

Supplier Selection Criteria among Manufacturing Companies in the First Cavite Industrial Estate (FCIE) In the Philippines

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Abstract: This study discusses the supplier selection criteria among the manufacturing company in the first Cavite Industrial Estate (FCIE) located in General Trias Cavite province, Philippines. It discusses the factors and criteria that affect decision making of manufacturing in choosing the best suppliers for the manufacturing companies in FCIE. The study was based on an interview of conducted the manager and supervisor of one the selected manufacturing companies to seek the risks in choosing a supplier to satisfy the needs of customers. The researchers also gathered data were also gathered data through the response of the employees working in the selected manufacturing companies along FCIE. The research are to analyze the factors affecting the selection of effective supplier for the manufacturing companies in FCIE and sought to investigate how single sourcing and multi sourcing can effect these factors.

Keywords: Supplier Selection Criteria, Manufacturing Companies, First Cavite Industrial Estate, Single Sourcing and Multi-Sourcing.

1. INTRODUCTION

In order to remain competitive in the market place, companies must take everything into consideration and increase flexibility. Supplier selection has become a big concern of the purchasing department in every company. It is most often capital selection which defines the long sustainability of the company. The survival of every company usually relies on their potential suppliers because the reliability of suppliers can make or break one's business. In getting selected to be a supplier, the potential supplier should always be aware of the criteria given by the buyers. To continue their business relationship, suppliers have to consider the specifications of their buyers. They have to keep in their mind not to disappoint their buyers and to give their 100% effort in producing the materials needed by their buyers.

1.1 Background of the Study:

In today's competitive sourcing environment, buying firms select suppliers based on the latter's capabilities, and not purely on the competitive process. Supplier selection is defined as the process of finding the suppliers that are able to provide the buyer with the right quality of products and/or services at the right price and at the right time. In supplier selection, the buying firm evaluates its suppliers as to whether they can provide materials passing all the criteria given. The buying firms select suppliers using different criteria based on quality, cost, services, lead time, location, and price. Through these criteria, they can determine which supplier has the capabilities to provide the needed materials. Without the use of buyer's criteria in selecting a supplier, the company will be taking the risk of choosing inappropriate suppliers.

The buyer should be aware to their own needs to ensure that such supplier is qualified. Its goal is ensure that the supplier's purpose is to be responsive and to be a responsible partner to the buyer for a better and long business relationship. Most companies rely on their suppliers to deliver defect-free raw materials in a cost-effective manner and with less time delays for delivery. The buyers should ensure that the materials they are using to produce high-quality products are of high

quality and meet their expectations in order to sustain competitive advantage. If the selected supplier does not meet the expectations of the firm, then probably the buyer's procurement personnel turn to other suppliers that have the capabilities to satisfy the buyer's needs.

Supplier selection is a multi-criterion problem because the buying firm can opt to do either single sourcing or multi-sourcing, each of which has advantages and disadvantages.

A firm can select at least three (30) sourcing companies for its raw materials. Having more than one supplier is a good strategy because it would enable the buyer to have a wider choice of sourcing companies that would help them to earn more profit at lower cost. However, having a high number of supplier choices is also very difficult to manage. Supplier selection is very critical for choosing the right method efficiently leads to reduction of purchase risk. It is also important to create a good alliance between supplier and the buyer so as to continue a better and long business relationship. Having a better relationship with the supplier could achieve better result for the benefit of the company.

Every company has its own specific set of criteria for choosing its suppliers. The first thing in the buyer's or manufacturer's mind is this supplier able to deliver with the requested quantity and quality of goods to be ordered? Second, will the buyer benefit if it chooses this supplier? The Decision making process in supplier selection is complicated since various criteria must be taken into consideration. In the performance of any one supplier, it is excessively difficult to excel. Suppliers have to satisfy minimum overall performance standards, although they aim to improve their performance continually. For a healthy long-term relationship, buyers should not negotiate too hard to lower price at the expense of quality. They should always bear in mind that the quality of the materials is important for manufacturers for the satisfaction of the consumers. On the part of suppliers, the important thing to do is to assure that the materials supplied pass the tests of the manufacturers.

1.2 Glossary:

Supplier selection – refers to the process of finding the suppliers being able to provide the buyer with the right quality products and/or services at the right price, quantities, and right time.

Supplier – refers to a company which supplies materials or services to another company

Price – refers to the quantity of payment or compensation given by one party to another in return for goods or services.

Quality – refers to the ability of the supplier to provide goods and services in conformance with specifications.

Delivery time – refers to the average or normal time between placing an order and receiving the delivery.

Service level – refers to the measurement of the performance of a system.

Communication – refers to means promoting a product, service, or organization; relays information within a business; or factions as an official statement from a company.

Off-take – refers to the end users of the manufactured products.

Raw materials – refers to the basic material from which a product is manufactured or made.

Single supplier – refers to dealing with only one supplier that can provide the needed raw materials of a company.

Multi-supplier – refers to a purchasing policy of using two or more suppliers for products or services. It encourages competition between suppliers, and ensures access to a wide variety of goods or services.

Outsourcing – refers to an effective cost-saving strategy which sometimes more affordable to purchase a good from companies with comparative advantages than it is to produce the good internally.

Supply Chain Management – refers to the management of a network of interconnected businesses involved in the provision of product and service packages required by the end customers in a supply chain.

1.3 Preview:

The next section, Section 2, presents the **Statement of the Research Problem**, after which the **Objectives of the Study are given in Section 3**, while the **Significance and Scope of the Study are explained in Section 4**. Section 5 will then give a **Review of the Literature**, while Section 6 will discuss the **Methods used in this study**. This will be followed by the **presentation of the Results and Discussion in Section 7**, after which the **Conclusion will be given in Section 8**, while the **Recommendations are listed in Section 9**. The next section, Section 9, covers the Acknowledgement and finally, the References are listed in Section 11.

1.4 Statement of the Problem:

The research problem that the researchers sought to address was what criteria were used by the manufacturing companies in the First Cavite Industrial Estate in selecting their suppliers.

2. SIGNIFICANCE AND SCOPE OF THE STUDY

This study can be expected to be relevant and significant to suppliers for they would be interested to know how they are selected by manufacturing companies. This study will also be significant to the manufacturing companies for it can help them to be more informed about the different factors involving the suppliers. It will give them more ideas to improve their decision making about the suppliers of their company. This will give them enough information on how to deal with their respective suppliers and how to choose the right supplier. With the recommendations given in this study, companies can develop brief decisions that they can follow to improve their correlation to their suppliers. They will learn to value the relationship between them and their suppliers. any supplier who will . Different factors of the supplier. Different factors of the supplier that can affect the company were briefly explained, and ideas and information were clearly discussed. These factors can help such suppliers to know if they have the capacity that can qualify them as a worthy supplier.

