

Effects of the Supplier Selection Process on Post-Contract Supplier Performance

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ABSTRACT

This research investigates the supplier selection processes of an automotive production supplier in the automotive industry. The investigation analyzes frameworks from the literature related to the supplier selection process and relates them to the methods of supplier selection in the analyzed case. This method identifies how a successful supplier can be chosen. Recommendations on how the company might be able to improve their processes are discussed and suggestions are given as to how a buyer can help a supplier in being successful upon commencing business.

Keywords: Supplier Selection, Post-Contract Supplier Performance

1. INTRODUCTION

According to Gonzalez, Gasco, and Llopis (2009), reasons for outsourcing include: focusing on strategic issues, increasing flexibility, improve quality, getting rid of time consuming routine tasks, facilitating access to technology, saving staffing costs, and saving technology costs. With numerous vital tasks being outsourced, the selection of who they are sourced to become a crucial process in the company's future success.

The process of a supplier selection is based on tangible and intangible criteria. Ng (2010) outlines that despite a common criteria being used among various suppliers, the process is tailored to the reason the purchase being made and the nature of the transaction. With the growing reasoning for outsourcing, and the risk associated with the transaction, the processes and methods used to perform these tasks are ever changing. Since the chosen supplier becomes an integrated part of the company's supply chain, the overall goal of the process is to select a supplier who will add value to the supply chain.

In the process of supplier selection there is no one method or criterion, which is used across all industries and sectors;

each company has its own methods in which it uses to choose the suppliers which best fit its needs. Even within a company, usages of suppliers may vary. Therefore the purpose of the research is to analyze and evaluate the supplier selection process of an automotive supplier and relate it to the performance of the supplier after commencing business. The key performance indicators, which will be analyzed, are the ones that the customer had used in the decision making process, and relate them to the performance of the supplier upon the startup of business. Through the analysis of the supplier's performance, an evaluation will be made on the thoroughness of the supplier selection process of the buyer. This will help to further identify any areas where the supplier selection processes may need to be refined. This study will further identify the main factors that can lead to the selection of a successful supplier, while our findings can be utilized throughout the automobile industry.

The structure of the article is as follows: the next section discusses the literature on supplier selection while section 3 reviews the methodology employed in this research. Section 4 presents the findings and discussion while the fifth and the final section draws on conclusions and recommendations regarding the supplier selection process.

2. LITERATURE REVIEW

According to Beil (2009:1), “supplier selection is the process by which firms identify, evaluate and contract with suppliers.” Gulen (2007:1-2) describes that the objective of supplier selection and outsourcing is not only to benefit the buyers’ reduction of materials and service cost, but also to develop a long-term buyer/seller relationships. Therefore when companies are striving to obtain competitive advantage they often adjust their outsourcing strategies.

In the United States manufacturing, according to the US Census bureau (2006), companies spend approximately half their yearly revenue in purchasing materials and services. Therefore it becomes the primary goal of the purchasing department to determine the supplier or suppliers, which will provide the best product and/or service for the best price (Beil, 2009; Khorramshahgol, 2012). Thus, in order to effectively select the right supplier, often a rigorous supplier selection process is undertaken.

Beil (2009) suggests that a typical supplier selection process consists of the following steps: identifying potential suppliers, information request from supplier, contract terms, negotiating process, supplier evaluation, and contract award. This process is then adjusted to meet the specific criteria of each company in their effort to choose the right supplier. The following sessions will briefly discuss these selection process stages.

2.1. Identifying Potential Suppliers

There are two routes which can be taken when identifying the need for a supplier: either to develop a current supplier, or to seek out a new supplier. Both routes can provide advantages and disadvantages for the buyer, but through understanding the need for a supplier, the advantages and disadvantages can be weighed in order to choose a successful supplier.

The development of an existing supplier is a popular route and many companies select their suppliers from a preferred vendor list (Nydick and Hill, 1992) since most existing suppliers have been through the extensive selection (Gardenal, 2013). This along with the ability to further develop the relationship with a current supplier, the buyer/supplier relationship can be further established (Beil, 2009). Identifying potential suppliers is both costly and time consuming, as it requires a lot of attention to

detail. Therefore with a preferred vendors list, companies can expedite their selection process and minimize costs through the usage of e-procurement.

On the other hand the selection of a new supplier also provides numerous possibilities when the use of an existing supplier may not. Companies can find new suppliers who use unique technologies and processes or offer lower prices because of lower wages in their area or lack of regulations from governing bodies (Beil, 2009). However some disadvantages are that this process can be time-consuming and often costly since the buyer conducts a thorough check and analysis of various aspects of the new vendor.

2.2. Information Request from Supplier

After the potential suppliers have been chosen, an information request is made to the supplier in the form of: Request for Information (RFI), a Request for Proposal (RFP), and/or a Request for Quote (RFQ) (Beil, 2009). These information requests are used to identify what the supplier has to offer in terms of meeting the buyer’s objectives.

The RFI is for the supplier to identify how they can meet the buyer’s objectives. Even though the identification process may have narrowed down a ‘long list’ of suppliers, the RFI will help compile a shorter list to proceed further along the process. It is often best practice in purchasing that the organisation identifies in brief their objectives and request the vendors to provide information on how they will meet these objectives (Reed, 2010:3). Upon successful shortlisting from the RFI, a vendor proceeds to submit a RFP.

