

## THE EFFECTS OF DISTRIBUTION CHANNEL INNOVATION AND EFFICIENCY ON INDONESIAN SMALL AND MEDIUM ENTERPRISE'S PERFORMANCE

**Ferri Kuswantoro**

PhD Candidate  
University of Malaya  
[bumi\\_organik@yahoo.com](mailto:bumi_organik@yahoo.com)

**M. Mohd Rosli**

University of Malaysia Kelantan  
[mrosli@umk.edu.my](mailto:mrosli@umk.edu.my)

**Radiyah Abdul Kader**

University of Malaya  
[radiah@um.edu.my](mailto:radiah@um.edu.my)

### ABSTRACT

*It has been debated at length that SMEs are crucial for generating employment, reducing poverty, adding value and contributing to Gross Domestic Product. As businesses are more exposed to the globalised world, promotion strategy, without proper innovation in distribution channel, is insufficient for SMEs to enhance their performance. Unfortunately, studies on the relationship between distribution channel innovation and firm performance, especially among export-oriented SMEs are hardly found. As such, this study attempts to examine how distribution channel innovation affects Indonesian SMEs. Using the regression analysis on 126 samples collected from agricultural-based, export-oriented SMEs in the Special Province of Yogyakarta and the surrounding areas, this study found that innovation in distribution channel was positively associated with distribution channel efficiency, which in turn positively enhanced the SME performance. This finding indicates that innovation in distribution channel should improve the efficiency of distribution channel without which firm performance would not be enhanced. This could be a great challenge for SMEs to manage their innovation in distribution channel activities.*

**Keywords:** *Distribution channel, innovation, efficiency, performance, SMEs, Indonesia*

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### 1. Introduction

It has been agreeable that small and medium enterprises (SMEs) are crucial for the development of an economy. In most developing countries, SMEs are able to generate employment opportunities, improve Gross Domestic Product (Meghana, 2005), alleviate poverty (Vandenberg, 2006), and add value (Mukhamad Najib, 2011). Lately with the globalization process, there was an increasing number of SMEs adopted an export-oriented approach for

greater participation in the global market. Along the way, many studies found that distribution channel as part of marketing has become a crucial factor for SMEs to improve their export performance (Zou & Stan, 1998; Shoming, 1998). In contrast, empirical studies proved that failure in export market often resulted from improper distribution channel (Ogbeuhi & Long, 1994).

One of the characteristics of a distribution channel is that once established, it is usually difficult to change. As such, many past studies found that the functions, activities and members of distribution channel would affect distribution channel performance. With respect to the functions, many activities are involved along the distribution channel linking suppliers, manufactures and end consumers. However, most activities are concentrated in logistics, which can be classified into inbound and outbound logistics. Inbound or inward logistics move materials from suppliers into an organisation, whereas outbound or outward logistics move materials or products from an organisation out to customers. It is important to note that the inbound and outbound logistics systems share common activities or process, since both involve decisions related to transportation, warehousing, materials handling, inventory management and control, and packaging, as well as some other activities. All the activities are not free, but involve costs. Outbound logistics for example incur transportation cost, warehousing and inventory cost, order processing cost and information cost (Somuyiwa, 2010).

Realising the importance of distribution channel innovation for firm performance, many studies can be found in this topics. Despite the case, empirical evidences on the distribution channel innovation-firm performance relationship are mixed. Some studies have shown that innovation is closely associated with firm performance (Pla-Barber & Alegre, 2007; Moini, 1995). Some other studies, however, found that the effect of process innovation gave different results to firm performance (Geroski & Machin, 1993), whereas, some others found that process improvement in distribution channel did not explain sales growth of the small firms (Wolff & Pett, 2006). This mixed result is due the failure of past studies to see the mediating role of distribution channel efficiency in the relationship between distribution channel innovation and firm performance. To fill the literature gap, this study attempts to examine the mediating effect of distribution channel efficiency on the relationship between the distribution channel innovation and the performance of export-oriented SMEs in Indonesia.

