

Buyer supplier relationship in jit environment



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Executive Summary

The main purpose of this proposal is to outline the research methodology that will be adopted to structure a dissertation on the Buyer supplier relationship in a JIT environment. The research will be mainly made upon a case study of mining company called Vale Inco. The area of focus will be on its UK refinery, based on the outskirts of London.

The aim of this dissertation is to establish how lean or JIT manufacturing impacts the buyer supplier relationship in the organisation of focus and how they are evaluated and measured. A framework will be established for buyer supplier relationship model under JIT finally.

The research project will follow three objectives to achieve the aim:

The various factors involved in the development of buyer supplier relationship will be looked into and analysed.

The external situations, the uncertainties surrounding JIT adaptation will be investigated.

Furthermore, the conceptual and analytical relationship between JIT, supplier involvement and cooperation, and supply chain integration will be established and examined.

The initial literature review has been conducted relating to buyer supplier relationship and JIT purchasing. Although the literature review is not extensive, this will be a continuous process throughout the period of research of this project.

An outline of the research methodology that will be adopted is stated at the end. A case study based approach will be the main method of research. The final analysis will be by means of a triangulation method. Finally, a contingency plan is outlined in case of some unforeseen circumstances during the course of research.

Introduction

The purpose of this proposal is to define the methodology that will be used to structure a dissertation about the Buyer Supplier relationship in a JIT environment and the various factors affecting the supply chain.

The research develops around the case study of a Brazilian mining company, Vale Inco, which transforms mineral resources into the essential ingredients of people's everyday lives. The focus of this dissertation will be on the Acton Refinery based in UK. After presenting the business environment where the company operates, a literature review and a discussion on the chosen methodology will follow.

Background

Vale Inco is a wholly owned subsidiary of the Brazilian mining company Vale. It is Vale's nickel mining and metals division and is headquartered in Toronto, Ontario, Canada. It produces nickel, copper, cobalt, platinum, rhodium, ruthenium, iridium, gold, and silver. Prior to being purchased by CVRD (now Vale) in 2006, Inco was the world's second largest producer of nickel, and the third largest mining company outside South Africa and Russia of platinum-group metals. They have gross operating revenue of US\$23.9 billion with net income of US\$5.3 billion.

The focus of this paper will be on Acton Refinery based in the outskirts of London. The Acton Refinery originally recovered precious metals from the residue obtained from the nickel refinery at Clydach, Wales. However, over its lifetime, Acton has become one of the world's major refiners of platinum-group metals (PGMs) platinum, palladium, rhodium, ruthenium and iridium, as well as gold and silver. It also processes primary mining concentrates and secondary materials such as recycled spent catalysts and electronic scrap. The plant has approximately 120 employees. Recently, Vale has started implementing Lean manufacturing in order to improve efficiency. The objective of lean is to create a system that is efficient and well organised and devoted to continuous improvement and the elimination of all forms of waste. Just In Time (JIT) is the backbone of the lean manufacturing system. Our focus will be on JIT purchasing and the buyer- supplier relationship in a JIT purchasing environment.

Aims and objectives

The aim of this dissertation is to establish how lean or JIT manufacturing impacts the buyer supplier relationship in the organisation of focus and how they are evaluated and measured. A framework will be established for buyer supplier relationship model under JIT finally.

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Literature Review

A literature review is a body of text that aims to review the critical points of current knowledge and or methodological approaches on a particular topic . A review of prior, relevant literature is an essential feature of any academic project. An effective review creates a firm foundation for advancing knowledge. It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed. (Webster and Watson 2002). This section will summarize previous research literature on Lean and JIT adaptation, the impact on the firms performance, supplier evaluation and the buyer supplier relationship and related issues. Specifically, the fundamental activities in JIT purchasing, the impact of JIT on the buyer supplier relationship and the supply chain integration will be discussed and reviewed.