The RFP is a more detailed version of an RFI. This is intended to produce a group of shortlisted vendors and usually contains the performance required by the buyer. This pertains to the areas of quality and flexibility. This is where the vendor will explain in detail how they will meet the buyer’s requirements for improved performance (Beil, 2009:6). The RFP allows the vendor to work with what was set forth by the buyer and to issue an estimate of how much it would cost to run the operation. During this stage buyers are also acquainted with the staff at the vendors’ (Reed, 2010:5) and the buyer then proceeds to the final stage.

A final source of information requested is a RFQ. This is the supplier detailed quote on how they will meet the buyers’ requirements. This quote is based on a statement

of work (SOW). According to Beil (2009), this final quote will be what the buyers will analyze when evaluating all the bids which have been issued.

2.3. Contract Terms, Negotiating Process

In the process of selecting the ideal supplier, contract terms are created and negotiations take place. These terms often include payment type, consequences for inability to perform, terms of the contract and so on. Typically these contract terms and negotiations are conducted in parallel with the information requesting processes (Beil, 2009:9). This is to encourage competitive bidding among vendors as well as strengthen the negotiating power of the buyer. This stage of the process often varies in terms of whether the bidding is from new suppliers or from which the buyer has a pre-existing relationship with (Barbara, Perdue and Summers, 1991: 175-176). These negotiations paired with the request for information stage are what provide the criteria for the evaluation of the vendors.

2.4. Overview of Multi-Criteria Decision Making

The process of supplier evaluation has been commonly referred to as multi-criteria decision-making (MCDM) since the evaluation and selection of suppliers is based on a wide array of criteria (Agarwal, Sahai, Mishra, Bag and Singh, 2011; Ferreira and Borenstein, 2012; Farughi, Azar, Sadeghi, Naseri and Hajebi, 2011; Bag, 2012). A study done by Agarwal *et al.* (2011) explores the multi-criteria decision making (MCDM) used in the manufacturing industry as an approach to evaluating different suppliers for the different needs of the companies. It further discusses how the process of supplier selection has shifted from an operational function to that of strategic partnerships. "During the past few decades, different approaches have been proposed to evaluate, select and monitor the potential suppliers while considering multiple conflicting criteria, employing methodologies and techniques from diverse fields of OR, artificial intelligence and decision theory" (Ferreira and Borenstein, 2012:260). According to Agarwal *et al.* (2011:801), the theory implies that the buyer will "identify the top priorities of selecting the best supplier based on its working style and the industry type". These priorities will then be used to identify a criterion which the buyer wishes their ideal supplier to meet.

As touched upon by Chatterjee and Chatterjee (2012:393), the need for suppliers to meet customer demands "is one of the most challenging problems in real time manufacturing

environment." In an industry such as the automotive, just-in-time (JIT) manufacturing has become the keystone of remaining competitive in the current environment. Aksoy and Öztürk (2011) argue that with the popularity of JIT manufacturing the supplier selection and performance evaluation in long-term relationships have become more critical in JIT production environments. MCDS allows buyers to analyze the complexity of their supplier on a detailed scale so they can match the suppliers' qualities with the detailed criteria they have established.

2.5. Methods of Supplier Evaluation

In supplier evaluation, there are few published methods of supplier evaluation. The predominant methods of supplier evaluation according to an early research are; categorical method, weight point method, and cost-ratio method (Thompson, 1990). These methods which are still in use today are established to meet the goals of the buyer conducting the evaluation.

The categorical method is a form of evaluation, which utilizes a qualitative model. This method uses the company's "historical performance and the buyers experience" while the vendors provide a rating with a scale of 'positive,' 'neutral,' and 'negative' according to those categories that the buyer sees more important (de Boer, Labro and Morlacchi, 2001:80).

The method of weight point is that each category being measured is assigned a weighted value. This method is also referred to as a supplier scorecard. These weighted values are then calculated versus the suppliers viewed performance in each category. The system provides a numeric calculation for the supplier performance (Arnanand Shank, 2011). This method is more reliable than the categorical method and is ideal due to its minimal time consumption according to Arnanand Shank (2011). However, this method does not compute an accurate comparison of each company's performance in relation to the others.

Finally the cost-ratio method and total cost of ownership method (TCO) are methods, which account for the total cost it will be required in order to run the operation. This method accounts for non-performance costs that a company might incur. The difference between the two is that cost ratio focuses on the price, whereas TCO focuses on multiple criteria in its calculation (Arnanand Shank, 2011). The comprehensiveness of these methods is unmatched by the two other methods, but can be very time consuming to create and maintain.

2.6. Supplier Selection and Contract Award

Upon the completion of the supplier evaluation a supplier is then selected. The supplier chosen is not always the one that scored the highest evaluation. This is because external evaluation dimensions which were not included in the evaluation process are now included. According to Beil (2009), some external reasons that exceed the characteristics provided in the evaluation are: under advantaged or misrepresented businesses, supplier diversity, supplier location, or supplier potential. Further demographic related criteria are also considered, such as organisational culture and geographic location (Chang, Wang and Wang, 2007). This gives depth to the MCDM, which now stretches beyond just simple cost, quality, and reliability.

