

## **SUPPLIER SELECTION PROCESS AT A SOUTH AFRICAN CLOTHING COMPANY**

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### **ABSTRACT**

This is a case study that investigates a supplier selection process at a South African clothing manufacturing company, hereafter referred to as Brand Solutions. Brand Solutions is a supplier of a wide range of custom-made corporate clothing, headwear, promotional clothing, bags and luggage. The company has in-house knitting mill that makes fabric using mercerised, bamboo, polyester and 100% cotton yarn that is sourced locally and abroad. Brand Solutions also does branding through digital transfer printing, embroidery, digital ultra violet light printing, silkscreen printing and laser engraving. Data for this study was collected by a University of Johannesburg Industrial Engineering Student. The student had interviews with the procurement, production and quality assurance managers. She verified the answers given by the interviewees by taking informative tours of the production floor, warehouse and management offices of the plant. A review of company documents and relevant literature from journals was also done. The research revealed that on new suppliers, Brand Solutions selects them based on the quality, material shrinkage, colour fastness, grammage, cost, delivery lead time, and product mix flexibility. Once the suppliers pass this test, their performance is not reviewed again. These findings have implications on the performance and competitiveness of Brand Solutions. Moreover the findings have a bearing on Brand Solutions' growth in employment, market share and revenue. Lastly, the study contributes by suggesting the supplier selection model that a clothing manufacturing entity should adopt in relation to the environment that it operates in.

### **INTRODUCTION**

Brand Solutions is a manufacturer of a wide range of custom-made corporate clothing, headwear, promotional clothing, bags and luggage. The company has more than 20 years' experience in the promotional products industry. Brand solutions has an in-house knitting mill consisting of a team whose experience collectively spans more than 30 years in the textile industry. Owning this facility eliminates imports and its dependence on other manufacturers for fabric. The knitting mill does not only cater for Brand Solutions' own requirements of fabric and trims, but also serves other manufacturing companies in the locality.

The idea of Brand Solutions manufacturing its own fabric was born out of clients' desire for consistency, customisation and long term product availability. The knitting mill produces all the fabric used to manufacture the bespoke garments ordered by its clients and provides clients with a

wide range of possibilities in texture, style, colour and design. It has the capacity to manufacture 33 tons of fabric per month that converts into over 100 000 garments. This is done through eight rotary knitting machines and two collar machines. It uses various types of yarn sourced locally and abroad.

Value addition is enhanced through the production department. This is the core of the organisation, and is where systems interlink to ensure that an order placed, is an order delivered. The processes in this department involve:

- i. sourcing of trims and components for clothing and bag manufacturing divisions;
- ii. bundling – the relevant fabric, trims and components procured from the company knitting mill or stock warehouse are bundled together for the manufacturing or branding divisions;
- iii. production scheduling – all orders loaded onto the system are sequenced by an in-house system. This system ensures accuracy, real-time tracking and timeous delivery;
- iv. manufacturing- conversion from cloth to garments is done in-house;
- v. tracking – affords a person in operation the ability to track the progress of any order at any time and gives the sales team information it requires to keep customers informed;
- vi. quality assurance – is important in getting return business from its clients;
- vii. packing – is the last stage before orders are delivered to clients. The company invested in machinery to speed up the packing, boxing and strapping of all orders. The boxes are branded with the company logo and are sealed to avoid tempering and theft.

The company also provides various branding such as digital transfer printing, embroidery, digital ultra violet printing, silkscreen printing and laser engraving/markings.

Brand Solutions has a warehousing capacity in excess of 4 000 square metres and on average holds stock worth over R18 million. This includes customer stock, raw materials and finished products. The company on average warehouses over 30 different brands which enable it to react to customers' needs promptly.

All the above manufacturing activities are supported by sales, design, research and development, sales, finance, procurement and logistics departments. This case study investigates a supplier selection process at Brand Solutions. Suppliers are viewed as critical resources for the textile/apparel sector and their qualities, strategies and abilities affect a buying company's business (Pikousova and Prusa, 2013). Selection of the supplier plays a role in profitability and companies should pay attention to the selection when awarding contracts (Pikousova and Prusa, 2013). Moreover suppliers have to be managed to derive the maximum potential in the supply chain (Koprulu and Albayrakoglu, 2007). Koprulu and Albayrakoglu (2007) recognise the selection of the supplier as the most critical task in the supply management.