Lean & JIT Manufacturing

Heightened challenges from global competitors during the past 2 decades have prompted many manufacturing firms to adopt new manufacturing approaches (Hall and Meredith). Particularly salient among these is the concept of lean production (Womack and Jones, 1996; Womack et al., 1990). Lean production is a multi-dimensional approach that encompasses a wide variety of management practices, including just-in-time, quality systems, work teams, cellular manufacturing, supplier management, etc. in an integrated system. The core thrust of lean production is that these

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practices can work synergistically to create a streamlined, high quality system that produces finished products at the pace of customer demand with little or no waste. As mentioned earlier JIT is the backbone of Lean manufacturing. William J. Stevenson, in *Production/Operations Management*, defines the term just-in-time manufacturing as “ a repetitive production system in which processing and movement of material and goods occurs just as they are needed, usually in small batches” (Stevenson, 1996). However, just-in-time (JIT) is more than an inventory system. JIT manufacturing is a philosophy by which an organization seeks continually to improve its products and processes by eliminating waste (Ptak, 1997). Since one purpose of JIT manufacturing is to reduce any waste and inefficiencies that do not add value to a product, it should come as no surprise that the JIT approach was developed in Japan - a country with scarce resources and space limitations. Organizations wanting to use the JIT approach to manufacturing must have several building blocks in place. These building blocks were first established in the early 1950s by T. Ohno, former Executive Vice President of Toyota Motor Company (Ansari and Modarress, 1990).

The building blocks include:

- company-wide commitment;
- proper materials at the right time;
- supplier relationships;
- quality;
- personnel.

The JIT manufacturing approach can give organizations the necessary benefits required to survive, and perhaps even prosper, in an economy with increasingly scarce resources. The JIT manufacturing process eliminates wasted space and tied-up capital that can be allocated to alternative uses to improve the overall success of the organization (Ptak, 1997). In addition to ordering smaller batches of materials at the proper time, successful JIT organizations should keep the following requirements in mind:

Just-in-time manufacturing

Overall requirements for proper materials at the right time

an acceptable level of quality;

on-time delivery schedule;

reasonable cost (Galhenage, 1997).

According to Ballou (1992, pp. 528) the entire supply channel is synchronized to respond to the requirements of operations or customers.

The basic concept of JIT is that the material reaches the assembly or production line exactly at the right time and the right quantity. It works on the “ pull system” rather than the conventional “ push system”. In order for this to work the supplier plays a key role in a JIT environment.

Buyer Supplier Relationship

A competitive advantage exists for companies that are engaged in successful long-term buyer-seller relationships (Anderson and Narus, 1990; Badaracco, 1991; Dwyer, Schurr, and Oh, 1987; Jap and Ganesan, 2000;

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Ganesan, 1994; Noordewier, John, and Nevin, 1990). This makes it important for companies to understand what factors influence their relationships with other firms. An identification of the relative influence of these factors can be used to focus a company's efforts on the areas that are most important, improving the sustainable competitive advantage derived from that relationship (Takala and Uusitalo, 1996). The factors that influence relationships are reputation, performance satisfaction, trust, social bonds and comparison level of the trust, mutual goals, power/interdependence, cooperation and commitment

Trust

Trust is a fundamental relationship model building block and as such is included in most relationship models. Most definitions of trust involve a belief that one relationship partner will act in the best interests of the other partner. Below are four of the most often cited definitions of trust:

1. A willingness to rely on an exchange partner, in whom one has confidence (Moorman,

Zaltman and Deshpande, 1992)

2. One party believes that its needs will be fulfilled in the future by actions taken by the other party. (Anderson and Weitz, 1990)

3. A party's expectation that another party desires coordination will fulfil obligations and will pull its weight in the relationship. (Dwyer, Schurr and Oh, 1987)

4. The belief that a party's word or promise is reliable and a party will fulfil his/her obligations in an exchange relationship. (Schurr and Ozanne, 1985)

An integral element to achieve the reported benefits from more collaborative supplier relationships is the establishment of trust (Smith, Carroll and Ashford 1995). An interesting perspective on trust is that long term relationships may not require trust; rather the relationship may be based on the necessity of having a supplier or distributor (Kumar, 2005) In a JIT system trust becomes paramount as delivery schedules and quality of incoming material holds the key for the success of the system.

