BUYER BEHAVIOUR OF FABRICATION CUSTOMERS AT AFROX

By

Rajendra Naidoo

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Business Studies Unit, Durban University of Technology,
in the Faculty of Commerce

Supervisor: Dr J. P. Govender

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CONFIDENTIALITY CLAUSE

27 October 2008

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This research project has been reviewed by the undersigned and it would be appreciated if the contents of this dissertation remain confidential and not be circulated for a period of five years.

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……..

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ABSTRACT

Industrial buying stands for more than half the whole economic activity in industrialised countries. Therefore, it is important to understand how customers of Afrox perform buying activities. The fabrication industry is a fast growing industry and is, therefore, interesting to study. The understanding of the buying behaviour of industrial organisations is of paramount importance to the industrial marketer.

The study is a quantitative, cross sectional and descriptive investigation into buyer behaviour in the fabrication industry of Afrox. It highlights that industrial buyer behaviour has an extensive area, both for the practical marketer as well as from an academic perspective. As the fabrication industry is once again expanding, it is of essence to understand the buying behaviour in this industry. This report has the intention of highlighting how industrial buyer behaviour can be described in the fabrication industry.

The purpose of this dissertation was to investigate the characteristics of industrial buying behaviour of fabrication customers at Afrox. The purpose has been further developed in forms of research questions dealing with the buying process, buyer behaviour, buying centre and buyer choice criteria. The sample studied is from a current company data base.

With regard to the buying process, the most significant factors are price, quality, and technical capability.

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CHAPTER ONE: INTRODUCTION AND OVERVIEW OF STUDY

1.1 Introduction

This chapter provides an insight into the events leading up to the study, through to the explanation of the problem statement. A summation of the issues associated with the buyers in the fabrication industry is presented in the rationale, followed by the objectives of the study that were set out in an attempt to resolve key aspects of the research problem. A synopsis of the structure and flow of the study is presented which shows the research methodology that was adopted and applied to the problem.

1.2 An overview of Afrox

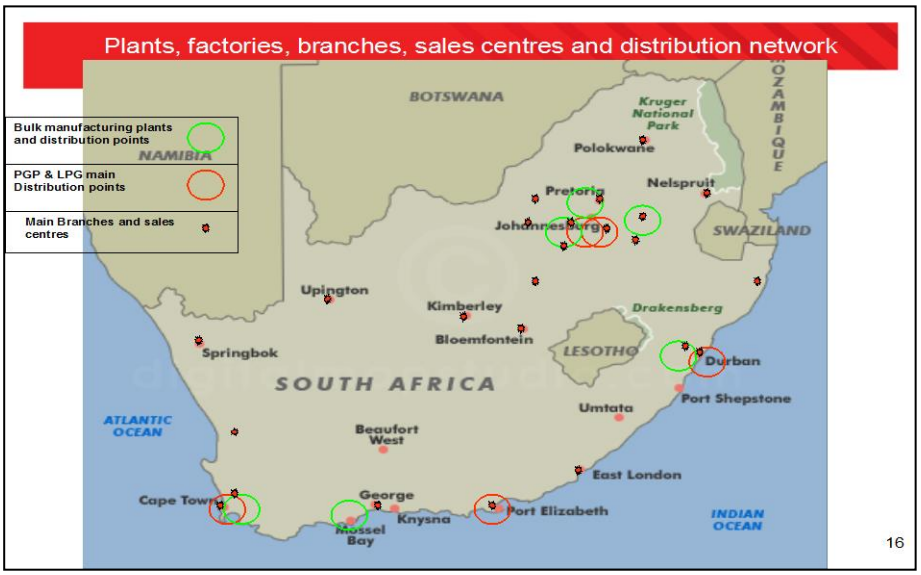
Afrox is the largest gases and welding products supplier in South Africa and one of the country's most trusted brands, with products and services that form part of most manufacturing, industrial and construction processes. With its African operations, Afrox is the large~~st~~ gases and welding company in sub-Saharan Africa. The company's gases and products are used in everything from the production of iron and steel to the manufacture of motor vehicles and high quality industrial ceramics. Afrox's gases are used for freezing and chilling, food preparation, in fire extinguishers and water purification, deodorant and insecticide propellants, refrigerators, air-conditioning systems, in most restaurants, pubs and hotels, and even for inflating balloons.