## 2. SMEs and the Indonesian Economy

The 1997 financial crisis did not spare any economy in the East Asian region. Commencing in Thailand as a result of the floating of its currency on the second of July, 1997, it quickly transmitted to other neighbouring countries - Indonesia, Malaysia and the Philippines. This economic downturn occurred because all the countries pegged their currency to the U.S dollar and at the same time received a substantial amount of short-term foreign capital. In Indonesia, the crisis caused the Indonesian Rupiah depreciated sharply from around 2,500 to 10,000 Rupiah per U.S.dollar, whilst its Gross Domestic Product (GDP) dropped by 13 per cent in 1998 (Wengel & Rodriguez, 2006). Interestingly, large enterprises, and small and medium enterprises (SMEs) in Indonesia could be able to respond differently to the crisis. The capability of Indonesian SMEs to survive from the crisis was better than those of the larger firms. With low local market demand for its products, Indonesia SMEs switched to the global market. On the contrary, the larger enterprises were under performed because of the high import contents in their products (Berry, Rodriguez & Sandee, 2002).

The role of SMEs in the Indonesian economy has attracted the interest of many scholars since then. As Indonesian SMEs are mostly involved in agro-based activities and located in rural areas, the existence of the sector in the economy and their ability to provide employment and add value are strongly felt. In 2009, the number of SMEs totaled 52.7 million or 99.9 per cent of all establishments in the highly populous country. In terms of job creation, Indonesian SMEs provided about 96.2 million employment or 97.3 per cent of the total employment; and generated value added amounting 2,993,151 billion Rupiahs or 56.5 per cent of the total added

value (Mukhamad Najib, 2011). Despite the favourable contribution of the sector, Indonesian SMEs were, as in other parts of the world, hampered with various problems.

Most of the problems were associated with internal factors, such as marketing and promotion, technology, and human capital (Antonius, 2005; Nurul Indarti, 2008; Tambunan, 2009); and some external factors, namely capital access and legality issues (Nurul Indarti, 2008). On the part of the Indonesian Government, many efforts have been taken to mitigate the problems facing the sector. One of the efforts was to facilitate the flow of SME's products in the domestic or foreign markets. However, the product distribution channel is still a critical issue for local SMEs, especially from the rural area, due to tight customs procedures and trade regulations as well as weak infrastructure (Tambunan, 2009). Given such constraints, the Indonesian SMEs have to improve distribution channel themselves so that the flow of goods to end consumers can be smoother. This paper focuses on distribution channel innovation among SMEs, since such a study is hardly found in the Indonesian literature.

### 3. Conceptual Framework

#### 3.1 Distribution channel innovation and efficiency, and firm performance

Distribution channel is a critical success factor for SMEs whose products are exported to the global market (Ramaseshan & Patton, 1994). Innovation in distribution channel could enhance coordination capabilities among channel activities, which enables firms to avoid dysfunctional operational performance and other negative consequences, such as higher inventory costs, longer delivery times, higher transportation costs, and other disadvantages (Lee, 1997). Nada (2008) argues that technology as part of innovation devices will enable firm to promote organisational coordination and hence it has a positive impact on performance.

According to Bowersox, Closs & Helferich (1986), distribution channel should be designed to fulfill five basic functions; namely adjustment or assortment, transfer or transportation, storage, handling and communication. In the meantime, Walters (1977) asserts that distribution channel operations or activities are classified into two general groups, i.e. assortment and logistics. Among other functions or activities of distribution channel are assortment, order handling, information sharing, inventory, warehousing, packaging and transportation.

Assortment is "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: p.199). It was implied that the purpose of assortment is to give benefit for particular market. Diehl & Poyner (2010) found that consumers may be less fulfilled when choosing an option from a larger compared to a smaller assortment. Therefore, innovation in assortment is expected to improve efficiency in distribution channel. For instance, innovation in product configurator technology with the ability to customise product into various assortments in line with customers' preference will successfully improve sales because it turns out to be an efficient way of presenting products to the customers (Salvador, 2004). A forecasting demand for new products in assortment can also bring decision making the whole new level of efficiency as the key to determine an optimal assortment lies in the right demand characteristic for each product (Juin, 2009).

Order fulfillment process or order handling is known as one of the crucial factors for business processes in most profit-oriented company (Kritchanchai & MacCarthy, 1999). Order handling is the main logistic activity that accelerates product movement and service delivery (Bowersox, Closs & Helferich, 1986). Previous studies on order handling found the significant impact of innovation in distribution channel on firm's distribution efficiency and performance. For example, the application of technological support, such as radio-frequency identification and global positioning system, improved real-time tracking information for products and replacement orders along the chain (Gaukler, 2008). Other forms of innovation, such as re-engineering or the application of simulation in

order processing added more value along the distribution chain, which likely improves distribution channel performance (Zhang et al, 2009). The use of enterprise resource planning solution (ERPS) in order processing is also capable of improving operational efficiency in order delivery (Bendoly, 2004).

