

Achieving Supply Chain Excellence through Effective Supplier Management: A Case Study of a Marine Organisation

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Abstract — The researcher in this study attempted to understand the efficiency of the suppliers on supplied products in a marine company in Malaysia. This study is the first to find out how supplier management leads to supply chain excellence in a marine organisation. Also, the paper attempts to capture the buyer-supplier relationship and management of its supply performance. The research design for this study is a qualitative method by using interviews that are conducted for respondents from the Purchasing Department. This research used a single case study in JM Marine Pvt Ltd. The samples are consists of 5 respondents to examine the research model. First, content analysis of the interview was derived to understand the management of the supplier in purchasing the products for vessels. Supplier delivery performance, quality products, and reliability were found to be the most crucial criteria for choosing the supplier. Second, supplier selection and supplier evaluation were found to be a major of supplier efficiency to perform a good supply chain. The result of this study will give ideas to the practitioners and encourage organizations to give more emphasizes on supplier selection and supplier evaluation to achieve supply chain excellence.

Keywords — Supply chain, Case study methodology, Supplier, Supplier management, Marine industry

1. Introduction

1.1. Background of study

The study provides information about the efficiency of supplier involved in procurement in marine company. As procurement is one of the components in supply chain management (SCM), it focuses on connection between a company and its suppliers to distribute the items and it represents the steps to get the product or service from the

supplier. Organizations purchase large variety of goods & services from production parts to transportation services to office supplies [39]. Supply chain performance can be improved by using well-integrated supply chain which is one of the primary business strategies [17], [32]. Supply chain has attracted the main interest and has been characterized by attention to “partnerships, relationships, networks, value creation, and value constellations” [19].

Offshore supply vessels (OSV) are designed to carry a wide variety of cargo, utilizing space both above and below deck to carry supplies. The OSV is ideally suited for the storage and delivery with its wide-open bay, forward accommodation and high bow. Purchasing and supply management has been increasingly recognized as a critical element in the effective supply chain management [14].

Marine Industry has been a main platform for investment and income since the ancient times. The risk in possible dangers such as weather conditions, fire and collision of ships are usually been faced by the seafarers. Moreover, this industry also provided services for the carriage of auxiliary equipment, spools, containers, and other cargoes. Ships and vessels act like a transport in the sea which is also need some maintenance and get repaired when breakdown and docking occurred [14]. This is where supply chain plays its role to supply the products for the health and safety equipment, spare parts and accessories for the vessels. The supply chain performance directly depends upon the performance of its suppliers [9]. Supply chain performance which involves supplier management practice could lead to supply chain excellence which makes the company gain its competitiveness around the globe.

1.2. Problem statement

Traditionally, the focus of procurement has been an efficient purchasing activity. Supplier management is one

of the key areas that emphasized by supply chains as the supply of the materials is the entry point of the chain [10]. The poor performance in either quality of supply or delivery leads to a poor response to the customer requirement. Supply chain management has become a very important and critical issue for supply chain organization due to the high competitions and customer needs. It has been accepted that many supply chain organizations have a purchasing goal and need the improvement of efficiency, productivity and effectiveness for profitability [15].

However, the inefficiency of supplier management in supply chain would lead to poor supply chain performance especially in marine services companies. This is because the services cannot be fully performed if the spare parts and equipment are lacking and delayed due to the inefficiency of the supplier. This would lead to problems for the vessels to get maintenance and get repaired. The ability of the firm to manage the availability chain resources and its suppliers defines their capability to deliver the proper product at a quicker step and a lower price than their competitors [18]. Resource scarcity brings to a greater need for communication between buyers and suppliers and firms include their suppliers to deliver greater value to their customers in the early process [24]. Furthermore, most companies have been practiced various number of suppliers to supply the products in order to perform the business. Yet, long term supply is all matters. Supplier chain inefficiencies and disruptions are preventing the international competitiveness of emerging and transitional economies. Buyers often face inadequacies in the quality and quantities of supplies.

Therefore, research study needs to be conducted to improve efficiency and strengthen the supplier management to achieve a good supply chain performance such as supplier selection, delivery performance and quality of the products from various suppliers. In other words, the supply chain excellence is linked with its suppliers' base. Based on [29], organizations have discovered that the efficiency of their supply chain determines their competitiveness in the marketplace.

As such, literature search shows a gap of knowledge in the supply chain through supplier management. Based on previous studies, there are irregularities in results related towards the supplier management in supply chain excellence. There are also limited studies which does not explore the supplier evaluation.