2.7. Supplier Performance Monitoring

Once a supplier is awarded a contract, the evaluation of their performance does not stop. Supplier monitoring is not only in place to ensure that the supplier meets the targets set out in their agreement, but also to ensure performance in many other areas like quality and continuous improvement. Since the product/service, which a supplier produces is to adhere to the same standards; the buyer will continue to monitor the supplier throughout the lifetime of the contract.

According to Gulen (2007), some of the major areas, which are reviewed in supplier monitoring, are: vendor quality, delivery performance, performance metrics, and materials management. These areas are often of concern since most of the performance indicators provided during the process are obsolete or miscalculated by the supplier. The purpose of post-contract monitoring is often neglected according to Chartered Institute of Purchasing and Supply (CIPS, 2012:1). This can happen because of under resourcing after the selection process. However, it is important that the continuous monitoring should be focused around two major components: to ensure the supplier attains the performance levels stated in the contract and to identify continuous improvement in the suppliers' processes and operations (CIPS, 2012:2).

2.8. Supplier Performance Management

According to CIPS (2012), supplier performance monitoring is part of managing the relationship with the supplier. The growing emphasis on developing buyer-supplier relationships has become a main goal when

selecting suppliers (Beil, 2009). Gordon (2005) argues that the need for measuring supplier performance means that:

1. "You can't manage what you don't measure"
2. "If you monitor a supplier, they will improve"
3. You can identify excess costs in the supply chain
4. "You can facilitate supplier performance improvement".

Also, CIPS (2012) suggests that monitoring the suppliers' performance post contract can be done by reviewing three different aspects of the supplier.

1. Gather factual data of suppliers' performance.
2. Obtain remarks on customer satisfaction (for services).
3. Reviewing suppliers experience from working with the buyer.

CIPS (2012) also states that the use of a supplier scorecard or supplier performance index to assess the performance of the supplier throughout the duration of the contract, provides a foundation to compare the initial evaluation conducted during the selection process.

According to Stank and Goldsby (1999), both operational performance and relational performance have large effects on satisfaction of the buyer-supplier relationship. Gunasekaran *et al.* (2002) proposed that the alignment of the buyer-supplier views will help improve not only the satisfaction of both parties by also add support to the further development of the relationship. Similarly, Benton and Maloni (2004) argued that a supplier's satisfaction is also rooted in the success of the buyer's business since the prosperity of the buyer's business may insinuate continuous business for the supplier.

Additionally, continuous supplier monitoring according to Benton and Maloni (2004) is a proactive approach, which has a significant positive effect on the suppliers' satisfaction and consequently supplier satisfaction has a positive effect on the suppliers' performance. Therefore this research will work towards understanding the success of a supplier through the continuous supplier monitoring perspective.

2.9. Methods of Performance Management

The implementation of various assessment systems can be utilized when measuring a suppliers' performance. Both the buyer or a third party can conduct these assessments.

Some predominant methods of data collection according to Gordon (2005) are internal feedback surveys, supplier assessments, and imported data.

Internal feedback surveys can be conducted through questionnaires, meetings/interviews with the suppliers, and/or site visits. This allows the buyers to collect information directly from the supplier (Gordon, 2005). Through this personal contact with the supplier, not only can issues pertaining to the suppliers' performance can be address, but as stated earlier, this proactive approach will improve the relationship between buyer and supplier (Benton and Maloni, 2004; Kumar *et al.*, 2012).

Another method of managing supplier performance is through the analysis of operational data provided by the supplier. This data according to CIPS (2013) helps buyers to monitor suppliers and to better review their suppliers' performance.

A third method is through third party certification. Many organisations are requiring suppliers to attain various certifications such as International Organization for Standardization (ISO) (Gordon, 2005). According to ISO (2012) reasons for organisations seeking suppliers with ISO certification are:

- ◆ "Be a contractual or regulatory requirement"
- ◆ "Be necessary to meet customer preferences"
- ◆ "Fall within the context of a risk management program."
- ◆ "Help motivate staff by setting a clear goal for the development of its management system."

Based on the reviewed literature of supplier selection processes, and continuous supplier monitoring processes, readers can understand the dedication organisations have when selecting and managing their suppliers. With the majority of an organisation's costs being derived from the purchasing of outsourced goods and services, numerous processes are implemented in an organisation through various pre-selection, selection, and post-selection processes in order to insure that the supplier or suppliers which they have selected is the optimal fit for their organisation's goals and needs (Gulen, 2007).

3. RESEARCH METHODOLOGY

The implementation of social research within business researchers' work is to bridge relationships between the theories and the practices. As in any research, the goal is to explore, describe, and explain details and findings

related to the topic, which is being researched (Taflinger, 1996). In social research, there are two avenues in which research is conducted; the phenomenological approach and that of the positivist approach.

In this research, since the goal is to obtain and interpret information pertaining to an individual case, the phenomenological approach will be used. The information is gathered through a series of interviews as well as in house observations conducted by the researchers. Through this approach an analysis of the buyer's and supplier's selection processes can be conducted, as well as an analysis of the relationship between buyer and supplier can be observed. Through this analysis a conclusion is drawn to understand the performance of the buyer's supplier selection process.

