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The Logistics and Supply Chain Issues among SMEs in Malaysia: A Preliminary Study

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ABSTRACT

Background: Logistics and supply chain is one of the important elements in business operations and proper management of it will lead towards competitive advantage. This applies not only to large firms but also to small and medium size enterprises (SMEs). Existence of supply chain issues may lead towards inefficiency, which eventually will hinder further business growth. Among the common issues faced by firms are inventory issues, customer service issues, organizational issues, information system issues and product or supply flow issues. **Objective:** The objective of this study is to identify supply chain issues experienced by SMEs in Malaysia and to access the level of severity of each issue. Surveys involving 33 SMEs have been conducted for this preliminary study. **Results:** The result shows that customer service issues are the most serious issues faced by these SMEs with the level of severity is very severe. Another issue that was very severe is organizational issues. Item by item analysis shows that three items under customer service issues scores the highest mean and are categorised under the very severe category. **Conclusion:** There are a number of logistics and supply chain issues that are very severe among the SMEs involved in this preliminary study. Most importantly, customer service and organisational are two most critical issues that need to be taken care off based on the findings of this study.

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INTRODUCTION

The importance of small and medium enterprises (SMEs) to Malaysian economy is apparent, based on various government agencies report. They are vital towards the growth of Malaysian economy (Surienty, Hong & Hung, 2011). Even the SME Annual Report (2009/2010) states that SMEs constitutes a total of 99 percent of the total business establishment in Malaysia. Due to the limited size of local market and market saturation, SMEs need to venture into a new market or in another word internationalised their business. Technological advancements and declining trade barriers have open up an opportunity not only to big conglomerates but also are enabling the SMEs to become international in a more quick yet effective way. Venturing into new market, especially across borders require effective logistics and supply chain strategies. Issues in logistics and supply chain such as improper packaging, documentation, poor channel quality etc. are expected to create a barrier and negatively affect firm's intention to expand

their business. This study therefore tries to observe the logistics and supply chain issues commonly encountered by Malaysian SMEs and how severe the issues are.

Logistics and supply chain issues:

One of the important aspects in business is the logistics and supply chain management. These days, firms need to have an efficient logistics and supply chain strategies and network that span across international borders in order to remain competitive. In addition, an effective international logistics and supply chain strategy will not only help firms penetrate into new foreign markets but also offers significant cost savings if it was executed efficiently. According to the definition by the Council of Supply Chain Management Professionals, supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be

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suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Authors, such as Pollit (1998), Gurau *et al.*, (2001) and Gunasekaran and Ngai (2003), have categorized logistics and supply chain management into a broad range of activities that can be grouped into six key decision areas, which are:

- i. Facilities - Plant, warehouse, and depot location, size and design
- ii. Inventories - Raw material, component, work-in-progress, and finished goods stocks
- iii. Communications - Order processing, data transmission, and data processing
- iv. Unitization - Packaging in its broadest sense including container or cargo handling
- v. Transport - Physical movement of material into, within and out of, the company or port and vessel
- vi. Value-added services - Break-bulk, testing and repackaging; quality inspection Import/export documentations

Therefore, logistics and supply chain issues refers to the barriers associated with any of the logistics and supply chain activities mentioned above and it can become the barriers to market expansion. These issues tend to offset a firms effort to establish an efficient supply chains system and often lead to higher total supply chains costs and decrease flexibility that will adversely affect the firm's competitive position (Carter & Ellram, 1998). Lack of knowledge on logistics and supply chain strategy or in other words high level of logistics and supply chain issues is expected to negatively influence the market expansion (Zhang, *et al.*, 2012) of managers and reduce the possibility of risk taking behaviour and intention to venture abroad (Carter & Ellram, 1998).

The complexity of logistics and supply chain management that include different business customs, inadequate logistics infrastructure, restrictive regulatory frameworks and different levels of supply chain services give rise to issues that tend to offset efforts to establish an efficient supply chain and often lead to higher total supply chain costs. Previous studies have tried to identify the logistics and supply chain issues faced by firms. Among them are time-based competition issues, trade issues,

transportation issues, restructuring issues and country specific issues (Harvey & Richey, 2001). Some studies look at technology, distribution, transportation and telecommunications infrastructure, communication and functional silos (the organizational structure of the firm). Aspects concerning management also dominate the literature. The role of top management, self-fulfilling prophecies, internal management style and problem of control appear to be dominant in the discussion of management issues (Sheu *et al.*, 2004; Harvey & Richey, 2001; McAdam & McCormack, 2001; Akkermans *et al.*, 1999).