2.1 Significance:

The study will also be significant to the manufacturing companies for it will familiarize them with the different factors affecting the choice of suppliers and provide them with insights that can improve their decision making in choosing suppliers for their company.

2.2 Scope and Delimitation of the Study:

This study concentrated on the criteria used by manufacturing companies in deciding the selection of suppliers selection. The factors considered in this study were price, quality, delivery time, service level, continuous supply, and communication. It also discussed the advantages and disadvantages of having a single supplier or multiple suppliers.

The researchers gathered data for this study from an interview of the operations manager of a particular manufacturing company in FCIE. . Insights about the factors affecting supplier selection were also collected from the employees of five (5) selected manufacturing companies along FCIE (First Cavite Industrial Estate) by asking them to answer a set of questionnaire .

3. REVIEW OF THE LITERATURE

Foreign Literature:

Sonmez, Mahmut (2006), has compiled and discussed the findings of a wide range of literature on supplier selection practices and models. This review revealed that the supplier selection process requires more and more detailed evaluation and assessment of potential suppliers. According to him the reason behind this is that many companies consider the suppliers as their best intangible assets and potential suppliers whether selected or not would want to know how they fared in the selection process and/or the areas in which they need to improve.

Amindoust, Ahmed, and Saghafinia (2012), analysed the responses of Finish purchasing managers regarding single sourcing and multi-sourcing. The result of this research presented the low percentage of companies using single sourcing.

Their studies are similar to the present study in the sense that the focus of the study was the factors effecting supplier selection. These studies also showed comparison to some determinant factors. However, the above-mentioned studies differ from the present study in terms of target population. The present research did not discuss any method in selecting supplier.

Importance of Suppliers:

Every organization on earth needs suppliers although there might be companies that can survive without them, using internal suppliers. As soon as a need has been established and described precisely, the procurement professional begins an investigation of the market to identify potential sources of supply. Little additional investigation may be required to select a good source. The purchase of new or high value item, in contrast, may require a lengthy investigation of potential suppliers.

In today's competitive world, supplier selection is one of the best ways that a buying firm should do. In supplier selection, it includes the identifying, evaluating, and contracting with a supplier.

Nowadays, more manufacturing firms are increasing the ratio of parts outsource against those who produce internally. Through supplier, the power is in the hand of the purchasing managers is starting to recognize the importance of defect-free materials and the value-added capabilities. Suppliers can develop their own core competence in the fields that are relevant to the production of parts they make.

The supplier should ensure a right quality at a reasonable price, less time interval of delivery. In addition, a supplier can adapt to the changes needed by the buying firm. The selection of suppliers should not only be based on the previous performance. Instead of thinking past performances anticipate on future capabilities of suppliers.

Most firms include as part of every contract a series of terms and conditions that are standard for all orders (typically called "boilerplate"). These terms and conditions are designed to give legal protection to the buyer on matter such as contract acceptance, delivery performance and contract termination, shipment rejections, assignment and subcontracting of the order, patent rights and infringement, warranties, compliance with legal regulations and invoicing and payments procedures. Each company develops in term and conditions of purchase in accordance with its own unique needs. Consequently, there is much variation among firms.

After an order has been issued, changes in company requirements frequently require a change in the contract. In such cases, the supply professional issues a change order, following the same procedures that were used for the original order. When accepted by the supplier, the change order either supplements or replaces the original order.

Supply Chain Management:

There are several definitions of Supply Chain Management (SCM) according to different authors. According to CSCMP (Council of Supply Chain management Professionals), SCM is an integrating function that links business functions and processes in a cohesive multi-company business models (Ayers, 2010). A firm must select suppliers on the basis of their total supply chain capability and not just price, lead time, and quality level (Lall, 2010).

According to Swink, Melnyk, Cooper, and Hartley (2011), The following are the different types of suppliers:

- 1. Upstream product suppliers** – provide raw materials, components, and services directly related to manufacturing or service production processes.
- 2. Downstream product suppliers** – provide enhancements to finished goods such as assembly, packaging, storage, and transportation services.
- 3. Resource and technology suppliers** – provide equipment, labor, product and process designs, and other resources needed to support a firm's processes.
- 4. Aftermarket suppliers** – provide product service and support such as maintenance, repair, disposal, or recycling.

Suppliers are important to every company but there are companies that can survive without them. There are two (2) primary sources in sourcing for an item: the internal (organization itself) and external (outside suppliers). Internal suppliers are dependent to their own raw materials while external suppliers need to outsource materials in order to provide their product.

These sources are related to "make or buy" decision. The "make decision means the organization supplies itself while "buy" decision gets its source to other organization.

Cost: as a determinant factor:

According to Benton, 2010), .The cost of purchase materials depends on a volume or amount, the quality level desired, and the desired lead time. Discounts can also be available in a larger volume of material purchased. High quality level expressed in terms of lower defect rate usually pushes the purchase price higher. Cost per unit is composed of material volume, quality level, and response time.

Price: as a determinant factor:

Many people use price as an indicator of quality (Jobber, 2007). Determining price is the ultimate responsibility of the purchasing professional. In order to obtain the most efficient and acceptable price, the purchasing professional must make

sure that she or he is aware of market conditions and prices associated with quality levels required for the buying organization's needs (Benton, 2010). Pricing would affect competitiveness of a supplier to its competitors if the prices are not reasonable compared on the output presented or provided.

Most of the buying firms are conducting price analysis through comparing prices and costs from every supplier. It is one of the prime criteria and complicated decision a firm has to make is how much to pay for its items and services. The price of a product should be covered the cost of production, promotion, and distribution, plus reasonable profit. An effective buyer will purchase goods and services given the quality, delivery, and sufficient quantities are appropriate. If buyer purchase goods one half greater from the market price and ignore those criterion, firm would be portrayed as non-competitive. Some purchasing managers are ineffective without considering the delivery time, tolerable quality levels and even the suitable quantities.

Quality: as a determinant factor:

The lower the acceptable defect rate, the higher the quality level of the material purchased. According to Benton, six Sigma is a way to measure supplier quality. Six sigma suppliers focus on (a) defects per million as a standard metric, (b) extensive employee training, and (c) reduction of non-value-added activities.