1.3. Purpose of Study

The purpose of this study is to develop supply chain excellence through supplier management. This research was conducted in JM Marine Pvt Ltd. which focused on the causes of ineffective supplier management which is a part of Supply Chain Management (SCM). It involves managing and optimizing the flow of purchasing in marine services in JM Marine Pvt Ltd which includes purchasing and supplying specific items to be Off-Shore Support Vessels to Oil & Gas company. The research questions of this study are as follows:

- RQ1. Why suppliers' inefficiencies occurred in a marine organization?
- RQ2. How to develop supply chain excellence through supplier management?

2. Literature Review

2.1. Effective supply chain management

2.1.1. *The relationship between the buyer and the suppliers*

Organizations could achieve a greater guarantee of success and profitability in their business if they are able to manage efficient relationships with their suppliers [26]. According to [21], this sense of managing positive and profitable relationships with customers and suppliers can determine a company's success and survival in the market. The relationship gets stronger and a relationship of trust will be established when satisfaction is present. Issue that is often emphasised in relation to supply base management is the relationships between the buyer and the supplier [37]. Globally, shared values are not only crucial when it comes to choosing a particular supplier, but they also strengthen the relationship and help working together.

2.1.2. *Management of supply performance*

While in the past buyers' purchasing interests were primarily related to the quality and the price of purchased goods, as well as purchasing risks and delivery conditions, today suppliers' sustainability related conditions are also a factor [4]. From the result of previous studies [1], [4], [13], and [35] in a firm, the general manager and manager responsible for procurement advocate performing "an initial audit" where they take into account references from other wineries, the quality of the product being offered, the price, the delivery deadline, the ease of access to the supplier, the commercial and financial conditions. Indeed, factors like insufficient communication and lack of trust might greatly affect suppliers (and buyer's) performances, [13]. Buyers often face inadequacies in the quality and quantities of supplies [6]. Nevertheless, to them the most important factor is quality, because what they are looking is not cheap price, but a quality product.

2.1.3. *Sourcing strategies decision*

Making decision in sourcing strategies also lead to effective supplier management. [23] stated important factors that need consideration are single and multiple sourcing, backup suppliers' contracts, spot purchasing and collaboration. [27] stated that there is a risk found in single sourcing and there is always should be an emergency plan take in place to deal with the barriers of the single source suppliers. Effective supplier management is a critical area for manufacturers to achieve and it is remain important when the time comes. Only a few empirically consolidated findings offered from academic literature that provide guidance on the selection of supplier and management

process that should be implemented in the inter-organizational context [30].

2.2. Development of Supply Chain Excellence Through Supplier Management

2.2.1. *Supplier selection strategy*

According to [20], manufacturer adapted supplier selection strategy to choose and evaluate suppliers in order to fulfil the requirement. The most important criteria in supplier selection are cost, quality and delivery [25]. In order to form more effective relationship with suppliers, companies use supplier selection criteria to reinforce the selection process [33]. Based on [5], supplier selection and their management has become a centric proposition for manufacturers to maintain resilience against disruptions and it has been recognized by companies that in order to achieve long-term competitive advantage of the firm, supplier management acts as key. [16] stated that having close co-operation with the suppliers aids to lower down the cost and in the long term, the highest quality of supply at the lowest cost can be ensured. Getting a supplier who are perfectly matches with manufacturer's expectation is impossible to find [31].

2.2.2. *Supplier relationship management*

Based on [22], suppliers and manufacturers relationship is an important. Suppliers give important and direct influence on the cost, quality, technology, and time-to-market of the new products [38]. The buyer get benefit through development of close relationship with their key suppliers in the form of improved delivery or quality service, reduce cost or some combination thereof at an operational level [36]. Meanwhile at a strategic level, it should lead to sustainable enhancements in product quality and innovation, improved competitiveness, and increased market share [28]. These should in turn be reflected by improvements in financial performance.

2.2.3. *Supplier management system*

Manufacturer used supplier management strategy in order to improve its suppliers' performance and capabilities to meet the manufacturer's short-term and/or long-term

supply needs. According to [3], an effective suppliers' evaluation and management system is critical for companies to be competitive in the global marketplace and research indicates that nearly 50 percent of the companies in different industries have a formal supplier management process [11]. The factors mostly used in the current supplier evaluation and management method are quality, supplier certification, facilities, continuous improvement, physical distribution and channel relationship [12].

3. Methodology

3.1. Research Design

This study chooses qualitative study as the method of conducting this research in order to achieve the research objectives of this project paper. An exploratory case study design was applied to generate an in-depth understanding and theory of contextual barriers to the complex field of global supply chains, based upon rich, contextually embedded data [7]. This case study method is chosen to investigate the study about the procurement towards JM Marine Pvt Ltd which is marine company. By using a single case study, it is more focused on one selected company.

