

Chapter 7 DISCUSSION

7.1 Introduction

By using the quantitative data analysis procedures, reviewing the concepts and definitions of innovation by Urabe (1988), Hargrave *et al.*, (2006), and Kotler (1991), the objectives of the study, as outlined earlier in chapter 1, was to examine how innovation in distribution channel activities of export oriented SMEs predominantly in the agriculture based industry that led to firm performance.

It has been acknowledged that innovation and firm performance are related, therefore, besides examining the relationship between the innovations and distribution performance, which, in turn, lead to firm performance, by using hierarchical regression (Baron, & Kenney, 1986), a special notice was also given to the role of distribution channel performances in the relationship between distribution channel innovations and firm performance of the export oriented SMEs. The study focused on innovation in distribution channels, which were identified as internal factors of the firm, namely innovation in assortment, order handling, information sharing, packaging, product and distribution scheduling, warehousing and finished good or material handling, transportation, and acquisition of export oriented SMEs. This was for the agro business sector in Indonesia that had been engaged in production or manufacturing activities as well.

7.2 Innovation in distribution channels and distribution performance in terms of effectiveness of export oriented SMEs for the manufacturing and agriculture based industry in Indonesia (Research objective 2)

A re-look at the first objective of the study, which is to identify the effect of distribution channel innovations on firm performance, in terms of effectiveness, the result of the relationship between distribution innovations and distribution performance generated by correlation and multiple regressions as follows :

As shown in the correlation matrix-Table 6.2 in chapter 6, most of the distribution channel innovations had a positive effect on firms' effectiveness performance. These specified results fortified the previous findings: Using technology to facilitate firms to separate products into a variety of assortments to fulfil customers' choice would increase sales due to the effective way of presenting to the customers (Fabricio, 2004), and with the support of technology usage, for instance, radio frequency recognition in order handling, would enable the SMEs to provide traceable information for products and replacement orders along the chain for the benefit of effectiveness (Gary, & Warren, 2008). Furthermore, the use of the internet enabled SMEs to smoothen the process of internationalization. Internet support also enabled SMEs to maintain their relationships with their business partners (Fernández, 2006); reduced the greatest source of errors by using typical method of inventory management which was linked to sales forecasts that would enable firms to control stock level (Detoni Alberto, & Elena, 2005). The use of transportation coordination, particularly in smart goods, smart vehicles, and smart infrastructure would improve effectiveness (Stefansson, 2009). New packaging systems would enable firms, in a straight line, to meet shoppers' price expectations, and product selections that provided a positive return on investment (ROI). In the course of improving market share (Scott, 2006) using

vehicle storage and retrieval systems (AVS/RS) and a web based design conceptualization tool for AVS/RS efficiently designed warehouse would permit the effectiveness of operational cost of inventory and cost control (Xiao *et al.*, 2008); and a new method of acquisition that could help contractors to meet production requirements more rapidly (Michael, 2009).

The results above supported the theory of resource based view that the collected resources of the firms both in the form of tangible or intangible possessions were crucial propositions for achieving the competitive advantage (Wernerfelt, 1984). These resources of innovation, then, could generate economic value, depending on the circumstances in which the resources were used (Rumelt, 1984). In the context of the innovation in distribution channel, resources which were very suitable for the firm (Teece *et al.*, 1997) were valuable to generate competitiveness, particularly as the innovations were conducted.

Alternatively, as the distribution channel innovations were conducted by multiple regressions, the results appeared mixed. These indications seemed to be supported by previous studies. Geroski, and Machin (1993) indicated that process innovation affects firm profitability in different ways; Eitan (2006) found the effects of administrative innovation operation on performance were curvilinear; meaning that both too little and too much implementation had a negative effect on performance and besides, Wolff, and Pett (2006) explained that there was no significant relationship between process improvement and good performance in small business; whilst other findings by Geroski, and Machin (1993) mentioned product and process innovations vary in effect on productivity.

The result also suggested that cultural perspectives would be more appropriate to explain the effect. The cultural perspectives of innovation indicated that there was a difference from one region to another. They could have diverse innovations and they would be due to the dissimilar cultures. It described that firms from different nations or societies had different innovative behaviours. This comparison had been addressed by Japanese and American firms (Herbig, & Palumbo, 1996; Brown, & Ulijin, 2004; Gregory, 1984; Herbig *et al.*, 1996; Herbig *et al.*, 1997). Further explanation asserted by Shane *et al.*, (1994) denotes that diversity in innovation were due to cultural differences.