Quality has different explanation and views. There are studies which states that quality is technical and has to do with process technology and product design. Some says quality also depends on motivation. It is not all about the materials supplied but also to the people making it. Motivated and experienced workers can be a factor to improve quality. Quality is an element of customer satisfaction. It is neither good nor bad until consumers were satisfied. The quality of materials is the topmost criterion of buying firms. The materials should not only meet the buyers' expectations but also arrives in good condition (Benton, 2010).

The emergence of TQM reflects the importance of quality in evaluating suppliers' product or service. Buyers are looking for consistency of product or service quality so that end products are reliable, and production process run smoothly (Jobber, 2007).

Delivery time: as a determinant factor:

A firm competing on flexibility must give high priority to lead time in buying material. Lead times are also important in achieving superior customer service. Short Lead time can be an advantage and it is flexible. Supplier with short lead times and who are reliable in meeting their due dates minimize the problem of material shortages for the manufacturer; as a result, the company's production can be responsive to external changes. In these circumstances, firms may desire to pay a premium for quick delivery in order to maintain their competitive edge.

Single Supplier vs. Multi-Supplier:

A firm can choose whether single or multiple sourcing single sourcing is the deliberate choice to use a single supplier for a specific purchase. Multiple sourcing involves purchasing a specific material or services from more than one supplier.

In multiple sourcing, the risks will decrease because back up supplier is available while in single sourcing, the cooperation will increase, it will also lead to quantity discounts and more consistency (Benton, 2010).

Having a single supplier will enable a firm to establish an intimate relationship with their supplier because they will be able to understand their specific requirements. Having one supplier has an advantage to be involved in the product development since they already have a lot of experience in this field. The buyer can also expect that the suppliers will be willing to be involved in the design process that the company sometimes needs to go through. The relationship with the supplier will certainly be better if they are the sole provider because this will establish a cooperative relationship between the two companies rather than a competitive relationship (Heche, 2006). Supplier can enjoy lower costs per unit and increased cooperation and communication to produce win-win relationships between buyer and seller. This also reduces uncertainty that the supplier will lose business to another competitor if buying provides a long term contract (Benton, 2010).

Heche (2006) also cited some disadvantages of having single supplier. According to her one of the most obvious disadvantages is that a firm will become highly dependent on a single supplier to give them all the raw materials they need. So in case an unforeseen event happens and affect the supplier adversely, the business will likewise suffer. And then there is the issue of complacency, the supplier may become complacent because they know that the company they supplying cannot find a better supplier than them. Thus they may not provide the necessary service a buyer deserves.

Constanino and Pellegrino (2009) mentioned some advantages and disadvantages of multiple sourcing in their article in the Journal of Purchasing & Supply Management. They stated that with more than one supplier, it is an advantage to have alternative sources of materials in case of delivery stoppage by a supplier. Increased competition among suppliers will also lead a better quality, price, delivery, product innovation, and buyer's negotiation power. On the other hand, disadvantages are also present such as reduced efforts by supplier to match buyer's requirements, higher costs for the purchasing organization greater number of orders telephone calls, records, and so on.

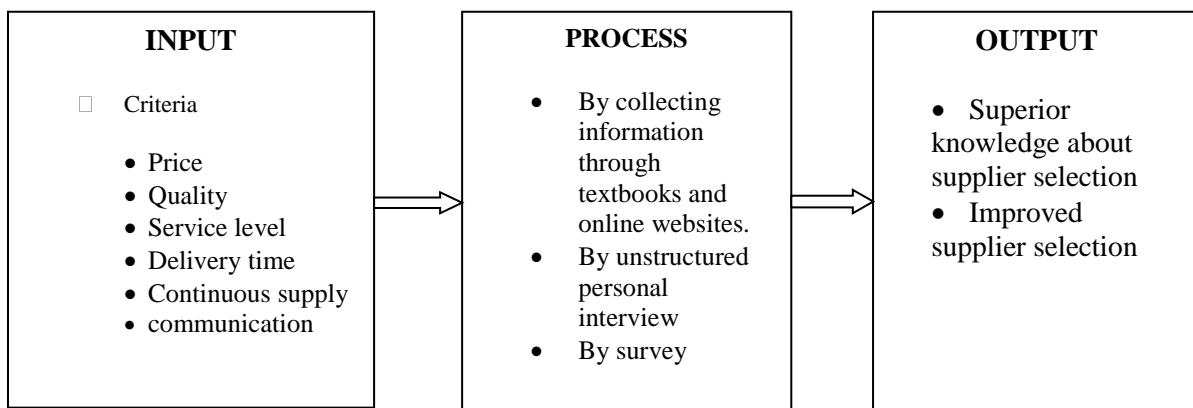
Benton (2010) believes that competition between suppliers for similar part will drive costs lower as suppliers compete against each other for more of the business. This sense of competition serves as the very root of American thought as competition is the basis for capitalism and the backbone of Western economic theory. Multiple sources also guarantee and undisrupted supply of parts.

4. METHODS

This Section explains the research design and data gathering procedure used in the study.

4.1 The Research Design and Research Framework:

To understand the research design and research framework of the study, the researchers used the following framework depicted in Fig. 1 below



4.2 The Research Procedure:

The researchers made use of the descriptive method, which is not merely accumulating information but also comprises the categorization of data, which are used to turn out to the level of sufficient interpretation. The researchers sought to find out related information about the factors affecting the supplier selection of a particular company.

The technique used in descriptive method was the use of the survey questionnaire. The survey is a non-experimental, descriptive research method. Surveys can be useful when a researcher wants to collect data on phenomena that cannot be directly observed. Data are usually collected through the use of questionnaires, although sometimes researchers directly interview subjects (www.ischool.utexas.edu).

Sources of Data:

The main sources of data used in this study were the interview, and survey questionnaire. The interview was conducted with the operations manager of a particular company in First Cavite Industrial Estate (FCIE) while the survey was conducted among the employees of five (5) selected manufacturing companies along First Cavite Industrial Estate (FCIE). The primary sources used in this research were the responses from selected manufacturing companies.

The secondary sources of data were from different materials such as books, other related studies, and online references.

Population and Sampling Procedure:

In this research, the researchers chose 5 manufacturing companies along FCIE to conduct a survey of the employees' which rating of their suppliers. From a total of population of 50 employees from different manufacturing companies, 10 respondents were chosen from each of the companies to obtain information without bias.