Virtually every piece of metal worked in southern Africa is welded, brazed or cut using Afrox electrodes, wires, gas cutting equipment and machines. Globally, an increasing number of the company's locally manufactured products are being marketed in Europe, South East Asia and Australasia through the Afrox's parent, the Linde Group, one of the largest gases and engineering companies in the world.

The Afrox businesses operate on a regional structure, within global reporting structures of the Linde Group. This operational system affords the business an enviable advantage by providing best practices by which to benchmark the company against its international peers, and enabling Afrox, within the Linde Group, to "speak the same language" and access a worldwide research and development knowledge base.

With a very wide customer base, the Afrox business operates on an impressive plant, manufacturing, and branch infrastructure. The company has branches in South Africa (Figure1.1) and fifteen African countries, a logistics and distribution fleet as well as a significant distributor network and the largest population of gas cylinders in circulation in sub-Saharan Africa.

Figure 1.1: Afrox plants, factories, branches and sales centres, and distribution network



Source: Afrox capability presentation (2008:10)

1. 3 General background to the study

Industrial buyer behaviour is, in essence, the arrangement of how industrial organisations purchase goods and services (Dwyer & Tanner, 2002). The buyer behaviour environment is essential for the understanding of customer needs and must be taken into consideration for successful suppliers.

Customers are becoming more demanding and suppliers are under greater pressure to perform to new standards. In addition, due to the opening of economies, customers are comparing suppliers against their best supplier, and those that cannot perform are replaced with suppliers that can perform at the highest level. According to Hill (2005:37-39), globalization is the norm and with it comes the communication revolution that makes a more transparent and challenging environment for suppliers.

The aforementioned developments have had an impact on the way Afrox needs to do business and to meet the challenge of satisfying the buyer needs of fabrication customers. Firstly, the balance is in favour of the customer. Secondly, it is critical to match customer expectations with the offer that Afrox delivers. Thirdly, previous customer offerings are simply outdated and Afrox needs to consistently deliver against the new benchmarks.

To meet this challenge, Afrox has developed a strategy to become and remain the preferred supplier in the gas and welding market in South Africa. This strategy includes:

- A new customer offering for each customer segment;
- A new operating model to deliver the customer service offering;
- Improved business processes and focus on best operating practice; and
- Improved financial performance.

1. 4 Problem Statement

The fabrication customer segment makes up a major proportion of the company's customer base. Over the past few years, the company has been experiencing a "share of market" and "share of customer" decline, indicating a loss of existing customers in the fabrication segment.

There is a lack of knowledge of buyer behaviour in the fabrication segment. Understanding the decision-making processes that buyers go through when purchasing industrial and special products (welding consumables, safety products and gases) for the fabrication industry will assist in enhancing the marketing capability of the company.

1.5 Research objectives

The objective of this study is to understand buyer behaviour when purchasing industrial and special products with specific reference to fabrication customers of Afrox.

The sub - objectives are as follows:

- To identify the value and non-value drivers in the fabrication buying segment of the market; and
- To establish the needs and selection criteria buyers use when purchasing welding and fabrication products.

1.6 Rationale for the study

The rationale for conducting this study is as follows:

- This study identifies common consequences and values sought by buyers. In addition, the study identifies the relationship and hierarchy between specific attributes in the fabrication industry. Therefore, by understanding the ideals sought by industrial buyers, the company can assist in improving its customer orientation;
- The purchasing of industrial goods, especially for the fabrication industry, is typically categorised as complex and high-risk, from the problem recognition stage to the post-purchase stage. For this reason, this study will help to uncover the complex and high-risk issues in the process;
- It would be beneficial to provide a basis from which future customer perceptions can be identified and to provide an objective basis for a future review for the development of business and marketing strategies; and
- For the company, it is critical to understand the growing market and develop an understanding of buyer behaviour in the fabrication industry segment, which can be targeted specifically to ensure profitable growth.

1.7 Benefit of the study

The benefit of the study should be realised when the needs and buying criteria that buyers undergo in the fabrication industry are understood. The company recognises the importance of high service levels to its customers and wishes to assist the fabrication industry to improve the level of customer satisfaction. This study will measure how satisfied customers are with their current suppliers and the level of service they receive. Also, the study will assist the fabrication industry to improve the quality of its products and services to the benefit of fabrication buyers. For marketers that interface with the fabrication industry, it is very important to be aware of the buying process, buyer behaviour and buying centre roles, including buyer supplier choice criteria.