Supply chains issues could come from a number of sources – governmental, economic, trade, political, regulations and legal requirements, corporate politics, complicated customs procedures, social and cultural and geographic (Carter & Ellram, 1998). Foggin *et al.* (2004) describe major supply chain issues as a five-factor model that includes inventory, customer service, organisation, systems and product flow issues. These dimensions address five major 'pain points' in the supply chain and is adopted as a basis for this study.

Methodology:

This study is explanatory in nature and it tries to identify the supply chain issues and their level of severity among SMEs in Malaysia. In order to achieve the objective of the study, a quantitative research approach was adopted where primary data were collected using survey questionnaires. Survey questionnaire was developed based on measures used in previous related studies to gain information on the supply chain issues faced by firms. The population of the study is all SMEs located at the three northern state of Malaysia, namely Penang, Kedah and Perlis. For this preliminary study, 40 survey questionnaires were distributed and 33 were returned and analysed. The survey consists of 29 items that measures the logistics and supply chain issues based on a five point Likert Scale. Reliability test was conducted to determine the reliability of the instruments used. Table 1 shows that the reliability of survey instrument is evidence as the Cronbach Alpha value for all variables of the study exceed the cut-off value of 0.60.

Table 1: Cronbach Alpha value.

Issues	Cronbach Alpha
Inventory Issues	0.905
Customer service issues	0.679
Organisational issues	0.771
System issues	0.649
Product Flow issues	0.721

Findings:

Demographic:

Table 2 shows the demographic profile of all 33 firms involved in this preliminary analysis. 14

(42.4%) firms are located in Penang while 10 (30.3%) firms are in Perlis. The rest are in Kedah with 9 (27.3%) firms. Majority firms (51.5%) are involved in food and beverages industry, with a total

of 17 companies. Next is pharmaceutical and health product industry with 8 (24.2%) firms. The other firms are from agricultural sector with 4 companies, metal and construction 3 companies and rubber and plastics product with 1 company. In terms of years of operations, majority of them have been operating in between 5 to 15 years with a total of 17 firms (51.5%). 5 firms (15.2%) have been in operation for more than 25 years while 7 firms (21.2%) are relatively new establishment with less than 5 years of operations. Most companies or 14 of them (42.4%) employ less than 5 employees but majority have in between 6 to 100 employees with a total of 17 firms (51.5%). Only 2 companies employ more than 100 employees. For the annual turnover, majority or 17

firms (51.5) earn less than RM 300k yearly. Others are within the range of RM 30k to RM45 million with a total of 15 companies (45.5%), while only 1 firms earned more than RM 45 million.

Supply chain issues analysis:

A mean score rating was used to represent the relative severity of each logistics issues. For ease of interpretation, the average scores on each issue were categorised into quartiles of severity (Carter *et al.*, 1997). Quartile 1 (mean score 1.0-1.9) was classified as not severe at all, quartile 2 (mean score 2.0-2.9) as average severity, quartile 3 (mean score 3.0-3.9) as very severe and quartile 4 (mean score 4.0-5.0) was classified as extremely severe.

Table 2: Demographic profile.

Variables / N = 33	Categories	Frequency	%
Location	Perlis	10	30.3
	Kedah	9	27.3
	Penang	14	42.4
Industry	Metal & Construction	3	9.1
	Food and Beverages	17	51.5
	Pharmaceuticals/Health	8	24.2
	Rubber & Plastics	1	3.0
	Agriculture	4	12.1
Years of operations	< 5 years	7	21.2
	5 - 10 years	9	27.3
	11 - 15 years	8	24.2
	16 - 20 years	3	9.1
	21 - 25 years	1	3.0
	> 25 years	5	15.2
Number of employees	< 5	14	42.4
	6 - 75	9	27.3
	76 - 100	8	24.2
	> 100	2	6.1
Annual turnover	< 300k	17	51.5
	30k - 15 million	7	21.2
	15.1 - 30 million	6	18.2
	30.1 - 45 million	2	6.1
	> 45 million	1	3.0

Table 3 highlights the mean value for each supply chain issues' items used in the questionnaires and they are grouped based on whether it is an inventory issues, customer service issues, organisation issues, information system issues and product or supply flow issues. The level of severity was determined and highlighted in the table too. Data analysis of each individual item reveals that there are no issues that falls under the extremely severe category.