The table below shows the breakdown of respondents according to their respective manufacturing companies.

Table 1. Sample Size

Respondent Group	Sample Size	Percentage
Global Ideas Distribution	10	20%
MAHLE Filter System Phil. Corp.	10	20%
Omya Mineral Phil. Inc.	10	20%
Phil. Sanitary Fitting Inc.	10	20%
Polycell Technology Inc.	10	20%
Total	50	100%

4.3 Data Gathering Procedure:

In this study, the researchers conducted interviews and a survey. The interview was undertaken at the main office of the Global Ideas Distribution Company. The researchers made a personal discussion with its operations manager after they approved that we could conduct an interview with the Operations Manager.

The researchers focused on the procedures during the process of data gathering. After the questionnaires were made and approved, the researchers conducted survey among the selected manufacturing companies along First Cavite Industrial Estate. For every selected company, researchers issued the questionnaires to them while the instructions were already indicated on it. The respondents were guided in answering the following questions indicated.

Respondents were given a day to answer the questionnaires. And on the next day, the survey questionnaires were collected. After the collection of the questionnaires, the researchers put it all together for analysis and interpretation.

4.4 Data Gather Instruments:

In this process, a formal interview was used as a primary tool in collecting data and information. The researchers conducted the interview with the operations manager of Global Ideas Distribution Company, using the following set of *Interview Questionnaire*:

1. How do you select your suppliers?
2. What criteria do you use in selecting your suppliers?
3. What are the factors affecting these criteria?
4. What type of sourcing is ideal, the single sourcing or the multi-sourcing?
5. Can you give some advantage and disadvantages of single sourcing and multi-sourcing?

For the survey instrument, the researchers designed the following *Survey Questionnaire Form*:

Company Name: _____

Instruction: Please take a moment to complete this survey to let us know how you rate your supplies. For each of the following criteria, please check (√) the number that describes the performance of your suppliers.

Criteria	Poor	Needs Improvement	Satisfactory	Outstanding	Excellent
Price					
1. Reasonable pricing					
2. Price is suitable to the volume of raw materials					
3. Availability of discounts for large volume of materials					
Quality					
1. Flexibility to improve quality					
2. Consistency of product and service quality					
3. Continuous product development					
Service level					

1. Ability to overcome problems and obstacles that arises					
2. Ability to meet the production needs					
3. Capability to supply as a dependable supplier					
Delivery time					
1. Ability to meet delivery schedules					
2. Shorter lead time					
3. Can respond quickly to emergency deliveries					
Continuous supply					
1. Capacity to supply continuously					
2. Consistency in quality of delivered goods					
3. Ability to supply goods at constant and smaller frequency					
Communication					
1. Listen and understand instruction					
2. Updates on new improvements of materials					
3. Ask suggestions for product improvement					

After the survey questionnaires were validated by a professional, the researchers conducted the survey among the manufacturing companies along First Cavite Industrial Estate. The survey questionnaires were distributed to the employees of selected companies. After the employees received the survey questionnaire, the researchers instructed the respondents so that they would be guided in answering the specified questions. The purpose of the questionnaires was to assess the importance of the various criteria of supplier selection, using the ratings, Excellent, Outstanding, Satisfactory, Fair, and Poor.

The range below was used to interpret the total responses of all respondents per questions to compute weighted mean.

Range	Interpretation
4.01 – 5.00	Poor
3.01 – 4.00	Fair
2.01 – 3.00	Satisfactory
1.01 – 2.00	Outstanding
0.01 – 1.00	Excellent

4.5 Statistical Treatment of Data:

The following statistical methods were used by the researchers for analysis and interpretation.

The Mean:

The mean of a set of values is the measure of center found by adding the values and dividing the total by the number of values. It is used for grouped data.

The formula for weighted mean is:

$$\bar{X} = \frac{\sum x}{n}$$

where:

x= midpoint of every group

n=total no. of respondents

The Weighted Mean and Average Weighted Mean:

The weighted mean is the average wherein every quantity to be averaged has a corresponding weight. These weights represent the significance of each quantity to the average.

The formula for weighted mean is:

$$W_x = \frac{\sum fx}{\sum f}$$

Where:

W_x = weighted mean

x = repeating value

f = number of occurrences

The formula for Average Weighted mean:

$$\text{Average Weighted Mean} = \frac{\sum W_x}{N}$$

where:

W_x = weighted mean

N = total number of indicators

5. RESULTS AND DISCUSSION

This Section presents, analyses, and interprets the data gathered from the survey conducted by the researchers among the employees of selected manufacturing companies along First Cavite Industrial Estate. The collected data were analysed and the relevant findings were then interpreted.

Table 2. Respondents' Assessment of Price as Criteria in Supplier Selection

Indicators	F	Wx	Description	Rank
1. Reasonable pricing	50	2.3	Satisfactory	3
2. Price suitable to the volume of raw materials	50	1.78	Outstanding	2
3. Availability of discounts for large volume of materials	50	1.66	Outstanding	1
Average Weighted Mean		1.91	Outstanding	