A case study approach is utilized to investigate a research topic within its context or among "a number of real life contexts" Saunders, Lewis and Thornhill (2012:137). The usage of a case study provides benefits when an in-depth "understanding of the context of the research" is required (Eisenhardt and Graebner, 2007:137). Similarly, the use of a case study is beneficial in order to explore the 'what', 'why', and 'how' questions of the research topic (Yin, 2009 and Johansson, 2003: 2). According to Yin (2009), there are four different case study strategies; single case, multiple cases, holistic cases, and embedded cases. In the usage of case studies, methods such as interviews, observations, and questionnaires are utilized in collecting data to formulate the case.

The utilization of a single case study for this research was ideal for numerous circumstances. Reasons for this include the researchers' involvement within the company that is investigated. This allowed for the data to be collected not only from interviews, but also from personal observations. Since interviews yield the possibility of errors and bias', the addition of personal observation carries the benefit of utilizing triangulation. The use of triangulation is to ensure that the data which you are receiving is to the best of the researchers' knowledge—accurate. Through the two methods of attaining data, the researchers will attempt to assemble a detailed real life case study for the investigation.

In this research the primary method is semi-structured interviewing. This allows the interviewees to further describe in-depth information into the supplier selection processes, as well as information into the supplier's performance. We interviewed five people from the buyer company and three people from the supplier company. The participants from the buyers company are all members

who are involved in the supplier selection processes of the company, as well as in the continuous supplier monitoring. This enabled us to attain a detailed response regarding the processes utilized by the company, as well as gain a first-hand experience with the ongoing process. The interviewees for the supplier are individuals who were involved in the bidding process for the contract as well as are involved in the company's continued operations with the buyer. This allowed us to understand the supplier's point of view and to observe areas such as supplier satisfaction, as well as the supplier's involvement in the selection process.

The use of template analysis in this research allowed us to categorize the data from the interviews and observations as well as link it back to the literature. Furthermore with the use of semi-structured and unstructured interviews, much of the data being collected may not necessarily produce similar answers across interviewees. Thus, this method allows the researcher to code the data in a more reliable manner across the various interviews.

4. FINDINGS AND DISCUSSION

This section presents the data collected throughout the research in two parts. Firstly the data from the selection process are presented to illustrate the process utilized by the buyer. Next the data collected regarding the supplier's post-selection performance are categorized and contrasted with the performance indicators in the supplier monitoring research.

4.1. Company Overview

The buyer is a second tier sequencer, assembler, and supplier to a larger automotive manufacturer in North America. The company is the sole supplier for their unique automotive parts. They supply pre-assembled parts for over 230,000 vehicles produced by the vehicle manufacturer.

The current contract, which is being investigated, was established five years ago when the buyer attained new business from the manufacturer. The business for the component parts was then outsourced in order to allow the new production line in the buyer's new facility. With this new business, the buyer now produces parts for four vehicle lines. These vehicles are all manufactured on the same assembly line; therefore the component parts need to be sequenced.

Production levels of these vehicles are issued seven days

prior to their production date. This means the supplier's operation needs to effectively manage their product schedule and inventory levels in order to effectively meet the build schedule.

The supplier, which is being analyzed, is a tier-three assembler and sequencer to the buyer, as well as a general freight company. The supplier is ISO 9000 certified at both operating facilities in which they run. According to the company's founder and president, "*the supplier is a manufacturer which prides themselves in providing quality and efficient service while providing and attaining a high level of customer satisfaction*".

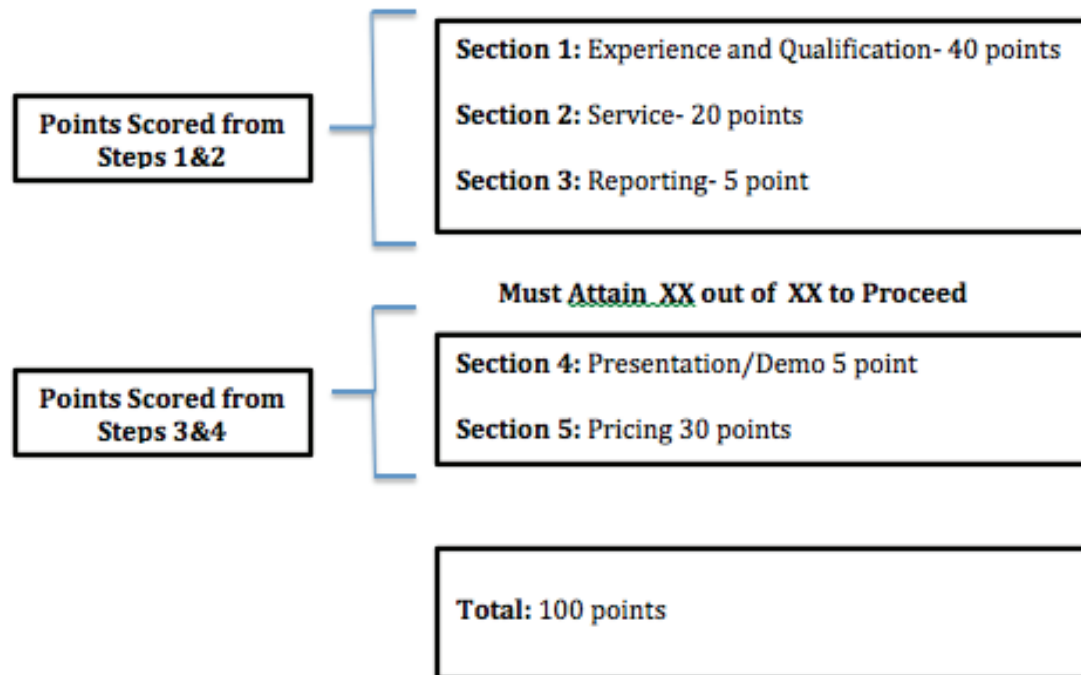
4.2. The supplier Selection Process in Company X