However, 15 issues were classified as very severe as the mean score is in quartile 3, with mean value in between 3.0 to 3.9. Out of these 15 very severe issues, item number 9 "Inventory shortages – unable to fulfil orders" scores the highest mean value which is 3.71, followed by item number 8 "poor shipment packaging quality" with mean value of 3.67. The third highest mean is 3.27 for item number 7 "Incomplete or wrong shipments complaints by customers". "Stressed internal relationships between departments" and "finger-pointing and blaming each other's for problems" completed the top five issues list with mean score of 3.24 and 3.21 respectively. It

is obvious that all the top three issues are related to customer service issues.

Unsurprisingly, customer service issues scores the highest cumulative mean value compared to the other four issues. The score is 3.21 and considered as very severe. Organisational issues are also in the very severe category with a cumulative mean value of 3.01. The other three issues however are categorised under average severity as they score a mean value of less than 3.0.

Discussions And Conclusions:

An efficient logistics and supply chain system is important if small and medium size firms want to expand their business across borders. Previous studies as highlighted in the literature review earlier indicate that the logistics and supply chain related problem or issues may hinder business expansion. That is why this study tries to discover what logistics and supply chain issues, currently being experienced by SMEs in Malaysia. The results indicate that customer service issues are the most severe issues faced by these SMEs. Specifically, unable to fulfil

customer orders due to inventory shortage, poor shipment packaging quality and customer complaints due to incomplete or wrong shipment of goods ordered are the top three issues identified by this study. Logistics and supply chain personnel is an integral parts of customer service as they are the one who always deal directly with customers especially during delivery. On time delivery of product to

customers with right product and right quantity have always been the main principle in logistics and supply chain and therefore, the management of the SME company need to take these customer service issues seriously or they might end up losing customers.

Table 3: Mean and severity of each logistics and supply chain issues.

	Mean	Severity
Inventory Issues	2.93	Average severity
1. Supplier's long delivery times	3.06	Very severe
2. Long transit times or delay caused by transportation	3.00	Very severe
3. Inventory forecasting difficulties or inaccuracies	2.97	Average severity
4. Keep wrong mix of inventories	2.73	Average severity
Customer Service Issues	3.21	Very severe
5. Miscommunication with customers	2.36	Average severity
6. Late delivery complaint by customers	3.03	Very severe
7. Incomplete or wrong shipments complaints by customers	3.27	Very severe
8. Poor shipment packaging quality	3.67	Very severe
9. Inventory shortages – unable to fulfil orders	3.70	Very severe
Organisational Issues	3.01	Very severe
10. High logistics and supply chain activities cost	3.09	Very severe
11. Poor inter-firm communications	2.61	Average severity
12. Finger-pointing and blaming each other's for problems	3.21	Very severe
13. Stressed internal relationships between departments	3.24	Very severe
14. Lack of logistics/supply chain experts	2.79	Average severity
15. High labour turnover	3.12	Very severe
Information Systems Issues	2.80	Average severity
16. No logistics/supply chain information systems used at all	3.00	Very severe
17. Poor information or data flows	2.09	Average severity
18. No information systems linkages with supply chain members	3.06	Very severe
19. Lack or no information systems expert/personnel	2.91	Average severity
20. Manual work processes	2.97	Average severity
21. Lack/No latest and real-time data	2.64	Average severity
22. Poor data capture and database	3.12	Very severe
23. Systems do not match business processes	2.64	Average severity
Product or Supply Flow Issues	2.70	Average severity
24. Wrong mode of transportation used	2.30	Average severity
25. Lack of logistics/supply chain providers availability and capability	2.27	Average severity
26. Lack of knowledge on import/export procedures	2.73	Average severity
27. Lack of expertise in international shipment	3.20	Very severe
28. Poor logistics/supply chain contract enforcement	3.12	Very severe
29. Lack of understanding on International Trade Terms (INCOTERMS)	2.58	Average severity

The second very severe issue is more internal in nature, which is an organisational issue. Two issues under this category are among the top five issues highlighted by the respondents, namely stressed internal relationships between departments and finger-pointing and blaming each other's for problems. These internal conflicts require prompt attention from the manager as such workplace conflict may negatively influence employee's performance (Mwangi & Ragui, 2013). Managers should identify and solve the logistics and supply chain issues severely faced by the firms as they may lead towards higher total supply chains costs and decrease flexibility, that will adversely affect the firm's competitive position (Carter *et al.*, 1997). As a conclusion, there are quite a number of logistics and supply chain issues that are considered as very severe among the SMEs involved in this preliminary study. Most importantly, customer service and organisational are two most critical issues that need

to be taken care off based on the findings of this study.

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