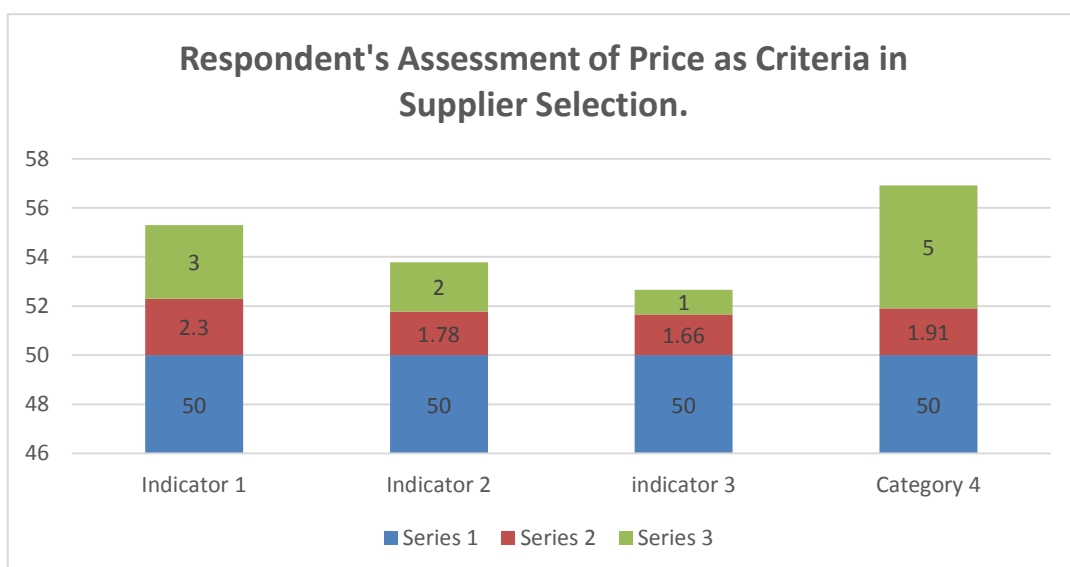


Figure 2

According to the respondents, the indicator “Availability of discounts for large volume of materials” is ranked 1 with an average weighted mean of 1.66. The respondents rated this indicator as “outstanding”. Ranked number 3 is the indicator “Reasonable pricing” with a weighted mean of 2.3, and rated it as “satisfactory” Overall, the respondents’ rating for the price that they get from their suppliers was “outstanding” with an average weighted mean of 1.91.

Price plays a vital role in the process of supplier selection. It has to be balance with the other factors considered in the process. Buying firms conduct price analysis with its potential suppliers to get a more rational price, by this, firms may reduce cost. This is one of their tactics in selecting their suppliers.

Table 3. Respondents’ Assessment of Quality as Criteria in Supplier Selection

Indicators	F	Wx	Description	Rank
1. Flexibility to improve quality	50	2.28	Satisfactory	3
2. Consistency of product and service quality	50	2.14	Satisfactory	2
3. Continuous product development	50	2.08	Satisfactory	1
Average Weighted Mean		2.17	Satisfactory	

Respondents’ Assessment of service Level as Criteria in Supplier Selection

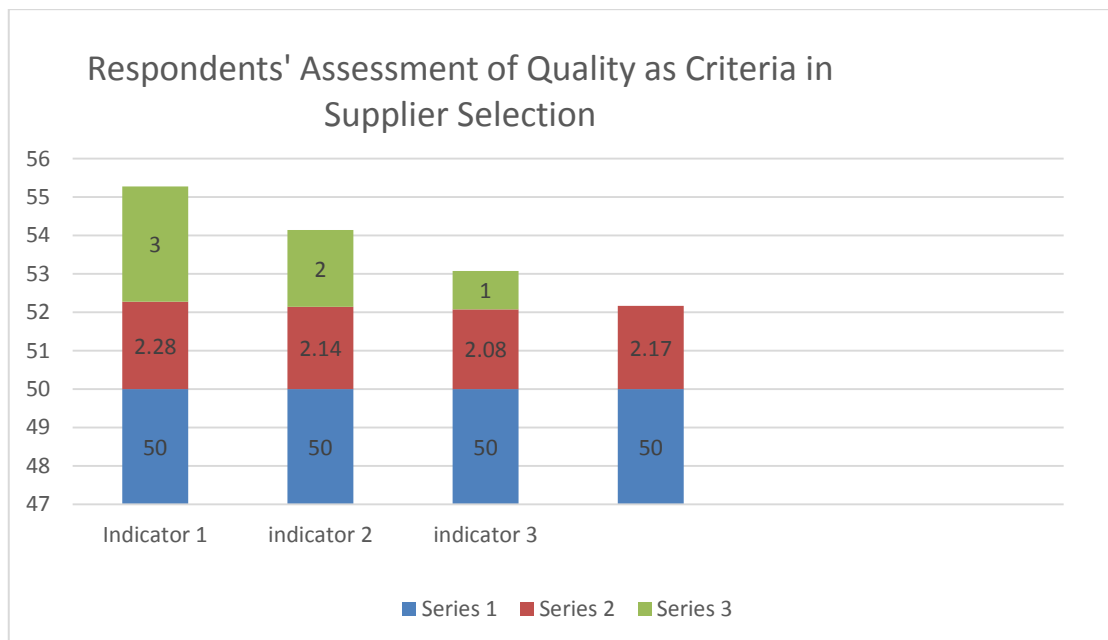


Figure 3

The indicator “Continuous product development” ranked 1 with an average weighted mean of 2.08. The respondents rated this indicator as “satisfactory”. The respondents rated the indicator “Flexibility to improve quality” as “satisfactory” and ranked 3 with an average weighted mean of 2.28. Overall, according to the respondents, the suppliers’ capability to supply high quality products is “satisfactory” with an average weighted mean of 2.17.

Buying firms expect high quality materials from every potential supplier. If the supplier has shown a good background in supplying quality product, it is assumed that it will continue to do so. Flexible suppliers are the one that stays longer in the industry and reliable to their consumers.

Table 4. Respondents’ Assessment of Service Level as Criteria in Supplier Selection

Indicators	F	Wx	Description	Rank
1. Ability to overcome problems and obstacles that arises	50	2.4	Satisfactory	2
2. Ability to meet the production needs	50	2.44	Satisfactory	3
3. Capability to supply as a dependable supplier	50	1.48	Outstanding	1
Average Weighted Mean		2.11	Satisfactory	