Figure 1 shows a flow chart that has been conducted before findings has been taken place. The research is started from problem identification within the company. Secondly, literature search and study been conducted to gain knowledge and information from literatures reviews before the research been taken place. Then research question and research objective have been developed to seek the purpose of the research.

Next, interview questions been constructed according to research questions developed. Before interviews started, the researcher chooses the respondents based on the criteria. Then, the researcher gets in touch with the respondents about the date and time of the interview for the preparation. The researcher started an interview at one time for each respondent. The data been collected once the interviews started by using audio recordings and notes. Additional questions been asked to the interviewees if needed. After getting the findings of the research, the data been analysed using content analysis. Lastly, conclusion and discussion been made at the end of the study.

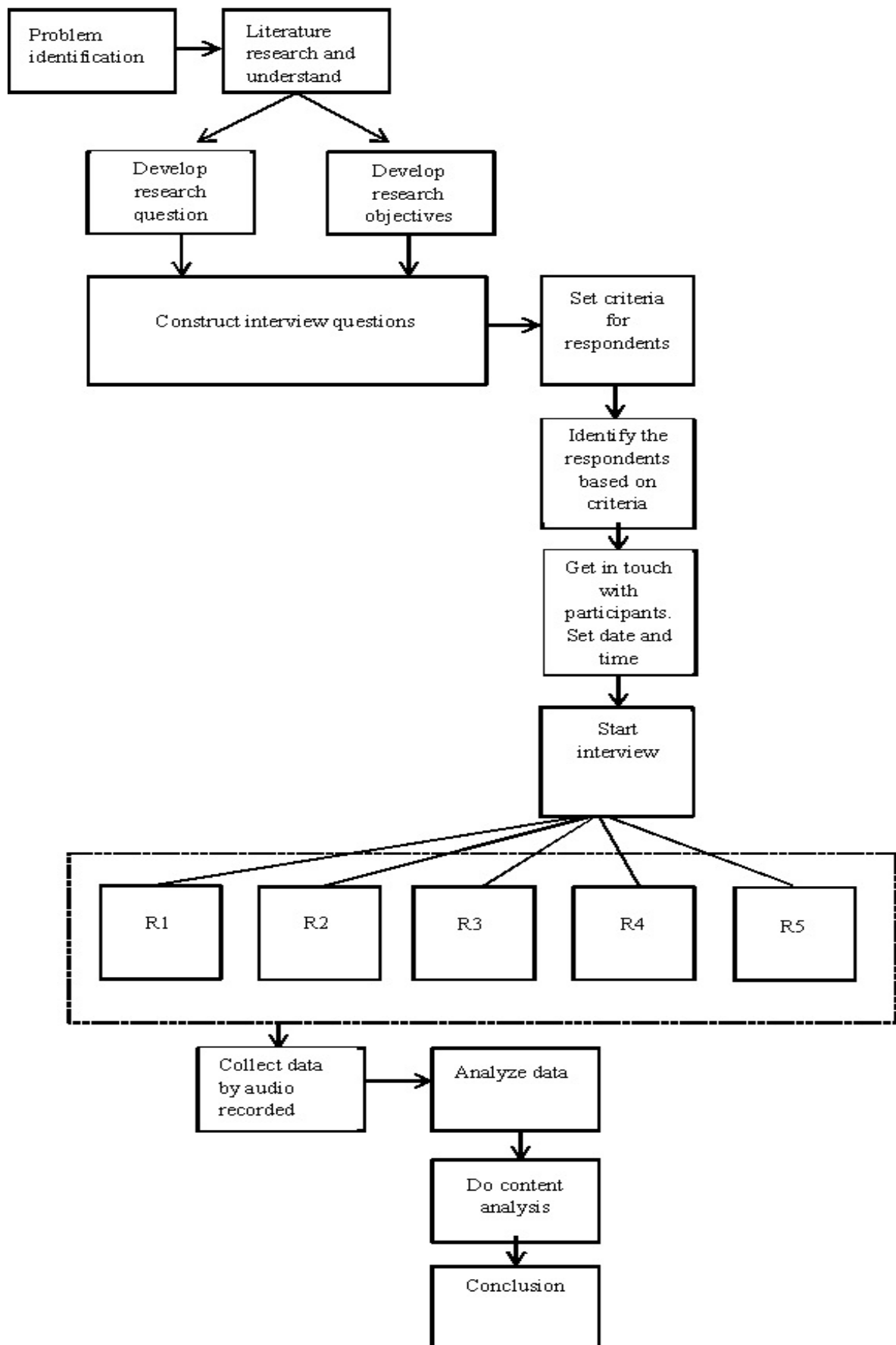


Figure 1. Case Study Diagram

3.2. Organization of Study

JM Marine Pvt Ltd incorporated in Malaysia as Jackson Marine Sdn Bhd on 14 March 1980. Having served offshore support vessels (OSV) services to oil majors such as PETRONAS Carigali Sdn Bhd (PCSB) and ExxonMobil Exploration and Production Malaysia Inc (EMEPMI) for over 35 years create JMM to be competitiveness and sustainability among marine services company. Pursued an accelerated expansion program makes JMM to become one of the largest OSV-company in Malaysia which owns a fleet of 21 vessels as at December 2018. This consists of 2 Straight Supply (“SSV”) vessels, 6 Anchor Handling Tug Supply (“AHTS”) vessels, 4 Anchor Handling Tug Supply DP1 (AHTS/DP1) vessels, and 9 Anchor Handling Tug Supply DP2 (AHTS/DP2) vessels.

Oil and gas companies can get benefit from this OSV company in terms of transport service, anchor handling, accommodation and food carriage. JMM has their own benchmarking for them to compete with other offshore company marine organization such as Icon Offshore Bhd and Bumi Armada. Services provided throughout the oil and gas value chain are from exploration through field development construction, production and operation via transportation charter. The website provided not only provide information and services in the company, but they also provide platforms and job opportunities to people for keen to venture into their field. Customer and third party of JMM can easily connect and dealing with JMM to cooperate in using their facility such as offshore, tanker, and anchor handling for the business transaction. The docking and maintenance in JMM also being supported by the best contractor performance which lead them to own this specialization among the other marine companies.

3.3. Study Setting