7.3 Innovation in distribution channels and distribution performance in terms of efficiency of export oriented SMEs manufacturing agriculture based products in Indonesia (Research objective 3)

Referring to the first objective of the study, it was noticed that distribution channel performance had two dimensions; effectiveness and efficiency, in which both can be seen as independent of each other from a resource dependence perspective. It means some variables of innovation in distribution channel might have significant relationship with distribution channel performance in terms of effectiveness and some of them might not. The following section explains how efficiency was affected by the innovations.

When the influence of distribution channel innovations was partially estimated by correlation, as seen in the matrix (Table 6.2 in Chapter 6), it appears that most of the innovations, as discussed before, had significant relationship with efficiency performance. The findings showed that almost all the innovations improved performance. These empirical findings are consistent with the literature that asserts a forecasting demand of new products in assortment could generally bring a new level of efficiency (Juin, 2009).

Integrated scheduling of inventory and distribution scheduling is significantly found to be able to improve efficiency, in which, would lead to firm performance (Varimna, 2009). The use of IT support improves efficiency in value chain performance (Gunasekaran *et al.*, 2004); reducing the greatest source of errors and inefficiency in the process, that is, uncertainties linked to sales forecasts, which is a variable that strongly influences the settlement of stock level (Detoni Alberto, & Elena, 2005). Using IT in coordination among channel members in product flow could improve channel members' performance (Nada, 2008); whilst involving human and technical implementation factors in material handling operation can improve efficiency (Satya, 2009).

The findings above supported the notion of resource based theory that the tangible and intangible resources of the firms can generate competitiveness through efficiency that initiates firm performance. Other theories of transaction prefer to minimize the economic costs. In this assumption, transaction costs are close to production costs (Williamson, 1996). The depot theory seems to be supported by the indications. The essence of the depot theory in distribution channel is that goods tend to flow towards the point of final consumption or end users driven by the price which is agreed to by customers. Hence, increasing efficiency throughout the flow becomes essential for firms in order to be competitive, especially in terms of price (Leo in Bruce, 1967).

However, once the influence of innovation in distribution channels were estimated by multiple regressions, it is also relevant with the literature that argued both too little and too much innovation would not affect performance (Eitan, 2006; Geroski, & Machin, 1993). In respect to the theory, as Brahma (2011) argued, if all of the collection of firms' resources

cannot improve competitiveness, hence, the resource based view cannot be applied either. Other theories of cultural perspectives, as addressed in the case of effectiveness, can also help to explain the results.

7.4 Distribution performance in terms of effectiveness and efficiency as mediators between the relationship of distribution channel innovations and firm performance (Research objective 4).

Knowing the importance of distribution channel innovations for firm performance, many studies are known and can be found on this topic. Despite this case, empirical evidences on the distribution channel innovations-firm performance relationship found mixed. Some studies have pointed that innovation to be closely associated with firm performance (Pla-Barber, & Alegre, 2007; Moini, 1995). Some others pointed that the effect of process innovation gave different results towards firm performance (Geroski, & Machin, 1993), whereas, some others pointed further that process improvement in distribution channel did not explain sales growth of the small firms (Wolff, & Pett, 2006). The diverse result is due to the failure of past studies to see the mediating role of distribution channel effectiveness and efficiency in the relationship between distribution channel innovations and firm performance. To fill the literature gap, this study examined the mediating effect of distribution channel in terms of effectiveness and efficiency on the relationship between the distribution channel innovations and firm performance using a total of 120 samples that were collected from export-oriented, agro based manufacturing SMEs in Yogyakarta and the surrounding areas in Java, Indonesia.

The results of this study empirically supports the concept that distribution channel in terms of effectiveness and efficiency mediated the relationship between distribution channel

innovations and SME's performance. This indicated that innovation in assortment, information sharing, and transportation coordination can improve distribution channel performance and would, in turn, positively affect export oriented SMEs' performance. The concept and practice of distribution channel is not new as it could be traced back to the ancient Egyptians; the only new thing is the way it is done (Waidringer, & Eng, 2001). In contrast to the findings of previous studies by Geroski, and Machin (1993), and Wolff, and Pett (2006), innovation in distribution channels, in this study, were found to have positive impacts on firm performance.