Effective information sharing is significant for distribution channel performance (Zhou & Benton, 2007). Coordination among independent firms including raw-material suppliers, manufacturers, distributors and retailers, is the key for attaining the necessary flexibility, which enables them to improve logistic processes in response to the rapid changing market conditions (Lee, Padmanabhan & Whang, 1997). The use of information technology in information processing, transfer and collection has improved market knowledge of firms and their relationship with clients and suppliers or other firms within the same value chain (Fern'andez, 2006). Heide (1994) found the significant success factors for export-oriented SMEs dependent upon the ability of the firms to manage their relationship with foreign importer. Using the information technology (the internet) in distribution channel was found to be able to facilitate the internationalization process of SMEs as well as to improve the relationship with other firms within the same value chain (Fern'andez, 2006).

Inventories form a significant portion of the current asset of any business enterprise (Kruger, 2005). Inaccuracies in an inventory management would create a range of problems, including loss of productivity, the manufacturing of unwanted items, a reduction in the levels of customer commitment, the accumulation of costly physical inventories and frustration; thus, the cost savings that accumulate from improved practices in inventory management are substantial (Meyer, 1991). Innovation in inventory management and control are crucial to a firm because mismanagement of inventory threatens a firm's viability (Sprague & Wacker, 1996). Using a typical management method is significant for any enterprise because it allows an enterprise to minimize inventory costs and avoids direct consequences that come with a shortage of material resources. Chikan (1990) observes that a sound inventory management system is a decisive factor in a firm's success. Natarajan (1991) discusses the linkages between inventory management and competitive advantage, with the focus on integrated strategic and competitive factors, such as cost, delivery and quality.

Warehousing creates time utility for prospective customer (Koyle, 1976). Finished goods or material handling in the logistic system is concentrated in and around the warehouse facility. The absence of goods in the warehouse means the interruption of the goods flows, which will add costs to transactions. To avoid this interruption, some technologies can be adopted. Such technologies could improve distribution performance in warehousing and finished good handling, which in turn leads to firm performance (Koyle, 1976). For instance, automation and simulation in warehousing and material handling in terms of computerized hardware and software could be a solution for improving efficiency in the operation. In fact, simulation program can be an alternative for to improving the existing system in the warehousing and material handling (Diaz, 1988). The use of technology, such as autonomous vehicle storage and retrieval systems (AVS/RS) and web-based design conceptualization tool for AVS/RS in warehouse permits firms to control costs, extend capacity and improve their services to consumers (Heragu and Xiou, 2008).

Packaging serves as a tool for product promotion and use. While packaging engineers see packaging only as a protective device, distribution management perceives packaging more broadly and any changes in design, size, media of transportation and so on would contribute to the efficiency of the distribution system (Walter, 1977). A recent study by Young in Lacroix (2007) on 800 U.S. shoppers eight product categories demonstrated that innovation in new packaging systems directly effected price expectation and product selection among the shoppers. The study found that if packaging changes are done properly, it is very likely to provide a positive return on investment (ROI) through increased market share or the ability to raise prices to cover incremental costs.

The role of transportation system is crucial as it could provide better logistic efficiency, reduce operation cost, and promote service quality. According to Chang (1988), transportation costs, on average, accounted for 6.5

per cent of market revenue and 44 per cent of logistics costs. Hence, a well-operated logistics system could increase both the competitiveness of enterprises (Tseng, 2005). In line with this argument, Stefansson (2009) found that transportation coordination modification method using three major elements of smart transportation management (smart goods, smart vehicles and smart infrastructure) brings positive impact on supply chain performance. In contrast, poor coordination of the logistic system would lead to higher costs, longer delivery times, higher levels of loss and damage, and lowered customer service (Lee, Padmanabhan & Whang, 1997).

All the argument above ushers to the conclusion that SMEs, which do innovation in the identified distribution channel will improve their distribution efficiency and hence it has positive effect on their performance. In other words, the distribution channel efficiency mediates the relationship between distribution channel innovation and SME's performance.