Mutual Goals

Mutual goal is defined as the degree to which partners share goals that can only be accomplished through joint action and the maintenance of the relationship. These mutual goals provide a strong reason for relationship continuance. Soni and O'Keeffe (1994) suggest that mutual goals influence performance satisfaction which, in turn, influences the level of commitment to the relationship. Shared values are similar but broader concept. Morgan and Hunt (1994) define shared values as, " the extent to which partners have beliefs in common about what behaviours, goals and policies are important, unimportant, appropriate or inappropriate, and right or wrong." Most likely mutual goals encourage mutuality of interest and it then becomes possible for both parties to achieve those goals. Goals can be better measured as compared to values and norms.

Interdependence and Power

This is one of the key issues that lead to breakdown in relationships between the buyer and the supplier. Interdependence and power imbalance are important relationship variables. The power of a buyer or supplier is closely related to its interrelationship with each other and its partners. Anderson and Weitz (1990) defined power imbalance as the ability of one partner to get the other partner to do something they would not normally do. Han, Wilson and Dant (1993) found that both buyers and sellers saw the need to increase interdependence on the other.

The level of interdependence can be measured with its percentage of purchase or sales according to the framework provided by Hill & Hill (2009).

Figure1: Customer/supplier dependence.

% of a customer's purchases that come from one supplier

Supplier is dominant

Customer and supplier are mutually dependent

Customer and supplier are independent of one another

Customer is dominant

% of a supplier's sales that go to one customer

Source: adapted from Hill & Hill (2009), p. 279

Another school of thought is that the effect of buyer-supplier power on relationships between the two parties is one of both facilitation and constraint (Cox et al., 2003). If the buyer, for example, is in a dominant

position over the supplier (and there is a degree of stability to that dominance) then that dominance will facilitate considerable discretion over the conduct and commercial outcome of the relationship. However, if the buyer is in a dependent position vis-à-vis the supplier, then that dependence will act as a constraint on its ambitions. For example, the desire by the buyer to initiate collaboration may not be reciprocated by the supplier. Even where it is reciprocated, the supplier may try to take a disproportionate share of the gains of any collaboration.

Fig 2 : Buyer Supplier Relationship Style

The model that informs this paper is based upon the above principles. There are two main elements to the model (Figure 2). First, there is the identification of the dimensions of buyer-supplier relationships. The model posits that buyer-supplier relationships consist of two main dimensions. On one hand, the way in which the two parties interact – the extremes here being arm's-length and collaborative. On the other, the manner in which the surplus value from the relationship is shared between the two parties – the three generic possibilities being the buyer taking the majority share, the supplier taking the majority share or the surplus value being shared equally. If the ideal-typical scenarios for both dimensions are combined, it can be seen that there are six generic relationship types that can exist between the buyers and suppliers (Cox et al., 2003).

Cooperation

Anderson and Narus (1990) describe cooperation as coordinated actions taken by firms in interdependent relationships to achieve mutual goals, and

in this manner, both parties cooperate in order to benefit from the relationship. Cooperation requires input from both sides and both sides working to achieve the best solution with coordinated efforts producing outcomes better than one firm will achieve alone (Anderson and Narus, 1990) Cooperation implies an ongoing relationship where the structure or boundaries of that relationship have already been established and where this cooperation must take place in order for that relationship to continue.