The process, which was utilized during the selection process of this particular contract, was a four-part two-stage process, which was scored on a supplier evaluation-scoring matrix. The selection process followed the stages and steps identified by Beil (2009). Stage 1 includes step 1: review of mandatory requirements, step 2: review of written submissions, step 3: supplier interviews and presentations and step 4: quoting and pricing while Stage 2 incorporates step 5: supplier scoring and evaluation and step 6: contract negotiations and selection.

In the selection process, each category is further broken down to meet the objectives of the procurement venture. In the procurement the buyer seeks to review their preferred supplier list when an existing contract expires. In the case of an existing supplier, 'Steps 1 and 2' are often unnecessary since the suppliers' information already exists in the purchasing system, and is frequently updated to insure accuracy. However since this was a new business venture for the buyer, the full process was conducted.

Breaking down the selection process, 'Step 1' includes requirements such as ISO 9001. Certification is a requirement of most of their suppliers, however not always mandatory. In this purchasing process the requirements included ISO 9001 certification that the company was within 30 kilometers of the manufacturing facility and has had experience in related automotive production. The requirement of ISO 9001 certification is required since it illustrates that the supplier has met certain standards; standards of which are adherent with the buyer's objectives. The requirement of having suppliers within a short vicinity of the manufacturing facility is to optimize the potential lead-time. With shortening the distance travelled for delivery, the company can minimize the

Figure 1: Example of Supplier Scorecard (constructed by the authors)



amount of inventory on the warehouse floor, while also allowing for immediate response in the case of a product related issue. The requirement of having experience in a related product field helps to minimize the training time needed to establish the business. These requirements were set in place in order to reduce the amount of bidding suppliers to a manageable amount and to meet the main objectives of the buyer.

The next step in the process of written submission is to allow for the decreased list of bidding suppliers to receive a statement of work, and provide a detailed submission of how they will meet the work order. These responses are then reviewed in a consensus meeting where all members score each of the suppliers' answers on a predetermined scaling criterion, where certain questions carry a high weighted scoring than others. Based on the scores in this section, and the predetermined supplier threshold, the consensus board decides who will proceed to 'Step 3.'

In this step, suppliers present their cases to the consensus board. These presentations allow the bidding suppliers to illustrate how they will meet the needs of the buyer. These interviews are often supplemented with site visits. Since the requirement to progress in this selection process was to have performed related business, site visits were utilized so that a firsthand view of the working operations could be seen. This stage of the process still utilizes the

established criteria, which would have been discussed in the presentation, and the bidding suppliers' were scored based on these criteria. During this step, the company is able to make notes on the operation and performance of the supplier. Major criteria specific to this case included historical quality and performance costs, management leadership, operational capacity, financial stability, timing to support the program, location. Often the bidding suppliers, who have progressed this far in the process, will all advance to 'Step 4' unless the presentation and/or site visit was disproving to the consensus board.

In 'Step 4,' the bidding suppliers provide a quote for which they will accept to perform the work. This quote is then ranked in order of highest to lowest. The lowest price will receive full points for this area, and the other points are determined through calculating its relation to the lowest score. Once all the scores from the previous steps are calculated, the bidding suppliers advance to 'Step 5'.

In the scoring and evaluation process, each supplier's values are inputted into the established supplier scorecard. This supplier scorecard contains the pre-established weight criteria for each part of the selection process. The maximum score a supplier can receive is 100. An example of a scoring method utilized in the procurement of production services is shown in Figure above.

Table 1: Questions about Supplier Selection Process

Question 1: Throughout the supplier selection process, which 'Step' in the process do you view as most important in a supplier success of being selected?
Question 2: Of the selection criterions used in the supplier selection process, which do you view as the most important?
Question 3: Of the selection criterions used in the supplier selection process, which do you view as the least important?
Question 4: How important is cost in selecting a supplier?
Question 5: How do you decide whether to employ an existing/preferred supplier or not?
Question 6: What criteria would you like to see added to the supplier selection process?
Question 7: What do you look for in a site visit?
Question 8: What if there are no acceptable suppliers in the required distance from the manufacturing facility?
Question 9: What criteria separated the chosen supplier from the other suppliers?
Question 10: Has the supplier met the objects set out in the selection process? If no, what has been different?

Once the bidding suppliers are scored, the Executive Staff of the consensus board will view the scores of each supplier, and issue an award to the top supplier, as well as the second highest supplier in case the awarding supplier fail or is unable to meet their contractual obligations. Once the selection is made, the buyer and supplier draft a contract, which includes all the terms of the business.

Since the buyer is a tier-two supplier to another manufacturer, a failure to meet demand because of a supplier issue would result in heavy penalties for the buyer. To avoid this, the buyer has a back-up supplier who will obtain the business if the present supplier is unable to perform their contractual agreements. Once a supplier enters a contract with the buyer, an ongoing evaluation of the supplier's performance is undertaken in order to insure the supplier meets their contractual obligations. However due to limited resources; both time and money; the analysis of the KPI's of a supplier are only used for this purpose, and not during supplier selection. The continuous monitoring promotes a proactive involvement in the suppliers business to aid them in maintaining the business.