### 3.2 Control Variables and Firm Performance

Acknowledging possible impact of firm size, firm age, industry and competitive environment hostility on firm performance as identified in other studies, they were incorporated in this study as control variables. Firm size does has impact on firm performance, but the degree and direction of its impact is diverse from one sample to another. While some studies (see for example Ozgulbas, Koyuncugil & Yilmaz, 2006; Orser, Hogarth-Scott & Riding, 2000); other studies found otherwise (Moreno & Casillas, 2007; Shanmugan & Bhaduri, 2002).

Impact of firm age on firm performance is mixed too. Kristiansen, Furuholt & Wahid (2003) found that the length of time in operation was significantly associated with business success. Similar positive impact of firm age can also be found in Shanmugam & Bhaduri (2002) and Birley & Westhead (1990) due to vast social capital owned by older firms. In contrast, other studies (Nichter & Goldmark, 2009) found that new firms grew faster than the older ones.

Significant influence of different types of industry on firm performance can be found in Gadenne (1999) and Humphreys & McClung (1981), among others due to different marketing strategies and management practices (Gadenne, 1999). Pertinent to competitive environment hostility and firm performance, a study by Miller & Friesen (1982) is interesting.

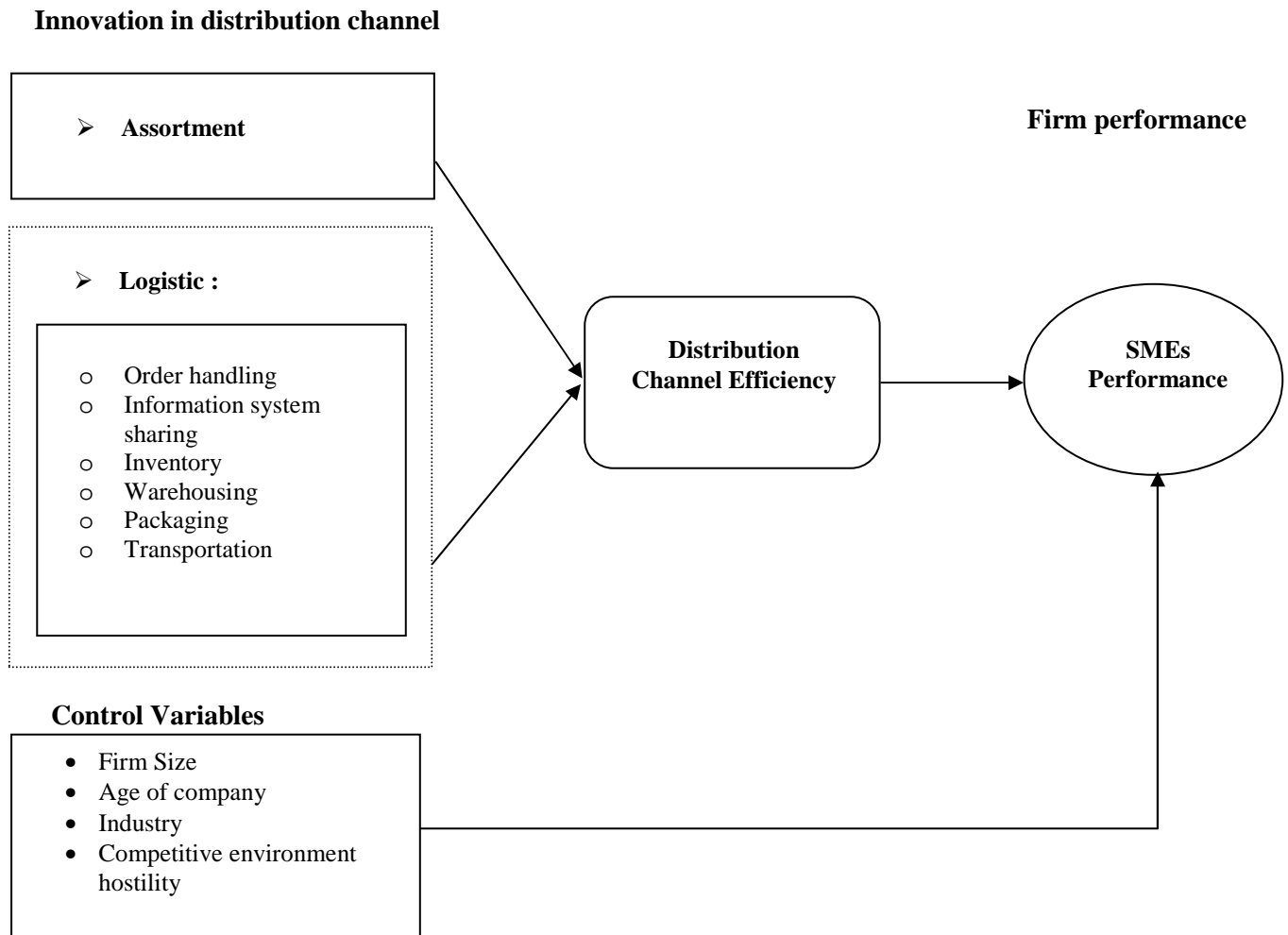
Considering the relationship among the variables above, the conceptual framework of this study is shown in Figure 1.