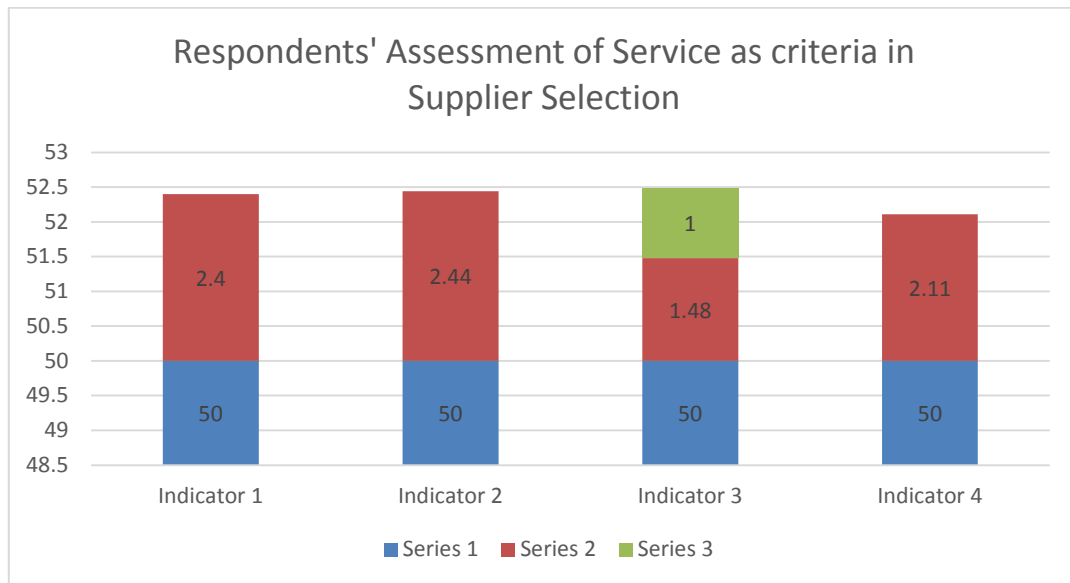


Figure 4

According to the respondents, the indicator “Capability to supply as a dependable supplier” is ranked 1 with an average weighted mean of 1.48 and rated as “outstanding”. The indicator “Ability to meet the production needs” is ranked 3 with an average weighted mean of 2.44. The respondents rated this indicator as “satisfactory” was rated as “satisfactory”. All in all, service level as a criterion in supplier selection was rated as “satisfactory” with average weighted mean of 2.11.

Service level pertaining to supply chain management is the ability to become a dependable supplier. A potential supplier is evaluated based on its capabilities to meet the anticipated demand of the buying firm. Supplier must be selected based on its supply chain capability. Suppliers have to satisfy minimum overall performance standards. By this, they will have a better continuity business relationship and both parties will benefit.

Table 5. Respondents’ Assessment of Delivery Time as Criteria in Supplier Selection

Indicators	F	W _x	Description	Rank
1. Ability to meet delivery schedules	50	2.28	Satisfactory	3
2. Shorter lead time	50	2.18	Satisfactory	2
3. Can respond quickly to emergency deliveries	50	2.02	Satisfactory	1
Average Weighted Mean		2.16	Satisfactory	

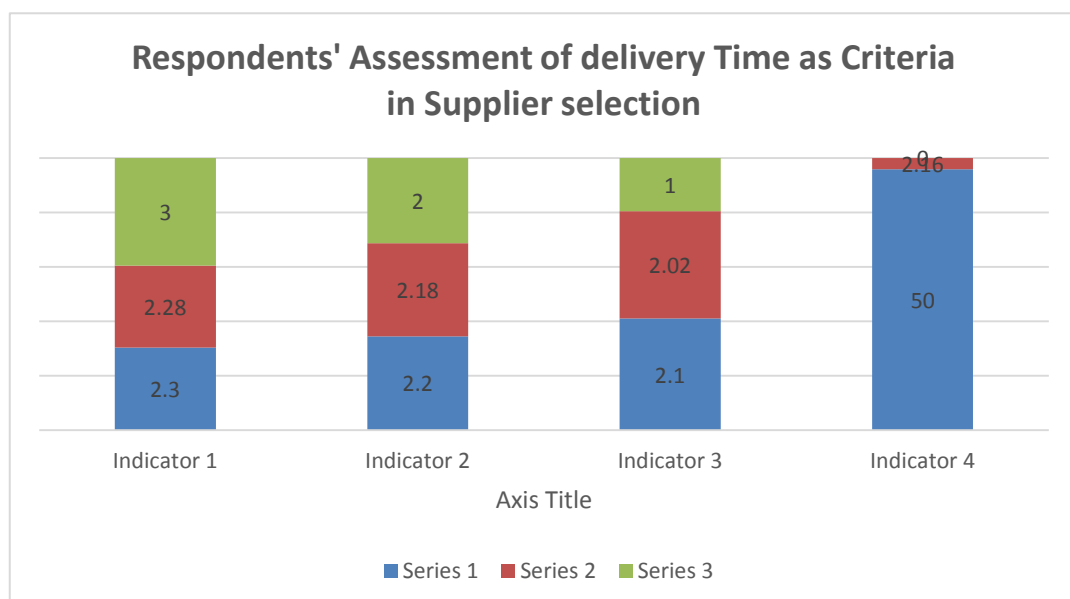


Figure 5

According to the respondents, the indicator “Can respond quickly to emergency deliveries” is ranked 1 with an average weighted mean of 2.02. The respondents rated this indicator as “satisfactory”. Ranked 3 is the indicator “Ability to meet delivery schedules” with a weighted mean of 2.28, and rated it as “satisfactory”. Overall, according to the respondents, the suppliers’ capability to deliver on time is “satisfactory” with an average weighted mean of 2.16.

In business world, everything is very unpredictable. A reliable. A reliable supplier will always be prepared to meet such emergencies. The capacity of the suppliers to improve their on-time delivery was affected by buyer and supplier process input. The volume and frequency of supplies become the primary focus to improve effective delivery.

Table 6. Respondents’ Assessment of Continuous Supply as Criteria in Supplier Selection

Indicators	F	Wx	Description	Rank
1. Capacity to supply continuously	50	2.5	Satisfactory	3
2. Consistency in quality of delivered goods	50	2.42	Satisfactory	2
3. Ability to supply goods at constant and smaller frequency	50	2.2	Satisfactory	1
Average Weighted Mean		2.37	Satisfactory	