This study selected JM Marine Pvt Ltd as study setting due to intense competition between marine industry that support oil and gas company which focuses on the importance of health and safety environment. This company not only provide service for the oil and gas company, but they emphasize safety environment towards their crews where they achieve 5 million of manhours without lost time incident which is being competitive advantage to them. The safety excellence of JMM makes it as a strength to JMM and automatically keep the company in the eye of competitors. JMM is also one of the organizations that have been categorized as marine vessel of the year because of their virtuous assets of vessels and shores. The achievement that they gained have been a target for them to always compete and successful in marine industry.

3.4. Sampling and Data Collection

The sample is purposive sampling of firms. Purposive sampling able to meet the objective of the research due to relevant characteristics for the research questions [34]. This study used a sampling of 5 using interviews.

For the data collection, all information are gathered and collected from the primary data. Collection is the process of gathering, assembling, and accumulation of information that are related with the issues or study. Primary data are collected regarding the supply chain that look through in supplier management in marine industry. For this study, the primary data are obtained from the interviews which have been conducted to the workers in Purchasing Department. The data then collected and audio recorded during data collection. The respondents have been chosen based on these criteria:

- (i) They worked more than 3 years
- (ii) They are professional and skilled workers
- (iii) They are working in the department that relevant to supplier management

3.5. Instrument

This research has been using interviews as tool in collecting data for understanding and views about the supplier management. This data collection tool being used as it helps the author to get explanation and more details about the experiences faced by the respondents in supplier management.

The qualitative data has been primarily collected through face-to-face semi-structured interviews. A semi-structured interview defines a meeting in which the formalized list of questions are not strictly been followed by the interviewer. This kind of interview and follow up questions has encouraged interview procedure to become more flexible. This procedure helps the research to get more information that relates to the objective of the central construct [2]. They will ask more open-ended questions which allow them to have a discussion with the interviewee rather than a straightforward question and answer format.

The interview consists of 3 sections. In order to determine the study through interviews, the interviews are conducted through the steps and procedure as follows. The author addresses the purpose of the interviews at the beginning of the interview. The interviewees will be explained about the purpose of the interviews at the beginning. The interview takes about 30 minutes to collect all the data and information one by one. Five respondents have been conducted over a period of one month. The respondents have been asked for a few interview questions regarding the supplier management in the company. The questions are related to research questions of this study to seek the information and knowledge of the supplier inefficiencies and supply chain excellence. The questions are in Table 1.