The interviewees have been chosen because of their involvement in the process of selecting the supplier for the current contract, and continuous involvement with that supplier. The interviews have been coded as stated in the methodology chapter in order to provide an efficient review of their answers. Table 1 above summarizes the questions asked regarding the supplier selection process.

Through the first five questions the respondents have reached a consensus regarding various important 'steps' and criterions within the supplier selection process. In questions 1, 2, and 4, all respondents agree on the importance of cost, not only as a 'step' in scoring suppliers, but also as a criterion, which carries the greatest

importance. This is also presented through the primary data finding, while a contrast has been made with the secondary data from the literature review which shows that 'cost' is the most important factor in selecting a supplier. As stated by Gulen(2007) and by Beil (2009), the ultimate goal of outsourcing strategies is to find the best supplier, for the best prices. As illustrated in the interviews with the buyer, we can see the importance cost has over the other criteria. This is not only the initial contracted cost of business, but according to Arsan and Shank (2011) nonperforming costs which come from unplanned issues like quality and on-time delivery and if these costs are gone unaddressed can continue to build.

The findings proceed to illustrate another discrepancy across interviewees in question 5; where interviewees 1-3, view the existing supplier as a better fit as they generally score higher than new suppliers as well as having an existing relationship with the buyer. However, interviewee 4 views the use of an existing supplier is only useful when they are providing a better deal to the buyer. The first three interviewees' responses support Gardenal's (2013) arguments which suggest that when companies use existing supplier that have already been assessed, it can reduce the amount of time consumed in the selection process. Furthermore, the data are supported by the literature by Beil (2009:2) who states that the usage of an existing supplier is better as it promotes the expansion of the buyer-supplier relationship. However, even though interviewee 4 does not collaborate with the other 3 interviewees, their response is also supported by Barbara, Perdue and Summers (1991) who discuss the importance of competitive bidding for suppliers in order to attain bargain deals.

Question 6 focuses on the importance of assessing the suppliers' employee retention, as well as the assessment of

Table 2: Supplier Performance Monitoring questions

Question 11: What methods of continuous supplier monitoring does your company implement with the supplier?
Question 12: What are the areas of the suppliers' performance, which the company monitors with the supplier?
Question 13: Which of the monitored performance areas is the most important?
Question 14: What is the goal of working toward supplier improvement?
Question 15: What are the goals of supplier monitoring within this contract with the supplier?
Question 16: What are some improvements the supplier can make?
Question 17: What are the consequences if the supplier fails to effectively utilize the monitoring systems?
Question 18: What are the consequences if the supplier fails to meet production numbers, and/or quality targets?
Question 19: Is the buyer aiding these improvements? If so, How?
Question 20: How would you describe the buyer-supplier relationship?
Question 21: Does your company seek feedback from your suppliers?

KPI's of other similar supplier ventures. The assessment of employee retention, discussed by interviewees 1 and 3, raises the concern that many suppliers, who are awarded contracts because of low cost, often offer uncompetitive wages. As a result of this, many of the veteran employees seek work elsewhere where wages are more competitive. Another area for improvement is the suppliers' KPI research from other related suppliers. Although according to interviewee 2, they are briefly addressed in the written submission and hypothetically discussed during the presentation, because of time constraints and limited financial resources; they are unable to be thoroughly researched. In the literature, this concern is addressed by Beil (2009) who discusses that some of the downfalls of selecting a new supplier are that important data related to their performance is unable to be analyzed because of money and time constraints.

The final area of contrast among interviewees was the part which was related to the fact that often although a supplier might have excelled at the selection process there are still areas that they need to improve. This will further be discussed in the interview question related to the supplier performance monitoring.

4.3. Supplier Performance Monitoring

This section discusses what it means to be a successful supplier and how can the buyer determine a successful supplier through their performance. Table 2 above, shows the questions asked regarding supplier performance monitoring.

Through the findings in 'Questions 11 and 12', all interviewees have expressed the importance of continuous supplier monitoring, and the various methods employed

by the buyer to assure this task is successfully carried out. The findings illustrate that the buyer insures a proactive role in the continuous monitoring of the supplier. Through methods of performance meetings, data analysis collection, and various forms of auditing, the buyer is able to cover multiple facets of the supplier monitoring process.

In Question 13 the importance of specific supplier monitoring research is addressed. As stated in the literature by CIPS (2012) monitoring supplier performance requires obtaining factual data on the suppliers' performance. This action is supported by the findings as the interviewees agree, and further specify their areas, which are important for monitoring. These areas included; production and delivery efficiency, as well as cost and quality management. Interviewee 1 stated that, "*although [they] may not be their responsibility to handle, [they] also take an interest into other various measurable areas like; retention of full-time employees, training qualifications, and employee build efficiency. These measures if often managed by [the buyers] hiring agency, as the supplier does not currently have the manpower to perform all the performance monitoring.*" According to Interviewee 1's response on Question 14, it appears that supplier monitoring is often neglected after the supplier selection process because of under/lack of resources (CIPS, 2012). Therefore one of the buyer's goals on supplier monitoring is to eventually encourage the supplier to take on many of the monitoring tasks, which will allow buyer resources to be used elsewhere, while providing more responsibility to the supplier.