Further explanation on how the innovations affect firm performance is as follows: Innovative information sharing among channel members, such as raw-material suppliers, manufacturers (including SMEs), distributors, and retailers are the key for achieving flexibility that enable firms to improve logistic processes in response to the rapid changes in the market, which, in turn, significantly improves distribution channel efficiency and firm performance (Zhou, & Benton, 2007; Lee *et al.*, 1997). This information sharing innovation gives impact on efficiency and leads to improved firm performance. This is also consistent with the resource base view, transaction cost, and depot theory respectively that explain innovation in distribution channels effect competitiveness and enhance a firm's performance.

Besides, assortment is considered as one of the elements in distribution activities that would guide the flow of goods from the point of production to the point of end user. Assortment would create effectiveness during the flow, which would drive customer satisfaction (Walters, 1977). Assortment refers to "a collection of two or more types of

goods, which either complement each other directly or in total possess some degree of potency for future contingencies” (Walters, 1977, pp.199). A specific method and technology implementation, as part of innovation measure, empirically leads to enhance performance of the channel member in terms of efficiency, effectiveness, and profit. Implementing store assortment optimization technology or joining the ranks of the implementers by deploying the most advanced technology available also could gain significant competitive advantage that would drive performance.

The new method of assortment development to meet customers’ need is also affecting efficiency. To reach efficient assortment, for example in retailing industry, retailers need to evaluate shoppers’ assortment perception so that what the stores actually offer can be adapted to meet the customers’ needs and expectations (Cadenat, 2003). The assortment innovation impact on effectiveness can lead to firm performance and it is also consistent with the resource base view theory that explains innovation in distribution channel as firm resources can bring competitiveness to the firm that can enhance firm performance.

Transportation improves physical distribution efficiency (Yung-yu, 2005) and the cost of transportation, on average, accounted for 6.5% of market revenue and 44% of logistics costs. About one to two-thirds of the enterprise expenses on logistic costs are spent on transportation (Chang, 1998). Hence, poor effective coordination in transportation could stimulate higher cost, longer delivery time, higher levels of loss and damage, and poor customer service (Lee *et al.*, 1997). This study provided new evidence to the conviction that innovative transportation coordination is found to improve distribution channel effectiveness and efficiency, which directly influences the SME performance. It is also

consistent with Stefansson's (2009) argument that the use of technology in transportation would result in more effective transportation coordination, for instance, in selecting goods, vehicles and infrastructure, which brings positive impact on distribution channel and firm performances.

Moreover, transportation coordination innovation has an impact on effectiveness and efficiency, showing that the way to economic firm performance is found to be supporting the resource base view, transaction cost, and depot theory. Innovation in distribution channel can bring competitiveness to the firm through effectiveness and cost reduction or efficiency.

Nonetheless, as hostile environment and external factors cannot explain firm performance, therefore, it can be inferred that individual perspectives theory can be applied as a reference. Innovation in the distribution channel happens because of the entrepreneurs' eagerness to be engaged in the innovation in order to pursue better performance. In this case, entrepreneurs are the ones who are principally responsible for initiating changes and novelties in the society (Bennis, & Nanus, 1985; Nam, & Tatum, 1997). Entrepreneurs have become risk-takers and have the tendency and enthusiasm to try for better things (Schumpeter, 1934). Entrepreneurs are also the ones who are very rational and have all the essential information and skills to execute innovations by themselves (Saren, 1987).

7.5 Summary

Previous findings have showed that the effect of innovation, particularly in terms of process on firm performance, is diverse. Reviewing from the objectives of the study to examine how distribution channel innovation leads to firm performance and the effect of distribution performance as a mediator between the relationship of distribution channel innovation on firm performance, it was found that distribution channel innovation led significantly to firm performance one way to another. It means that when the innovations analyses were executed, one by one or on a case by case basis, by correlation on export oriented SMEs for the agriculture based industries, the findings verified that in general, each of the innovations effect significantly towards the performance, while when all the innovations are generated on the same population of SMEs, distribution performance is improved and is able to enhance a firm's performance.