Koprulu and Albayrakoglu (2007), classify vendors into two types. Type 1 vendors are characterised by long lead time, lower unit costs and less flexibility whereas Type 2 vendors offer short lead times, high unit costs and more flexibility.

Apparel manufacturers deal with both fashion goods and basic goods to offer product variety to their customers. Basic and fashion goods can be classified based on the volume of production, degree of style variation, and frequency of style change (Koprulu and Albayrakoglu, 2007). For

example, fashion goods are hard to forecast the demand; have high fashion level and seasonality, and have varied style change. Basic goods are relatively easy to forecast their demand, have low fashion level and limited seasonality, and have a basic garment style that remains constant. Therefore, the manufacturer will place the fashion goods with the Type 2 vendor and the basic goods with the Type 1 vendor (Koprulu and Albayrakoglu, 2007).

According to Amindoust et al (2012), supplier selection is a multi-criteria decision making (MCDM) which faces multiple inputs and outputs. Data envelopment analysis is the most often used MCDM approach (30%), followed, in order of distribution, by mathematical programming (17%), analytical hierarchy processes (15%), case-based reasoning (11%), fuzzy set theory (10%) and analytical network processes (5%). The basic attributes for supplier selection in Dickson's criteria were quality, delivery, performance history, warranty and claim policies, production facilities and capacity and price (Dickson, 1966). Weber et al (1991) recognised quality, production facilities and capacity, delivery, geographical location, price and technical capability as the important attributes for supplier selection. Choi and Hartley (1996) identified the following eight attributes as the main attributes companies use in selecting suppliers: finances, consistency, relationship, flexibility, technological capability, customer service, reliability, and price. Zhang et al (2003) reviewed literature on supplier selection published between 1992 and 2003. The most important attributes were production facilities, financial status, technical capability, quality, price and delivery (Zhang et al, 2003). Ho et al (2010) reviewed literature on supplier selection from 2000-2008 and found that the most popular attributes considered by decision makers were quality, delivery, price/cost, manufacturing capability, service and management. The above factors address the day-to-day activities that affect company operations. If the day-to-day supplier performance requirements on the attributes are not met, the buyer experiences costly production shutdowns and can lose customers (Choi and Hartley, 1996).

To obtain a competitive advantage, companies are streamlining the number of suppliers from which they purchase. The main effect of a reduced supplier base is that it leaves the buyer more time to develop closer relationships with the remaining suppliers. When correctly managed, this should lead to a competitive advantage for the manufacturer, through reduced costs, higher quality and innovation resulting from the support of suppliers in product or process development (Goffin et al, 1997).

## **METHODOLOGY**

This study examines an apparel supply chain that is efficiency oriented. The research is cross-sectional and uses both qualitative and quantitative methods to gather information on the supplier selection process at Brand Solutions. A point to note is that Brand Solutions has a high percentage of bought in materials purchased from suppliers – therefore supplier selection is significant to its business. According to Choi and Hartley (1996), suppliers can be categorised into direct or indirect suppliers. In this paper, the researchers are only concerned with local and foreign direct suppliers. The tools that were used for data collection are a questionnaire and interviews. The interviews were tape-recorded and at the same time detailed notes were taken. Questions asked were both open and closed ended. Information was collected by a University of Johannesburg Industrial Engineering Student. The student was attending her final year of the diploma studies in Industrial Engineering

and had completed 26 courses in the field of Industrial engineering. To gain access to the information required in the study, the student undertook the following:

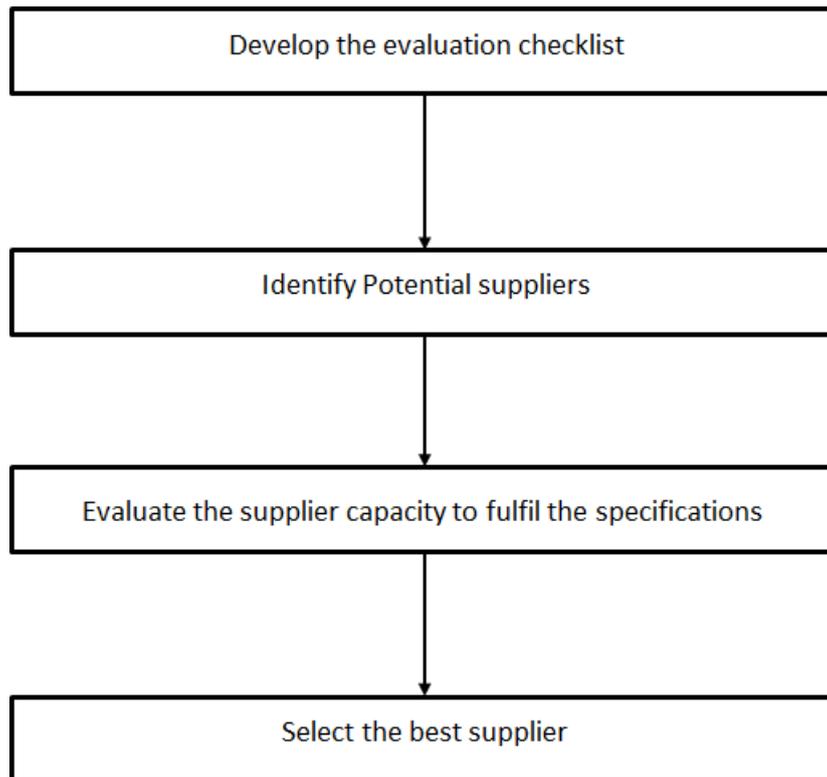
- i. sent out a questionnaire to the procurement manager of Brand Solutions. The manager is one of the team members involved in the supplier selection process;
- ii. after the questionnaire, the researcher conducted interviews with the procurement manager, production manager, product development manager and the quality assurance manager. This was done to validate the data obtained in the questionnaire. Open ended questions were used. The interviews were conducted at Brand Solutions premises at a time that was convenient to the managers;
- iii. during the course of the interviews, she went through the documentation that the company uses for supplier selection process. This was done to identify challenges that the organisation experiences;
- iv. she also verified the answers given by the interviewees by taking informative tours of the production floor and managerial offices of the plant; and
- v. a review of relevant literature from journals was also undertaken.

## **RESULTS**

Having 20 years' experience in textile and clothing industry, Brand Solutions has loyal and trusted suppliers who it has regular dealings with. Its selection process begins with identification of potential suppliers. This is followed by a supplier evaluation that is done through factory visits and sample requests. The samples are subjected to a number of tests such as shrinkage, colour fastness and grammage. Figure 1 shows the current supplier selection model for Brand Solutions.

The first step is performed by the product development department where it specifies the material features required to fulfil the order. The second step is undertaken by the procurement department, followed by the quality assurance department who evaluates the capacity of the potential suppliers. Lastly the supplier selection is done collectively by all the three players and is based on the supplier's ability to meet the specifications. Other attributes important to Brand Solutions are cost, delivery time, delivery in full, flexibility (quantity and time) and innovation. Moreover Brand Solutions has a lead time ranging from 3 days to 1 week for all its suppliers within and outside Gauteng region.

If the supplier meets the expected standards of the company, it is then included in the suppliers list. Once the relationship has been established, no further reviews and documentations are done on the performance of suppliers. All quality checks on incoming material are done to guard against receiving non-conforming material, but these checks are not used to measure the performance of suppliers.



*Figure 1: Brand Solutions supplier selection process*

## **CONCLUSION**

Brand Solutions have a rigorous supplier selection system for new entrants only. These are selected against quality, delivery, cost, flexibility and innovation. Once selected and added onto the company's suppliers list, the supplier's performance is not subjected to documentation and further reviews. Having a supplier selection system in place helps decision makers monitor the performance of the existing supplier portfolio (Koprulu and Albayrakoglu, 2007). This, in turn, can be used to negotiate further contracts in different segments with the existing vendors, given their current capabilities (koprulu and albayrakoglu, 2007). Moreover Pikousova and Prusa (2013) argue that a continuous evaluation of selected suppliers allows a company to provide a responsive network of suppliers with respect to the company's objectives. These arguments point to a weakness in Brand Solutions selection system. There is a need for it to measure both new entrants as well as the existing supplier portfolio. The evaluation system should also be dynamic to keep pace with changing objectives of the company.

Although Brand solutions' supplier selection process is modelled along the analytical hierarchy process, it is less robust. The company would improve on the process if it adopted the model in Figure 2.

The supplier selection is preceded by identification of potential suppliers, compilation of a shortlist, analysing of the suppliers in the short list and rating of the suppliers. After the selection of the suppliers, there is need to establish relationship with the suppliers, integrate supplier systems and processes, develop the suppliers and monitor them.