The purpose of Questions 15 and 16 was to understand the areas of improvement that the supplier needs to consider before the buyer can rely on the supplier to conduct the process on their own. According to a quote from

Interviewee 1, *“the supplier needs to be more proactive in [performance monitoring] processes before [the buyer] can be confident in allowing them to accurately before these duties”*. These areas of improvement are specified as; improved record keeping and detailed report taking; improved individual accountability; being more proactive in the establishment of quality initiatives; and being more proactive in inventory and labor management. These improvements are needed not only to better ensure that performance is met, but also to enable both the buyer and supplier to improve significantly in the reduction of various forms of waste caused from inefficient processes.

Questions 17 and 18 discuss the consequences that a supplier will face if they are not performing the established monitoring procedures required by the buyer. The interviewees from the supplier illustrated that although there were no established policies in place for penalizing the supplier, often a failure to perform the various processes results in an issue in one of the areas affecting production. When an issue such as this occurs, supplier receives fines as well as is responsible for corrective action for the issue, often resulting in increased costs like overtime. Further detail provided by Interviewee 1 described *“un-cooperating suppliers often do not have very successful contracts with [the buyer] and often results in a decreased cooperation with the supplier in time when they request leniency.”* Therefore failure to attempt to perform these processes has an effect on the relationship between the buyer and supplier.

As illustrated earlier by Interviewee’s 1 description of the supplier selection process, the buyer tries to maintain a proactive approach in implementing supplier performance improvements. Question 19 discusses how the buyer aids the supplier in meeting the goals outlined in Questions 14 and 15. In the current process, since the supplier is the predominant supplier to the buyer, liaisons and engineering staffs have been provided on-site at the suppliers’ warehouse. These staff aid in providing training and certification for various processes in the plant while they monitor and audit the outlined processes, as well as monitoring the processes when performance or quality issues occur. According to interviewee 1 the predominate purpose of the on-site staff is to provide suggestions of improvement to the supplier, as well as for conducting audits as a form of “fail safe” for the buyer if any issues were to arise. This proactive involvement is discussed in the literature by Benton and Maloni (2004:8), as promoting growth in the relationship between buyer and supplier.

The buyer-supplier relationship requires an understanding between both the buyer’s and supplier’s views and goals of operating (Gunasekaran *et al.*, 2002). In order to accurately understand the thoughts of the supplier, the buyer conducts feedback from the supplier on a semi-annual basis. This is usually in the form of a scorecard, which is submitted anonymously. This allows the supplier to receive essential feedback, which they can then use to improve. Interviewee 3 said, *“the collection of feedback is [the buyer’s] way of allowing the meeting certain areas which a supplier often requests throughout the business. Things like adhering the operational specifics stated in the contract, providing adequate time for plant retooling (during vehicle model year upgrades), support for issues and concerns (raw material shortages, issues outside of supplier’s control). Feedback allows us to see how our supplier’s view service with us, while also allowing us to focus on our communications and service department to our suppliers”*. Finally, Interviewee 1 stated that, *“feedback is essential in continuing to build the relationship with the supplier. In today’s market, it’s about the working relationship. However within the company [it] is often overlooked by other more performance related objectives”*.

4.4. Discussion

The goal of the discussion is to summarize the predominant themes discovered in the results. These discussions will be based on the detailed analysis of the interviews conducted. The discussion will be discussed in two sections; the supplier selection process and the supplier monitoring process.

4.4.1. Supplier Selection Process

Within this research, a similarity was drawn with the supplier selection process and the supplier evaluation process utilized in practice and the numerous methods from the literature. As described earlier, the supplier selection process from this research resembles the process illustrated by Beil (2009). This process discusses a general six-step process of obtaining information, evaluating, and selecting suppliers. This process is further complimented by evaluation methods like: the categorical method discussed by de Boer, Labro and Morlacchi (2001); the cost-ratio method identified by Thompson (1990); and the weight-point methods described by Arsan and Shank (2011). These three methods compiled together utilizing Beil’s framework of supplier selection process are what created the four-part two stage selection process used

by the buyer. According to Interviewee 2 who described the process, this method is a rough framework used for purchasing processes such as the contract being described in this research. Other methods do exist within the company, but are dependent on the nature and objectives of the purchase.

According to the analysis of the supplier's responses, the process highlights the important areas, which the buyer views in a successful supplier; cost and performance. This response is further supported by the literature by Beil (2009) and Arsan and Shank (2011), where the balance of the best service and price is sought out. Since these two are the two most important areas of the supplier evaluation this also explains as to why the particular researched supplier was awarded the contract.

The strength of the supplier selection process is its flexibility. According to Interviewee 2, the criterion of the various areas of the process is able to be adjusted based on the nature of the business and the objectives of the company. Furthermore with the three methods of evaluation, each yielding a more specific score for each supplier, the buyer is able to have an accurate representation of which supplier best meet the objectives set out by the company. An example for this particular case is that the purchasing price is very important. Therefore the pricing provided a higher-weight among the criteria. Then comes the method of calculating the price. Thompson (1990), through cost-ratio method, calculates ratios that illustrate the differences in supplier pricing in relation to other suppliers bidding. This method was used rather than using an AHP method to yield more accurate results.