Commitment

Lawler and Yoon (1993) describe commitment as an emotional attachment to a group in which members will tend to remain in the relationship and do things not necessary to maintain the relational exchange Relationship commitment exists when each partner believes that an ongoing relationship is so important as to warrant maximum efforts to maintain it to ensure it endures indefinitely (Morgan and Hunt, 1994) Commitment to the relationship exists as an enduring desire to maintain a valued relationship (Moorman et al., 1992)

Methodology

Choice of methodology

The research strategy will be interpretative and based on the case study of the international enterprise. An inductive approach will be deployed and primary data will be collected through interviews of the organisation's employees and senior management; therefore gathered information will be both qualitative (mainly) and quantitative.

The methodology of the project has been decided in accordance with the “onion” scheme provided by Saunders (2009).

Adapted from Saunders et al. (2009, p. 138)

Quantitative and Qualitative study

There are two kinds of research methods, as mentioned earlier quantitative and qualitative. It is imperative to choose the appropriate kind of method for the given circumstance. Qualitative methods produce information only on the particular cases studied, and any more general conclusions are only hypotheses. Quantitative methods can be used to verify, which of such hypotheses are true.

Quantitative research is generally made using scientific methods, which can include:

The generation of models, theories and hypotheses

The development of instruments and methods for measurement

Experimental control and manipulation of variables

Collection of empirical data

Modeling and analysis of data

Evaluation of results

The qualitative method investigates the why and how of decision making, not just what, where, when. Hence, smaller but focused samples are more often needed, rather than large samples. Qualitative methods produce

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information only on the particular cases studied, and any more general conclusions are only hypotheses (informative guesses). Quantitative methods can be used to verify which of such hypotheses are true.

Usually a mix of both methods is used in order to get good results from the research. In qualitative method new theories and structures are built upon existing theories and collected data. While on the other hand quantitative method builds up a hypothesis based on the existing theories and data and then tests its credibility.

Data Collection Methods

Preliminary Literature review has already been conducted as mentioned earlier. However, further review of the existing literature will be done throughout the period of research until the submission of the draft project. Due to limited time frame review of the research till date and secondary research needs to be conducted within the course of the stipulated time frame. A continuous review process will ensure any new literature will be incorporated to the project and factored into the analysis of the project.

Two kinds of data can be collected during a research: primary information and secondary information.

Primary information is data collected for the first time by the researcher himself and it is fundamental to make the study be as close as possible to reality. The problem of this kind of data is that the observer's influence on an information source, misunderstandings of purposes and inaccurate measurements can affect them.

Secondary information is data already gathered and collected in books, newspapers, databases, etc. However it might not be comparable with a new study because of different purposes or conditions it was collected for.

Primary information can be gathered in three different ways: interviews, observations and experiments.

Case study

Yin (2009) defined a case study as an empirical inquiry which investigates a contemporary phenomenon within its real-life context, without necessarily separating phenomenon itself and context.

A case study based approach will be adopted for this particular research with the focus on Vale Inco. After briefly defining the working of the company and its purchase team an interview with its purchase manager and senior buyers will be conducted from where primary data will be collected. This data will be then analysed by means of a triangulation method.

Triangulation Method:

Triangulation is broadly defined by Denzin (1978: 291) as “ the combination of methodologies in the study of the same phenomenon.” Given basic principles of geometry, multiple viewpoints allow for greater accuracy. Similarly, organizational researchers can improve the accuracy of their judgments by collecting different kinds of data bearing on the same phenomenon. Thus, the convergence or agreement between more than one method enhances our belief that the results are valid and not a methodological artefact (Bouchard, 1976: 268).

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Research Limitations

The selected combination of qualitative and quantitative approaches is aimed at reducing the limitation of research. However, the case study based approach gives a one dimensional view of the issue at hand and does not give a general idea of the overall scenario. Also, the interviews with the employees of the considered company gives a one sided perspective of the relationship. Also with the question of supplier co operation comes into picture, as the amount of co operation the suppliers might extend towards this research is unknown at this moment of time. Also in case the company concerned withdraws its interest in the research project or a during the course of the research a road block is encountered, a contingency plan is essential. In such a scenario the focus of attention will be shifted to another company which in most likelihood will be Transweigh Ind Ltd (Indian manufacturing company).