## 5. Methodology

### 5.1 Sample and Data

Concomitant to the Ministry of Cooperatives and Small and Medium Enterprises and the Republic of Indonesia and Central Statistic Agency (BPS), this study defined an SME as a business unit employing less than 100 workers. Using a self-administered questionnaire, data for this study were gathered by survey from 126 samples of SMEs export oriented in Yogyakarta Special Province and the surroundings Indonesia (Jogja, Sleman, Bantul, and surroundings). A pilot survey had been conducted to validate and test the constructs and items used in the questionnaire, before an actual survey was done a few weeks later. Different from the pilot survey which employed face-to-face interviews, a "drop and collect" procedure was chosen for the actual survey to ensure a high response rate for the study. Before being collected, the questionnaire was cross-checked to ensure all the questions had been answered. As SMEs in Indonesia is mostly concentrated in agro-based industries, the respondents surveyed were mainly in export-oriented wood, clothing and food-based industries. Owner-managers

of the SMEs were asked to fill up the questionnaire for they had the best knowledge for management and operation of their firm, particularly regarding distribution channel and firm performance.



**Figure 1: Conceptual framework of the study**

## 5.2 Measures

**SME Performance.** In agreement with Kongmanila & Takahashib (2009), and Murphy, Trailer & Hill (1996), variables for firm performance in this study included export sales volume, export intensity, and firm profitability. The respondents were asked to indicate the level of their present business performance in the three variables compared to their closest competitor in the same industry using a 7-point scale, ranging from “1 = lowest” to “7 = the highest”.

**Innovation in distribution channel.** Besides research and development (R&D) activities, innovation in distribution channel in this study comprised the application of new technologies or modification of existing

methods as defined by Kongmanilaa & Takahashib (2009) in each function of the distribution channel (assortment, order handling, information sharing, inventory, warehousing, packaging, and transportation coordination). Items for each distribution channel were derived from Bowersox, Closs & Helferich (1986) and Ballou (1978). The respondents were asked to indicate the level of their emphasis on each item based on the 7-point scale, i.e. “1= the least emphasised” to “7= the most emphasised”. Number of items for each variable of the distribution channel innovation and its reliability test (Cronbach’s alpha) is shown in Table 1.

Table.1: Variables, items and the reliability test

No.	Variables	Items	Cronbach’s Alpha
1.	Innovation in assortment	5	0.910
2.	Innovation in inventory	5	0.935
3.	Innovation in information sharing	5	0.968
4.	Innovation in packaging	5	0.922
5.	Innovation in order process handling	5	0.967
6.	Innovation in warehousing	5	0.886
7.	Innovation in transportation coordination	5	0.944
8.	Distribution channel efficiency	3	0.829
9.	Competitive environment hostility	4	0.820
10.	Firm performance (economic indicator)	3	0.843

Source: Based on the sample survey.

**Distribution channel efficiency.** Modified from Ulaga (2003), the three items used to measure this variable were faster time to market the product, punctual delivery time, and cost efficiency. Using the 7-point scale from “1= the least efficient” to “7= the most efficient”, the respondents were requested to compare their performance in distribution channel as compared to their closest competitor in the same industry.

**Control Variables.** Firm size and age were measured by total number of workers and year of operation of each enterprise respectively. Industry was measured by nominal scale; whilst competitive environment hospitality was measured in the 7-point scale, ranging from “1= the least hostile” to “7= the most hostile”. The four items regarding demographic change, rate of obsolescence in product technology, market change, governmental regulatory change and market conditions were adopted from Miller & Friesen (1982).