With the strength of this method, comes some weaknesses. The weakness in this method is that it is reliant on a score given for both qualitative and quantitative methods of gathering data. This in turn makes the data gathered information subjective to the members of the consensus board. A second weakness of the process is that the overall evaluation is based on scoring, where each category relies on points scored to yield a supplier score. Therefore, the structure does not allow for absent information, or inaccurate estimates. This could lead to misrepresented scores among suppliers. A final weakness is the calculation of KPIs of the bidding companies since an analysis of KPIs in the company's current business would be time consuming, as well as would not provide an accurate representation of the new business. Therefore often companies agree to meet the performance requirements of the buyer, without ever conducting or demonstrating the particular tasks.

4.4.2. Supplier Monitoring

After the selection of the new supplier, continuous supplier monitoring has been utilized in this case. After interviews with both buyer and supplier, an observation has been made on the involvement of the buyer in supplier monitoring. Even though the process is only utilized during times of struggle like production issues, quality issues and introduction of new production parts, the buyer makes an effort to promote continuous improvement, and preventative actions to prevent the issues from reoccurring. With the help of methods listed above like providing resource staff to help monitor and implement strategies, as well as establishing development plans from times of struggle, the buyer, although having taken a reactive approach to production and quality issues, has taken a proactive approach during new product development. This proactive approach according to Interviewee 1 provides qualified staff to effectively identify and contain issues related to performance and quality, so that preventative action can be taken in the future.

The practices implemented by the buyer are similar to Gordon's (2005) findings that described that measuring supplier performance as "if you monitor a supplier, they will improve," allows for "facilitating supplier performance improvement," and will identify excess costs. Excess costs like unnecessary "labor usage" (overtime work) are also identified by interviewee 1'. The practice of supplier monitoring and improvement has helped grow the buyer-supplier relationship between the two companies. The relationship was described by interviewee 1 as, "What started out with the supplier being a child, they have begun to take on more responsibilities, and managing their own affairs more effectively." This illustrates how the supplier is adopting these methods initially provided by the buyer, and is utilizing them in their own practice. Interviewee 6 added that their relationship has grown because of their consistent reliability, "if our company runs into issues with production, the buyer often slows their production to keep lead times consistent and avoiding debits related to production shortages. This allows us to properly examine and provide a lasting solution to the problem, rather than a 'quick fix,' which may result in the problem reoccurring." This cooperative relationship between the two companies has further progressed to the supplier obtaining further business and responsibilities with the buyer.

In the next section, conclusions will be drawn based on the results of our research as well as recommendations will be made to further improve and enhance both processes.

5. CONCLUSION

The findings illustrate a commonality between one of the modern practices of supplier selection, and the researchers' findings. The findings provide a near mirror image of an ideal supplier selection process identified by Beil (2009). The process follows the same general outline, however operates in two stages, where a continuous evaluation exists along the selection process. The process of supplier evaluation in this case is a mixture of the three main methods discussed in the literature. The categorical method by de Boer, Labro and Morlacchi, (2001) is used in the early process of the selection process as an evaluation to create a short list of suppliers. The process then progresses to the 'cost-ratio method' identified by Thompson (1990). This method is utilized in pricing the supplier and according to the interviewees it provides a score in relation to each candidate rather than just ranking them based on analytic hierarchy process (Saaty, 1970). Upon the completion of this method, a weight-point method described by Arsan and Shank (2011) is also used. This method takes the scores accumulated in each of the supplier evaluation section, and compute them based on the criteria issued in the supplier scorecard of the organisation.

Another finding of our research is the importance of various supplier selection criterions to the selection of a supplier. The importance of 'price' appears as the main deciding factor in selecting a supplier. This is also evident in the literature by Beil (2009) and Arsan and Shank (2011) where the goals of supplier selection are focused around best service for the best price, and reducing costs.

Another important finding of our research is the supplier success and post-contract supplier monitoring. According to Gordon (2005), the performance of a supplier can become stagnant if not continuously monitored. The successes of a supplier are viewed based on the criteria set out by the buyer. In most cases according to CIPS (2012), the major component in identifying a suppliers success is ensuring they attain the performance level established in the contract, but as we see in the interviews, there is an emphasis to promote continuous supplier monitoring will not only develop the buyer-supplier relationship, but also aid both parties to meet their most important goals which are increased cost reductions and improved performance cost. Thus looking back on the objective of what impacts a successful supplier; it is not only a supplier that will meet performance targets, but also a supplier that will strive for continuous improvement. The research by Gordon (2005) indicated how the management of the

buyer's company has the responsibility to facilitate the push for performance improvement. According to Benton and Maloni (2004) a proactive approach from both buyer and supplier is ideal for the success of this association.

When exploring customer satisfaction with the buyer, an emphasis on continuous supplier improvement and monitoring became a theme. This theme expresses that although the supplier had met the performance targets of the contract, continuous improvement and monitoring was being done to continuously insure the success of the supplier. This continuous improvement has been fed by the cooperation of both the buyer and supplier. This cooperation has continued to grow the relationship and business, as the supplier has obtained additional contracts. Although a conclusion cannot be made that the supplier selection process has a direct effect on customer satisfaction, in this case the supplier selection process have provided a successful supplier, and with this success comes the increase satisfaction of the buyer.

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