Table 1. Interview Questions

Questions No.	Questions
Q1	How do you ensure the time delivery of orders?
Q2	Does relationship with suppliers affect the efficiency of supplier management?
Q3	What are the issues occurred in supplier management that could change the relationship over time?
Q4	Does large amount of orders lead to poor supply performance?
Q5	What makes you search for new supplier?
Q6	What are the most crucial criteria for supplier selection?
Q7	If the supplier informed you that the products would be delay, how would you deal with it?
Q8	Why do you think supplier management is crucial in supply chain excellence?
Q9	How do you evaluate supplier performance?

4. Analysis and Findings

4.1. Content Analysis

A common starting point for qualitative content analysis is often transcribed interview texts. The objective in

qualitative content analysis is to systematically transform a large amount of text into a highly organised and concise summary of key results [8]. Analysis of the raw data from verbatim transcribed interviews to form categories or themes is a process of further abstraction of data at each step of the analysis; from the manifest and literal content to latent meanings.

Table 2. Summary of interview into transcribed texts

Category	Meaning units and condensation	Coding
Time delivery of orders	<p>‘.....supplier would mention in quotation and if the products desired are not urgent, it would not be a problem and can accept the delivery time stated’ (Respondent 1)</p> <p>‘.....suppliers informed about the time deliveries in quotation and ask them about when certain products can delivered’ (Respondent 2)</p> <p>‘.....time delivery for orders are already stated in the system and need to get confirmation from the supplier about the delivery time’ (Respondent 3)</p>	The aspect of time delivery have to point “delivery time stated” and “depends on urgency”
Relationship with suppliers’ advantage	<p>‘....we deal with them to get the products’ (Respondent 1)</p> <p>‘....can have cost reduction if we have a good relationship with suppliers’ (Respondent 2)</p> <p>‘....related in dealing to get the best price among various suppliers and they help me to find other suppliers that they know supply the items’ (Respondent 3)</p> <p>‘....gives efficiency to buyer in terms of ease of ordering the products’ (Respondent 4)</p>	The aspect of time consume have to point ‘depends on customer’
Issues occurred in supplier management	‘.....products quality is not meeting the requirements’ (Respondent 1)	The aspect of issues occurred in supplier management is have to point ‘not meeting

	‘.....because of the unfulfilled the promises about the stocks’ (Respondent 2)	requirement’ and ‘unfulfilled’
	‘....supplier does not fulfil my demand’ (Respondent 3)	
Reasons for new supplier searching	‘...cannot deliver the items on time, difficulties in dealing, do not have enough stock in urgent situations’ (Respondent 1) ‘...the current supplier sold at high price’ (Respondent 2) ‘...to compare with current suppliers in terms of cost, quality...’ (Respondent 3) ‘...do not want to depend on one supplier only’ (Respondent 4)	The aspect of reasons for new supplier searching have to point is ‘urgent’, ‘cost’ and ‘not depend on one supplier’.
Criteria for supplier selection	‘...select supplier that have response rate especially when we send Request For Quotation (RFQ) and always fulfilled the time delivery promises’ (Respondent 2) ‘...we would like to get a supplier that can provide same specifications like other suppliers with low price and can easily access when the products needed are in urgent’ (Respondent 3) ‘...their delivery service and most important is meeting the requirements and price’ (Respondent 5)	The aspect of criteria for supplier selection have to point ‘high response’, ‘delivery service’ and ‘price’.
Action on delayed products	‘...ask the end user about the time of delay and find another supplier or alternatives’ (Respondent 1) ‘...purchasing department will ask and discuss with relevant department find another alternatives if it cannot be proceeded’ (Respondent 2) ‘...asked them what are the reasons and we need to get another source’ (Respondent 3) ‘...would go to another supplier that I had’ (Respondent 4)	The aspect of criteria for action on delayed products have to point ‘ask the end user’ and ‘find another source’
Importance of supplier management	‘...procurement process would be smooth and well planned’ (Respondent 1) ‘...always aware and alert with the planned on what are needed to be purchased and received at the time needed’ (Respondent 2) ‘...items from suppliers are the products that we would like to supply for the vessels’ (Respondent 4)	The aspect of importance of supplier management have to point ‘plan’ and ‘supply’
Supplier performance evaluation	‘...look at how the supplier reliability towards our company’ (Respondent 1) ‘...looking at the performance of the supplier through available of stocks needed in a urgent situation’ (Respondent 2) ‘...evaluate the supplier on the way they delivered the products’ (Respondent 4)	The aspect of supplier performance evaluation have to point ‘reliability’ and ‘urgent’

4.2. Respondent Profile

For the data collection, this research has collected the data from five respondents. Among 7 list of the participants, five of them have been selected. As they deal with suppliers in a daily basis, the data can be collected and researcher can go through deeper insight of the problems in supplier management.