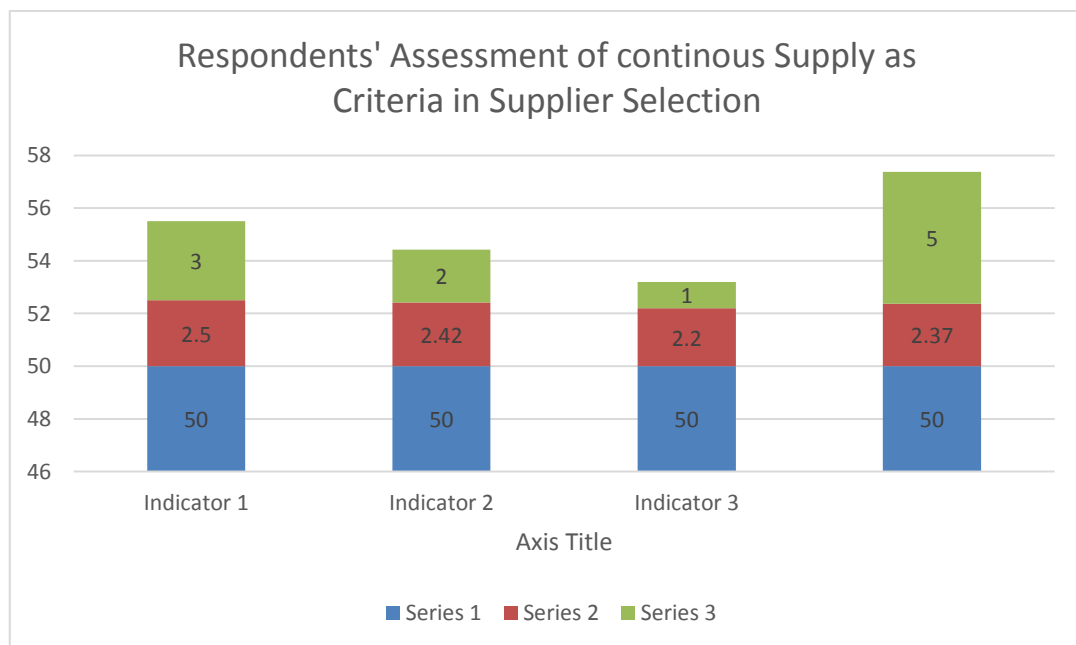


Figure 6

The indicator “Ability to supply goods at constant and smaller frequency” ranked 1 with an average weighted mean of 2.2. The respondents rated this indicator as “satisfactory”. On ranked number 3, the indicator “Capacity to supply continuously” was rated as “satisfactory” with an average weighted mean of 2.5. Overall, the respondents’ rating for continuous supply as a criterion in supplier selection is “satisfactory” with an average weighted mean of 2.37.

Selecting the best supplier should not merely be based on the previous performance but also to its capacity to supply continuously and to its future capabilities as well. The continuous development of a supplier reflects its competitiveness.

Table 7. Respondents’ Assessment of Communication as Criteria in Supplier Selection

Indicators	F	Wx	Description	Rank
1. Listen and understand instruction	50	2.32	Satisfactory	3
2. Update on new improvements of materials	50	2.12	Satisfactory	2
3. Ask suggestions for product improvement	50	1.88	Outstanding	1
Average Weighted Mean		2.11	Satisfactory	

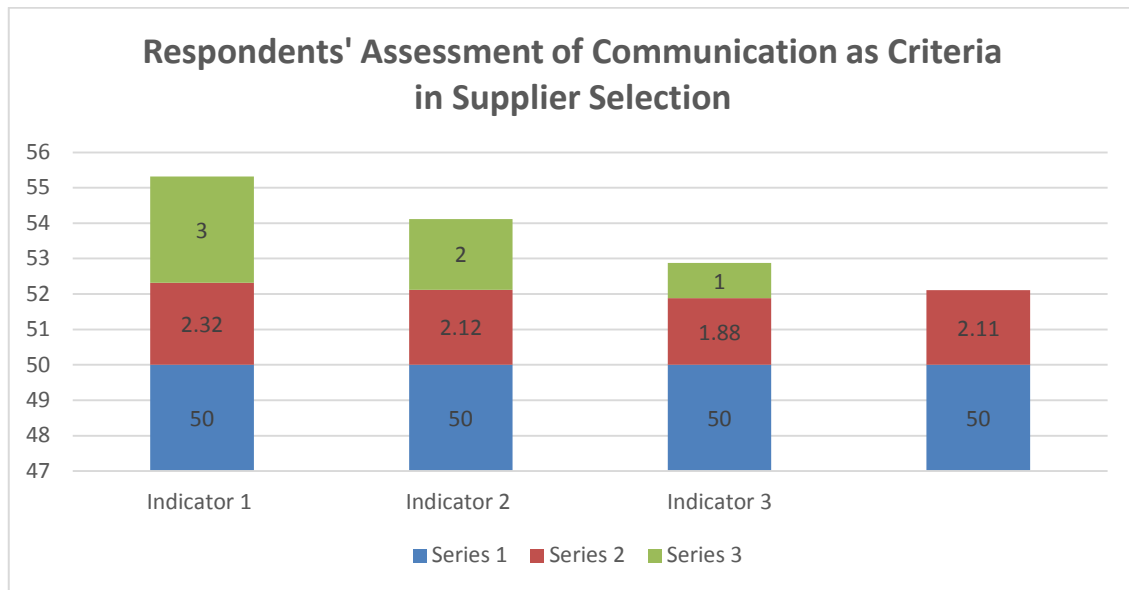


Figure 7

The indicator “Ask suggestions for product improvement” ranked 1 with an average weighted mean of 1.88. The respondents rate this indicator as “outstanding”. The respondents rate the indicator “Listen and understand instruction” as “satisfactory” and ranked 3 with an average weighted mean of 2.32. Overall, according to the respondents, the capability of the suppliers to communicate is “satisfactory” with an average weighted mean of 2.11.

The commitment of the supplier to its buyer leads to the improvement of performance which is a competitive advantage to both parties. Promoting communication effectiveness would include cooperation, commitment, and long term relationship. Communication process can be more important than other issues to improve business relationship.

Table 8. Summary of the Respondents’ Assessment on Criteria in Supplier Selection

Criteria	Wx	Description	Rank
1. Price	1.91	Outstanding	1
2. Quality	2.17	Satisfactory	5
3. Delivery Time	2.16	Satisfactory	4
4. Service Level	2.11	Satisfactory	2.5
5. Continuous Supply	2.37	Satisfactory	6
6. Communication	2.11	Satisfactory	2.5
Average Weighted Mean	2.14	Satisfactory	