Kontis and Vrysagotis (2011) argue that the supplier selection process involves the determination of quantitative and qualitative factors so as to select the best possible suppliers, which ensures

business competitiveness, sustainability and success. Choi and Hartley (1996) identified the following eight attributes as the main attributes companies use in selecting suppliers: finances, consistency, relationship, flexibility, technological capability, customer service, reliability, and price. Brand solutions' criteria for selecting suppliers is narrow. It considers only quality, flexibility, delivery, cost and innovation. A good number of factors that affect the day-to-day company operations are left out. This makes the system less robust.

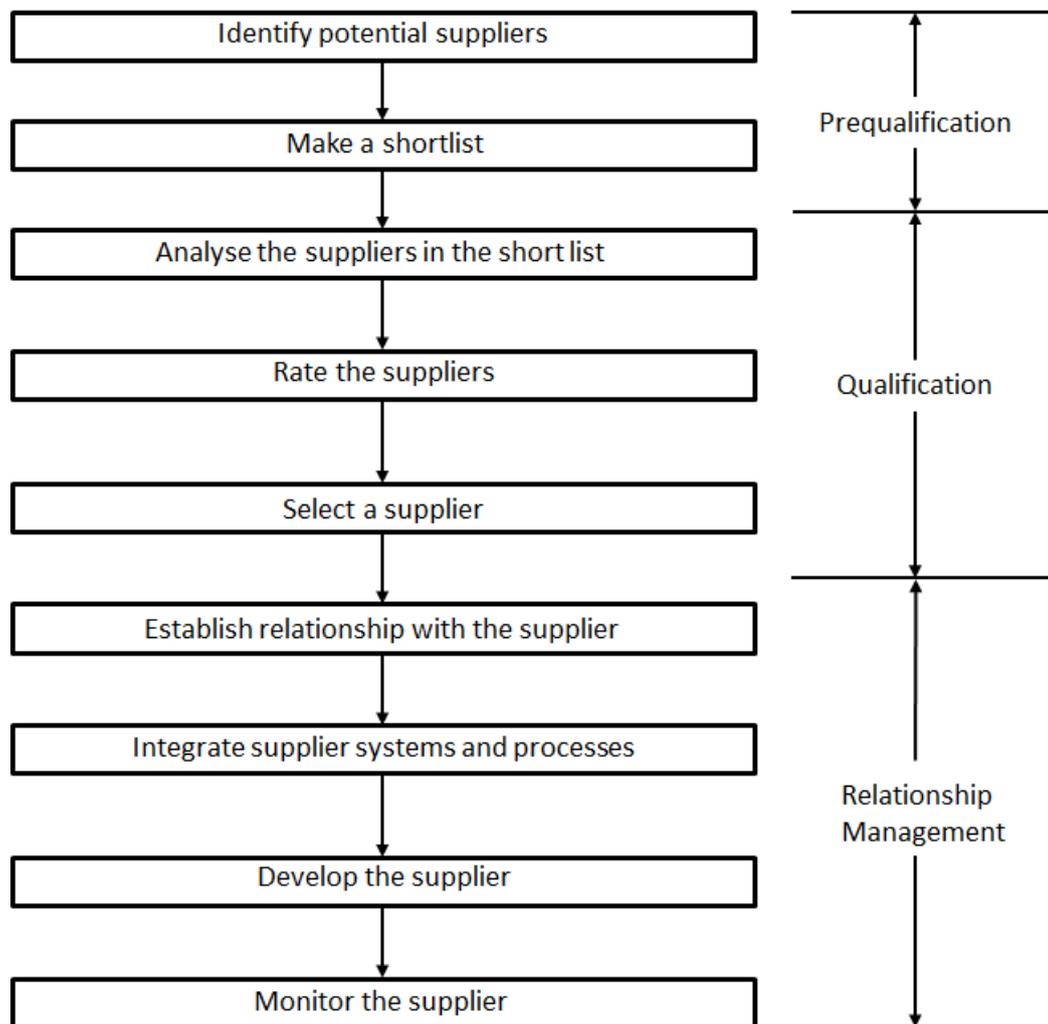


Figure 2: A model for supplier Relationship Management, source: Koprulu and Albayrakoglu (2007)

Brand Solutions' suppliers list is not streamlined. New members are added as long as they pass the initial test. Goffin et al (1997) propose that for a company to obtain a competitive advantage, it must streamline the number of suppliers from which it purchases. The main effect of a reduced supplier base is that it leaves the buyer with more time to develop closer relationships with the remaining suppliers. When correctly managed, this should lead to a competitive advantage for the manufacturer, through reduced costs, higher quality and innovation resulting from the support of suppliers in product or process development (Goffin et al, 1997).

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