These respondents have been selected because they had achieved the criteria created for the interviews. The respondents have been working for many years with the company and gained so much experienced in management of the supplier. Some of them also have been working in other position before joining the purchasing department. This makes them knew more information about the products ordered and know the technique on how to deal with the supplier properly.

Table 3. Information of interview participants

Respondents	Age	Position	Department	Years with Company	Years with Position
Respondent 1	49	Purchasing Executive	Purchasing	11 years	5 years
Respondent 2	30	Purchasing Clerk	Purchasing	5 years	5 years
Respondent 3	44	Senior Purchasing Clerk	Purchasing	13 years	8 years
Respondent 4	32	Purchasing Clerk	Purchasing	5 years	3 years
Respondent 5	35	Purchasing Clerk	Purchasing	8 years	5 years

The findings of the study are coming from the objective of the study which is to determine the causes of supplier inefficiencies in supplier management. Furthermore, it is also look into the development of supply chain excellence of the firm through supplier management. The results of interviews with Purchasing Team are summarized as follows:

4.3. Results

4.3.1. Results based on Research Question 1 (*Why suppliers' inefficiencies occurred in supplier management in a marine organization?*)

According to Respondent 1, the time delivery of orders will be informed by the supplier in Request for Quotation (RFQ) according to their stock availability in the system. It depends on the urgency of the products.

“...we see the urgency of the products. For example, if the products desired are not urgent, it would not be a problem and can accept the delivery time stated. If the products are urgent, we would give them dateline...”

As stated from Respondent 2, if the products are not needed immediately, the time delivery orders from suppliers are accepted by them. Otherwise, the dateline will be given to the suppliers. This shows that not all the products in Purchase Order will be delivered at a time. However, they also need to get confirmation from the suppliers about the lead time due to the urgency of the items needed at a certain time as stated to Respondent 3:

“...get confirmation from the supplier about the delivery time before issuing the purchase order because a certain item would not be available at a certain period of time...”

Based on Respondent 4, the buyer also looked into which company they order in order for the buyer to get the products according to the plan, Respondent 5 stated, if the distance of the supplier company is a bit far, they will estimate the delivery of the products to ensure the products will be delivered prior to the usage.

The buyers need to maintain the relationship with

supplier because they need to have a deal and get the products with the suppliers in any cases if the products need to be ordered immediately as stated by Respondent 1. Some products can get a cheaper price due to the long-term relationship, lower prices also can be achieved with new suppliers as stated by Respondent 2:

“We can get cost reduction if we have a good relationship with suppliers. If the relationship is long term, it's not a big deal to get a cheaper price. In terms of relationship with for new suppliers, we can cut the cost if we ordered large amount of orders. “

Meanwhile, there is a certain supplier that helped their buyer to find the products through other supplier they knew based on Respondent 3:

“...get an experience where I need the items urgently but unfortunately, they did not have that items in stock. Luckily, they help me to find the other suppliers that they know to supply the items for me...”

Respondent 4 and Respondent 5 stated that long term relationship gives efficiency to the supplier management for the ease of ordering in urgency and get a quality products that meets the requirement and specifications.

According to Respondent 1 and Respondent 2, some respondents stated that supplier sometimes did not meet the requirements and unable to fulfil the promises about the delivery and specifications.

“If the supplier quality is not meeting the requirements stated, we would not deal with them. This is because it will affect the operation of the business”

Respondents 3 give a chance to a supplier to not redo the mistakes in the future as an option. Otherwise, the buyer would not deal with the same supplier over again as they had various alternatives.

“...I give them a chance to not do it over again in the future for second time. But if they do the same and not informing about the important information, the business relationship would not last longer”

Marine industry tends to have products in different sizes so the supplier needs to be very aware when delivering it. It would take time to return the wrong products and get the products back which also can lead to cost.

The buyers faced partially order before they get full delivered products when large amount or orders been ordered. This shows that not all the products offered are available at the time of ordering. For large amount of orders, the products need to be checked carefully by the suppliers as defects or poor products might be occurred. The products been ordered must be tally with what they ordered. However, as raised by Respondent 3, the cost is low, but the lead time is long. It would take time for the products to be delivered.

“If the stocks are available, then we get it from them. Actually.. for this case, it depends on the stocks that supplier had. Because sometimes, the cost is low but lead time is high.”

4.3.2. *Results based on Research Question 2 (How to develop supply chain excellence through supplier management?)*

The buyer would find new suppliers if current suppliers unable to deliver the items on time, poor dealing with them and low stocks. As stated from Respondent 2, new supplier finding occurred because current suppliers sold at high price lead to another alternative to select new suppliers.