Table 1 shows Cronbach’s alpha for all the variables, which fell within the acceptable range of more than 0.7, which indicates the reliability of the scales (Pallant, 2005).

## 6. Results and Discussion

Table 2 demonstrates basic information on each variable or factor and correlations among them. Positive correlations among almost all distribution efficiency and firm performance variables, and innovation in distribution channel variables are consistent with the literature.

The relationship between each distribution channel innovation and distribution channel efficiency is shown by the regression results in Table 3. Innovations in information sharing ( $\beta = 0.064$ ,  $p < 0.01$ ), Inventory ( $\beta = 0.003$ ,  $p < 0.05$ ) and transportation coordination ( $\beta = 0.047$ ,  $p < 0.05$ ) were found to be significantly related to distribution channel efficiency. This finding is consistent with the first condition of a mediator model. Table 4 displays the results of four regression models. In model 1, the control variables were first included in the

estimation. It can be seen that firm age ( $\beta = 0.178, p < 0.01$ ) had significant relationship with SME's performance. In Model 2, the relationship between all variables of the distribution channel innovation and the firm performance was examined. With respect to distribution channel innovation, three variables were significant, i.e. information sharing ( $\beta = 0.115, p < 0.001$ ), inventory ( $\beta = 0.095, p < 0.05$ ), transportation coordination ( $\beta = 0.014, p < 0.05$ ).

Controlling for firm size, firm age, industry and competitive environment hostility, Model 3 demonstrates a significant relationship between distribution channel efficiency and SME's performance ( $\beta = 0.830, p < 0.001$ ). Based on Baron and Kenny's (1986) approach, the last two steps displayed in Model 2 and Model 3 have supported the study on mediator effects. The final step is to include all the variables and controlled by distribution channel efficiency. If the inclusion of distribution channel efficiency reduces or eliminates the effects of distribution channel innovation on SME's performance, it can be said that the distribution channel efficiency mediates the relationship between distribution channel innovation and SME's performance. As shown in Model 4, distribution channel efficiency had significant influence on SME's performance ( $\beta = 0.698, p < 0.001$ ) and did eliminate the significance of the distribution channel innovation for predicting SME's performance.

Table 2: Correlations among variables

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Assortment	-	-	-	-	-	-	-	-	-	-	-	-
2. Order processing	0.18*	-	-	-	-	-	-	-	-	-	-	-
3. Information Sharing	0.40**	0.51**	-	-	-	-	-	-	-	-	-	-
4. Inventory	0.36**	0.13	0.43**	-	-	-	-	-	-	-	-	-
5. Warehousing	0.30**	0.36**	0.33**	0.42**	-	-	-	-	-	-	-	-
6. Packaging	0.47**	0.22*	0.38**	0.50**	0.48**	-	-	-	-	-	-	-
7. Transportation coord.	0.35**	0.27**	0.35**	0.38**	0.33**	0.42**	-	-	-	-	-	-
8. Environment hostility	0.10	-0.03	0.03	0.38**	0.22*	0.40**	0.23*	-	-	-	-	-
9. Firm Size	0.11	-0.12	-0.19*	-0.07	0.07	0.06	-0.07	-0.03	-	-	-	-
10. Firm Age	0.11	0.08	0.11	0.05	-0.03	-0.01	0.04	-0.05	0.16	-	-	-
11. Industry	0.03	-0.04	0.14	0.11	-0.05	-0.09	-0.08	-0.12	0.16	0.21*	-	-
12. Distribution channel efficiency	0.30**	0.17	0.39**	0.25**	0.22*	0.22*	0.33**	-0.01	0.16	0.24**	0.15	-
13. Firm Performance	0.32**	0.17	0.39**	0.13	0.20*	0.28**	0.21*	0.08	-0.01	0.25**	0.10	0.52**

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Based on the sample survey.

Table 3: Results of the Multiple Regression Analysis  
(Dependent variable, distribution channel efficiency)

Independent Variables (Innovation in)	Coefficients
Assortment	0.030
Order process handling	-0.017
Information Sharing	0.064**
Inventory	0.003*
Warehousing	0.017
Packaging	-0.013
Transportation coordination	0.047*
Constant	8.857***



$R^2$	0.213
Adjusted $R^2$	0.166
$F$	4.560***

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Source: Based on the sample survey.

