Innovation?

“This arises when the business introduced only one product which was not profitable about 11 years ago. For this reason the owner decided to introduce an innovative process which brings about a variety of new products. This is aimed at improving the product sales”.

Question two: What was the Actual New Process Introduced?

The new process introduced enhances the freezing period of the fish sticks from 2 to 7 days. Table 1 presents the improvement of the process innovation. The change in the process leads to a product change.

<table>
<thead>
<tr>
<th>Item</th>
<th>Before Improvement</th>
<th>New Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ingredients</td>
<td>Processed raw fish, tapioca flour</td>
<td>Additional ingredients i.e. collagen stuffing</td>
</tr>
<tr>
<td>2. Fish stick design</td>
<td>Long rectangular shape</td>
<td>Ball shaped</td>
</tr>
<tr>
<td>3. Feature of fish stick</td>
<td>Changes from original state</td>
<td>Similar to the original state</td>
</tr>
<tr>
<td>4. Freezing period for dry fish</td>
<td>2 days</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Question Three: Does The New Product Have Any Added Value?

“Firstly, the attractiveness of its shape motivates customers to want to try it. Secondly, new refreshing flavour in the packaging attracts customers. Thirdly, the product which looks different compared to competitors’ product increases the curiosity of the customers to purchase. Fourth of all, recommendations among friends and family lead to higher intent to purchase a similar product”. The pictures below (Figure 2.1 and Figure 2.2) show the new product in attractive packaging to serve a superior market segment, and food items ready for frying.

Figure 2.1: New Product in Attractive Packaging

Figure 2.2: Product Ready for Frying

Question Four: Was There An Increase In The Company’s Profit after Introducing New Process?

“Yes, the sales of the company increased to a total of Ringgit Malaysia 4,050 or US Dollar 1,350 a month. This is what an innovative product can do to its revenue sales with a twenty percent hike in earnings due to the improvement done on the current fish ball shape and also after additives such as collagen have been added into the product”. 
**Question Five:** What Is The Current Percentage Of Profit Realized Compared To The Old Product In The Last Six Months?

Strategically, the company’s management will essentially have to decide upon ways of maintaining positive sales and earnings. The common trend of a new product life-cycle is the attainment of the saturation stage where there are no longer innovative ideas that could be implemented on the product. However, on the other hand, if the product is a food item and the consumption demand is prevalent, then the perception has to change as there will be customers buying the food product as long as it tastes good.

Regarding sales, the company’s revenue increases over a few months’ period in a year and peaks during festival seasons. It deteriorates slightly after festivals have ended and sales increases again after that. The rise is not constant but is more of an S-shaped curve with periodical sales improvement over time. This is in line with the claims by the company of about 20% sales increase after a new product was introduced.

**Question Six:** What Are The Barriers To Introducing Process Innovation?

Based on the interview results, it is found that there is a high likelihood of difficulty in raising funds or capital for small businesses to implement innovative ideas due to their business scale that is usually small in nature. In order to overcome this shortcoming, various efforts need to be exerted to raise capital including attracting donors who have interests in the business of fried fish chips manufacturing.

5. **Discussion**

We used Parthasarathy, Terri, Rittenburg and Dwayne (1995)’s innovation decision model in explaining the process that Asistasia Trading and Food Industry used to achieve a successful product innovation. The model explains the decision making process of adopting the new product by the consumers who purchase and consume the product. The model suggests that an individual goes through a sequence of stages that can be described as awareness, information collection and information evaluation before he or she decides to adopt a product innovation idea. The individual actively seeks out information about a product and decides whether the product is suited to his or her daily needs.

Regarding the strategies for the successful introduction of a new product, the Asistasia Food Industry has followed similar steps that Parthasarathy et al. (1995) have suggested. It is interesting that the small innovative steps introduced in producing fish sticks result in significant increase in the company sales. Firstly, Asistasia Food Industries considers the nature of the product itself regarding several salient attributes that would lend themselves more to attribute processing on the part of the consumers. Secondly, before product introduction, Asistasia Food Industry obtained a demographic and psychographic profile of the target audience. This is to identify both the opportunity and the ability on the part of the target customers to buy the product early and to process attribute information in products that contain such information. The food industry is aware that most adopters will rely more on interpersonal information rather than external information (e.g. mass media) as a means of reducing risks associated with such adoption. This is because interpersonal information sources are considered more authentic than external information sources. However, the food industry uses the existing customers to communicate about the new product to the general public in addition to mass media publicity. This was achieved because it was an indigenous company and it understood the cultural foundation of the community with respect to interpersonal network and the extent of normative influences existing in the Malaysian society.

In explaining how the new product from Asistasia Food Industry attracts more sales from the consumer point of view, we use the model by Parthasarathy et al. (1995) to describe the stages each Asistasia customer experiences before he or she decides to continuously purchase the product:

The first stage is product awareness whereby individuals are aware of the innovation. The second stage is innovation information whereby individuals acquire product specific information. The third stage is innovation information evaluation, where individuals evaluate the information gained in the previous stage, based on existing predispositions. The fourth stage is symbolic adoption/rejection whereby individuals
develop their mental acceptance or rejection of the innovation based on cognitive information processing related to the innovative product features. The fifth stage is social consequences evaluation whereby individuals evaluate the likely perceived positive and negative social consequences associated with adopting or rejecting the innovative product. Stage six is the perceived social acceptance or rejection in which individuals favour or disapprove the adoption of the product. Stage seven is the trial stage, whereby individuals try out the innovation. Stage eight is Adoption, whereby individuals purchase and use the innovative product. In stage nine, namely the social consequence evaluation (II), individuals determine the continued social benefits (if any) of adopting the innovation and whether the continued adoption of the innovation will continue to provide the same social benefits. The last stage is continued adoption, whereby individuals will continuously purchase the product if they are satisfied with it.

6. Conclusion

Using case study approach and interview to collect data, this paper discusses the impact of process innovation on product sales in a food processing company operating in the Northern part of Malaysia. Consistent with previous studies Gunday et al. (2011); Dunk (2011); Hashia and Stojcic (2013); Herrera and Sánchez-González (2012), our findings suggest that introducing an innovative process for fish products results in changes in the existing product significantly, thus improving the company’s revenue within a period of six months. Although there is a seasonal variation in demands of the product due to festive periods in Malaysia, it still has an impact on the level of product sales. This has led to improved company profits compared to the old product. We note several limitations in this study: first off, the findings in this paper rely on the outcomes of interviews in a single food processing company. Secondly, the company is selected for this study because of the changes identified in the final product. Thirdly, the absence of the statistical analysis was due to the nature of the study. However, our findings complement previous studies which rely on the quantitative data based on the population samples. Previous studies have suggested the relationships between innovation and firm performance. Our study confirms the positive relationship between process innovation, product innovation and firms’ financial performance. For example, this study finds that Asistasia Trading and Food Industry has the potential to expand her market share to neighbouring countries such as Thailand. In terms of the managerial implication, our study suggests that managers of firms should focus more on innovative ideas as they are strategic means for achieving sustainable competitive advantage. Additionally, managers must recognize and properly manage the innovations in order to improve their operational performance. Future research should explore other industrial sectors using a similar, or an integrated, approach.

References


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