“...current supplier sold at high price. We want to find a supplier that would give us cheaper price and cut the cost of the company. Even we have suppliers local and abroad, mostly we want to avoid the supplier from abroad...”

Moreover, they would like to explore new suppliers to get the products with same specifications but with a better price by dealing with them as first trial as stated from Respondent 3.

“...we want to explore new suppliers and other sources to compare with current supplier that we are currently dealing such as cost, quality... For such, we got new suppliers that offered cheaper price. Then we attempt to try purchasing the products with new suppliers then there is no complain...”

Supplier selection criteria for a particular product or service category should be defined by a cross-functional team of representatives from different sectors of the organization. According to Respondent 1, the buyer would look into the financial stability, review feedbacks from previous

customers and seek for quality products from suppliers. In other words, reliability towards supplier is also important as they sometimes need urgent products immediately as stated from Respondent 3:

“...we want a supplier that can easily access when the products needed are in urgent...”

The buyer also would go through on supplier that can give same specifications but at a lower price and easily access for urgent products. As stated by Respondent 2:

“We would like to select supplier that have high response rate especially when we send Request for quotation (RFQ) and they always fulfilled the time delivery promises. We are more prefer to choose who are easy to communicate and cheaper cost”

Lower price offer is also one of the criteria as stated from one the respondents. They would like to select supplier that supply same specifications of products but at a lower price. Regardless the price offered, dealing with suppliers also relate with contracts and terms

Delayed products show a poor supply performance. Most of the respondents stated that they will discuss with the superior for the delayed products to get the approval of the situation. Then they would find another alternative to overcome the undelivered products that have been promised. As stated from Respondent 2:

“We will ask how long would be the delayed and try to deal to shorten the delayed. If it cannot be proceed, we need to find another alternatives. If the items are urgent, we will get the items from other vessels for the time being.”

They also would ask, what the reasons are for delayed. If the items are not urgent, possible to wait. The suppliers that they had would be an option for them to select when delayed situation occurred which could be a backed up plan for them. Communication also plays an important role to give information about the delayed products to other parties involved to avoid any disruption in operation as stated by Respondent 5.

Most of the respondents stated that good supply chain would give a smooth procurement process in order to purchase the products from the supplier. Supply chain give a proper procurement process and good planning. It would be difficult to maintain long term relationship if keep searching new suppliers as raised by Respondent 1. Products purchased in marine industry is crucial especially for docking period. It is important because of the need of purchasing items for the vessels to continue its service. Supplier management through relationship is important as we have to rely on them if the superior need that items.

Some respondents stated that the reliability towards the supplier to get the products in urgent is what they evaluated as stated by Respondent 1 and Respondent 2. Moreover, they also evaluate availability of items needed in an urgent

situation and the items delivered are exactly the same with what they ordered. This is because in marine industry, the products are variously categorized which lead to different specifications as raised by Respondent 3:

“We look at various aspects. Firstly, the price, the items quoted are high quality. Then the performance in assurance of delivery performance. They fulfil the promise to deliver the products as stated in the quotation”

If the products delivered are different from what have been ordered, it will give impact to the company. The buyer would look through the previous experience from the buyer in terms of quality of the products. The performance of the products delivered is stated by the end user that used the products which is from warehouse and contractor.

5. Discussion

5.1. Supplier Selection Decision

The study recommends to have a successful supplier selection. An important input to the supplier selection process are the guidelines for the types of suppliers. There are a few steps to be taken to make a correct decision on supplier selection. One of the major things to implement is to create a supplier selection scorecard. Supplier selection scorecard contains all the important elements required in a supplier. The scorecard should be included supplier characteristics such as cost, quality, location, delivery, flexibility, lead time and others.

Another is identifying suitable suppliers. Once the company have the selection criteria in place, they must create the pool from which suppliers they want to select. For this part, the company will want to consider current suppliers, past suppliers, competitors, industry groups, recommendation from others and internet. Gather information from the identified suitable suppliers is another application for JMM to implement such as in the form of a Request for Quote (RFQ) or Request for Proposal (RFP). The company need to tabulate the information collected and use the scorecard to rank the potential suppliers.

5.2. Segmentation criteria

The company should do segmentation criteria by which supplier importance is determined. There are different ways to arrive at a suitable set of criteria and different ways to apply. The process of segmentation is the division of an entire supply base into discrete groups according to their importance. The generic model is based on five segmentation criteria which are alignment, future importance, current importance, difficulty and risk.