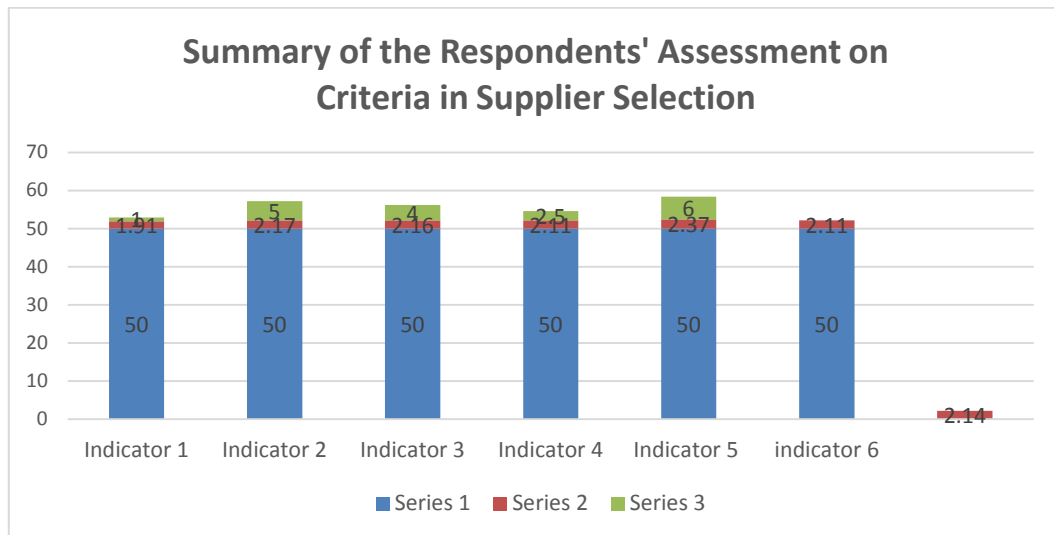


Figure 8

The summary shows that “Price” as a criterion in supplier selection is ranked number 1 with an average weighted mean of 1.91, and rated as “outstanding”. On the contrary, the criteria “Continuous Supply” ranked number 6 with an average weighted mean of 2.37 and rated as “satisfactory”. Overall, according to the respondents, the criteria needed in the process of supplier selection are “satisfactory” with an average weighted mean of 2.14.

Price is the most essential factor in supplier selection. It is use as an indicator of quality. It affects the competitiveness of a supplier to its competitors in terms of reasonable pricing. A firm is effective and competitive when considering these criterions. It is a known fact that the evaluation and selection of suppliers is complicated for manufacturing companies. It is just shows that companies do not base their selection decision merely on price but also to other criteria.

Overall, the respondents assessed the criteria in supplier selection, rating the criteria on a scale based whether it is excellent or poor. The resulting data shows that these criteria play a vital role in selection of suppliers by manufacturing companies.

6. CONCLUSION

This Section presents the summary of the study, the conclusions derived from the data gathered. As may be recalled, the researchers sought answers to the following question:

1. What are the factors to be considered in choosing a supplier in terms of the following?
 - a) Price
 - b) Quality
 - c) Service level
 - d) Delivery time
 - e) Continuous supply
 - f) Communication

7. SUMMARY OF FINDINGS

The salient findings of the study are the following:

1. The respondents, with an average weighted mean of 1.91, had an outstanding feedback for the “price” that they get from their suppliers.
2. With an average weighted mean of 2.17, the respondents described the “quality” of the products that they get from their suppliers as satisfactory.

3. With an average weighted mean of 2.11, the respondents described “service level” as a criterion in supplier selection with satisfactory.
4. The respondents, with an average weighted mean of 2.16, agreed that “delivery time” as a criterion in the process of supplier selection is satisfactory.
5. The respondents’ description of suppliers’ capability in “continuous supply” is satisfactory shown by the average weighed mean of 2.37.
6. Having an average weighed mean of 2.11, the respondents agreed that “communication” between the firm and its suppliers is satisfactory.

8. CONCLUSION

Based on the findings of the study, the following conclusions can be are drawn:

1. Suppliers with dependable pricing capability are reliable to every manufacturing company. If one of the suppliers increased price, a firm may go for the back-up supplier. Offering discounts could be a good indicator for the suppliers to have a better relationship with their consumers.
2. In business, companies are stringent when it comes to the quality of the products. Therefore, they are considering the best qualified suppliers who has the capability to provide high quality materials and consistent in product development.
3. Service level is an essential criterion that supplier must consider to be a dependable supplier. Otherwise, poor service performance will result to bad business relationship.
4. The production of manufacturing companies relies on supplier’s lead time because it has an effect on material shortage. Therefore, the ability of the suppliers to deliver goods quickly when there’s an emergency get higher evaluation from their customers.
5. Most of the supplier of every manufacturing company are capable to supply continuously with enough number of material needed.
6. Indistinct communication between the suppliers and their customers could affect their business relationship. Listening to introductions and asking suggestions is an important response from a supplier to get the interest of their consumers.

9. RECOMMENDATIONS

Based on the findings and conclusions gathered, the researchers would like to recommend the following:

1. The supplier should take into consideration the communication as a tool for better relationship between buyer and seller. They should also consider the suggestions or opinions of manufacturing companies for their product improvement.
2. The manufacturing companies should not merely focus on the quality of materials delivered but also to its continuous development. They should consider the fact that it affects the profitability of products to be produced.
3. All significant departments in the organization must be involved in the process of supplier selection to have a better evaluation for the best qualified suppliers.
4. Manufacturing companies should consider a new set of criteria in selecting the most reliable suppliers.

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REFERENCES

- [1] Krajewski, Lee J. and Ritzman, Larry P. “*Operations Management Strategy and Analysis*” 1990, 1996.
- [2] Ayers, James B. “*Supply Chain Project Management*” Florida: Auerbach Publications, 2010.

- [3] Benton, Jr., W.C “*Purchasing and Supply Chain management*” New York: Mc Graw Hill, 2010.
- [4] Jobber, David “*Principles and Practice of Marketing*” 5th Ed., New York: Mc Graw Hill, 2007.
- [5] Lall, Vinod “*Effective Operations and Performance Management*” London: Bloomsbury Info. Ltd., 2010.
- [6] Sonmez, Mahmut (2006), “Review and Critique of Supplier Selection Process and Practices, Occasional Paper 1, Loughborough Business School, Loughborough University
- [7] Swink, Melnyk, Cooper, and Hartley “*Managing Operations across the Supply Chain*” New management” New York: Mc Graw Hill, 2010.
- [8] Benton, Jr., W.C, and mcHenry, Lida F. “Construction Purchasing and Supply Chain Management” New York: Mc Graw Hill, 2010.
- [9] Crandall, Richard E., Crandall, William R., and Chen, Charlie “Principles of Supply chain management” CRC Press, 2010.

ONLINE REFERENCES:

- [10] <http://www.articlerich.com/Article/Advantages-Of-Having-A-Single-Supplier/227599>
- [11] <http://www.medifas.net/IGLS/Papers2012/Paper090.pdf>
- [12] <http://sutir.sut.ac.th:8080/sutir/bitstream/123456789/3783/1/v15n3p201.pdf>
- [13] <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.107.9600&repl&type=pdf>
- [14] http://www.ijhssnet.com/journals/Vol_2No_14Special_Issue_July_2012/23.pdf
- [15] <http://thescipub.com/pdf/10.3844/ajeassp.2012.49.52>
- [16] <http://www.wikikipedia.org/>
- [17] <http://www.ischool.utexas.edu/~palmquis/courses/survey.html>