Table 4: Results of the Multiple Regression Analysis  
(Dependent variable, SME performance)

Independent Variables	Model			
	1	2	3	4
Firm Size	-0.018	-0.013	-0.036	-0.038
Firm Age	0.178**	0.154**	0.107	0.108
Industry	0.274	0.230	0.083	0.156
Competitive environment hostility	0.073	0.048	0.066	0.071
Assortment	-	0.065	-	0.056
Order processing handling	-	-0.034	-	-0.021
Information sharing	-	0.115***	-	0.068
Inventory	-	0.095*	-	0.101
Warehousing	-	0.038	-	0.028
Packaging	-	0.060	-	0.064
Transportation coordination	-	0.014*	-	0.024
Distribution channel efficiency	-	-	0.830***	0.698***
Constant	10.863***	9.159***	3.408*	3.392*
$R^2$	0.076	0.263	0.302	0.386
Adjusted $R^2$	0.046	0.192	0.273	0.321
$\Delta R^2$	0.076*	0.187***	0.054*	0.084*
$F$	2.493*	3.703***	10.404***	5.927***

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Source: Based on the sample survey.

The results of this study supported the notion that distribution channel efficiency mediated the relationship between distribution channel innovation and SME's performance. This indicates that innovation in information sharing, inventory, and transportation coordination can improve distribution channel efficiency in terms of time to market the product, delivery time and cost efficiency, which would positively affect SME's performance. The concept and practice of distribution channel is not new as it can be traced back to the ancient Egyptian; the only new is the way it is done (Glaskowsky, 1970; Waidringer and Eng, 2001). In consistent with Geroski & Machin (1993) and Wolff & Pett (2006), innovation in distribution channel is found to impact positively on firm performance. Innovative information sharing among channel members, such as raw-material suppliers, manufacturers (including SMEs), distributors, and retailers is the key for achieving the flexibility need that enables firms to improve logistic processes in response to the rapid changes in the market, which in turn significantly improve distribution channel efficiency and firm performance (Zhou & Benton, 2007; Lee, Padmanabhan & Whang, 1997).

As evident in this study, inventory innovation enhances distribution channel efficiency and finally SME's performance. It should be noted that it is almost impossible for any firm to deliver their products right from the production line to their customers. At any level of distribution channel, materials and product availabilities must be sufficient all the time, either to support production lines or consumer's demand. Therefore, the time and cost savings accumulated from improved practices in inventory management is important (Meyer, 1991) and turns out to be a decisive factor for firm's success (Chikan, 1990).

As the role of transportation improves physical distribution efficiency (Tseng, 2005) and it is well appreciated (Somuyiwa, 2007, 2010) in the literature, this study provides new evidence to the conviction. Innovative transportation coordination was found to improve distribution channel efficiency, which directly influenced the SME performance. This finding is supportive as about one- to two-thirds of the enterprise expenses on logistic costs are spent on transportation (Chang, 1998). 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 about positive impact on distribution channel and firm performances.

## 7. Conclusion

Motivated by the mixed results of the past studies on distribution channel innovation and firm performance, this paper investigated the mediating role of distribution channel efficiency in the relationship between distribution channel innovation and firm performance. Based on 126 export-oriented SME samples in Indonesia, this study confirms the notion that distribution channel efficiency mediated the association between distribution channel innovation and the SMEs performance. In other words, from the theoretical perspective, distribution channel efficiency can be achieved only by doing innovation in distribution channel activities, particularly in information sharing, inventory and transportation coordination, which finally enhances SME's performance. More importantly for the Indonesian SMEs, since the government assistance could not much help the sector to improve their distribution channel (goods flows from the SMEs to end consumers), they themselves must find ways to innovate their own distribution channel, so that the channel would be more effective and the firm performance could be enhanced.

Based on the findings in this paper, several recommendations could be made for future research. First, more samples should be collected from export-oriented SMEs in the same and other manufacturing industries. Second, similar SMEs from other regions, especially from West, Central and East Java as well as Sumatera and Borneo should be included in the sample. Finally, other control variables, such as entrepreneurial and organizational factors should be included in the model so that theoretical foundation of SME's performance could be understood better.

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