According to the study, the company should segment their suppliers through these five criteria. Firstly, segmented in alignment must be done by the manager to segment through strategic goals, policies, ethics and belief while future importance included suppliers' willingness

and suppliers' direction. Furthermore, segmenting in current importance should be included current spend, contractual commitments and established relationships. Next, the company should segment through difficulty by identifying the complexity of the suppliers. Lastly, JMM should segment their suppliers in risk through supply failure or delay risk, price and cost risk and quality risk. From that, the company can identify which suppliers act as “hurt”, “help” and “heroes”. This is because supplier risk is the degree to which a supplier could hurt them.

5.3. Purchasing Performance Evaluation System

This study suggests the company to have evaluation system through purchasing audit. Through purchasing audit, management may assess the extent in which goals and objectives of the purchasing department are balanced with its resources. The most common method is to keep track of specific measures over time standards by extrapolating historical data. The initial steps involved in the development of a systematic performance measurement system are typically listing aspects. The aspects that need to be considered by the company are goal and objectives which included goal orientation, client orientation and risk. Other aspect is resources which included results and resources, flexibility and management.

5.4. Selecting medium of sourcing for potential suppliers

Besides that, in order to get well-managed purchasing and supply department, the company must have catalogues (online, hardcopy or both) which is commonly known as sources of supply that cover the most important materials in which company is interested. Therefore, there would be low probability for the company to mistakenly ordered materials that do not meet the specifications and they also can look the virtual of the materials in the catalogues rather than just ordered through its names. Next, the company also can have trade journals which are also a valuable source of information about potential suppliers. The list of such publication is very long, and the individual items in it vary in value. These journals are utilized in two ways. The first use is to gain general information about suppliers and their personnel. The second is a consistent perusal of the advertisements to stay current on offerings.

6. Conclusion

6.1. Theoretical implication

Theoretically, the research helps to explain the causal of inefficiency of supplier management that is link with supplier selection and supplier evaluation. The study shows that the reliability, trust and price are the elements of supplier selection strategy that could predict the availability of the stocks when order is desired for the

vessels. With respect to supplier management, supplier selection can be effectively done by looking at supplier criteria which is stated by the previous authors according to the situation. This study would give contribution to Malaysia in order to compete among the other marine companies not only in local, but also across the global.

6.2. Practical implication

This study also offers a number of managerial implications. The organizations can use this study to analyse the problems and causes in supplier inefficiency and identify the supplier selection and supplier evaluation to improve supply chain performance. It provides managers to have improvement in their supplier management which allows this industry to sustain the service of Offshore Support Vessels company and to enter a new market. The managers need to make a best decision when it comes to identify potential sources. Supplier identification not only prioritizing on lower cost, but also focuses on quality with affordable price. This study also can be applied by manager to select suppliers through criteria needed based on the relevant issues they faced. They need to list out the criteria according to the important supplier characteristics such as quality, cost, delivery and reliability. This will encourage the marine industry to gain competitive advantage in order to compete with other marine services. Second is to explore the strategic decision in supplier selection strategy and supplier management strategy concerning organization requirements because different types of the organization require different drivers in supplier selection and supplier management.

6.3. Policy Implication

Understanding the above phenomena, may also benefit the all practitioners, policy makers and suppliers in Malaysia and globally. The government should place guideline on current technology through all company because what supplier provides to the buyers are essential pillars of supply chain management. Technological advancement like fingerprint security, system, technology machine to make own products and collaboration between suppliers through contracts policy and terms could create an extraordinary growth opportunity and competitive advantage to marine industry through advanced technology. Therefore, policymaker should start to embrace more supplier management system and integrate supplier policies to revamp supply chain performance.

6.4. Limitation of study

A few limitations have been identified and recognized while conducting this research. The study is limited by scope. First, the study is only focus on one company which is in East of Malaysia, which may subject it to regional clustering bias. This limits the applicability of the findings to other types of industries. The respondents are only from one department which need to incorporate with more samples from other departments. The nature of demand for

these products is quite different from other products. Therefore, the findings of this research may not be generalizable to other industries.

6.5. Future Research of Study

There is limited literature on the roles of supplier selection strategy and supplier evaluation strategy in supply chain excellence. The strategic purchasing which include planning, implementing, controlling strategies and operating purchasing decision for directing all activities of the purchasing function has heightened the importance of supply chain flexibility.

Despite these limitations, this study provides some deeper insights to improve efficiency across supply chain. Based on the current study to overcome the above limitations, after suppliers acknowledged the opportunities for improvement for the key suppliers' management scores, the future research should focus on how make improvement in the specific area such as delivery performance by using IT tools, strategic decision by having earlier involvement of suppliers.

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