The awareness and understanding of these characteristics can efficiently simplify the selling process and facilitate the product presentations and better meet customers' needs and values.

1.8 Limitations of the study

The study is confined to buyers at 485 fabrication customers trading with Afrox, and based on Sekaran, (2002:294), a statistically significant sample of 214 is recommended. The sample is drawn from the company customer database for purchases in the last financial year. It is not significant to broaden the research problem to include other industries since the buying behaviour and choice criteria is so different in each subject (Bharadwaj, 2004:317-323). Furthermore, in most cases, the scope of this work is limited to the time that can be invested, thus the ambitions of this dissertation cannot be to give a complete answer to the research problem. The research is, therefore, limited to answer the research question presented in this study.

1.9 Structure of the report

The study consists of five chapters and a brief discussion on each chapter follows.

1.9.1 Chapter One

Chapter one presents an overview of the study. It encompasses the introduction, overview of the company, background to the problem, the problem statement, research objectives, the rationale, benefit of the study, limitations, and structure of the report. The methodology presented will give the reader an introduction and background to the intention of the study, motivating and finally defining the research problem.

1.9.2 Chapter Two

Chapter two reviews the literature on industrial buyer behaviour in general, giving an overview of the evolution of buyer behaviour. The first part deals with the classification for the chosen research area, illustrating overall models of industrial buyer behaviour. The second part will present different perspectives in the industrial buying processes. Furthermore, the concept of decision-making units within industries will be discussed and is followed by a brief discussion of concepts within industrial buyer behaviour theory.

1.9.3 Chapter Three

Chapter three details the research methodology for this study. It describes the procedure the researcher went through when gathering data and information required for analysing

the research questions. This chapter covers the theoretical research – approach and strategy, data collection, analysing of results, and problems with the methodology.

1.9.4 Chapter Four

Chapter four presents the research results and theoretical data that is cross sectional, descriptive, and quantitative from a questionnaire administered to buyers in the fabrication industry dealing with Afrox.

1.9.5 Chapter five

Chapter five presents the conclusions and recommendations. Based on the analysis and findings, this final chapter will include conclusions of the studied buying characteristics of industrial buyers at Afrox. It will also consist of recommendations for marketers in this industry as well as for further research.

1.10 Conclusion

Chapter one presents an overview of the study, encompassing the introduction, overview of the company, background to the problem, the problem statement, research objectives, the rationale, benefit of the study, limitations, and structure of the report. Chapter two reviews the literature on industrial buyer behaviour in general, giving an overview of the evolution of buyer behaviour.

Chapter three details the research methodology for this study, describing the procedure the researcher went through when gathering data and information required for analysing the research questions. Chapter four presents research results and theoretical data that are cross sectional, descriptive, and quantitative from a questionnaire administered to buyers in the fabrication industry that deal with Afrox. Chapter five presents the conclusions and recommendations. Based on the analysis and findings, this final chapter will include conclusions of the buying characteristics of industrial buyers at Afrox.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to give an overview of the evolution of industrial buyer behaviour. The first section deals with the classification for the chosen research area, illustrating overall models of industrial buyer behaviour, industrial buying processes and decision-making units within the fabrication industry and choice criteria in industrial buying. An understanding of buyer decision-making, group buying, buying centre, buying situations and buying online are discussed. In addition to these aspects, buyer/seller relationships are discussed including influences on major industrial buyer behaviour followed by post-purchase behaviour.

2.2 Industrial buyer behaviour

Robinson, Faris & Wind presented a buy grid-framework in 1967, which laid a foundation for many researchers. This framework has since been commonly referred to in industrial buyer behaviour literature, e.g. (Ghingold, M., & Wilson, D.T., 1998:96) referred to in Bayle (2003:23). The purpose of this framework was to enable managers to analyse the major phases of the buyer decision process.

Buyer/seller relationships are becoming the key ingredient in successful organizational marketing, shifting from activities concerned with attracting buyers to activities concerned with retaining current customers. Technical support, expertise, resource support, service level agreements, and risk reduction can build relationships (Cant, M.C., Brink, A., & Brijball, S., 2002:211).

There is always a need to investigate how the buyer behaviour of firms functions, since it is an ever changing process influenced by many forces in its surroundings. Industrial firms tend to have a smaller number of customers, which means that they are easier to identify than customers in consumer markets. Many have researched this issue and there is general agreement that the major components of industrial buyer behaviour are: the buying process; the buying centre and the factors affecting them (Bapista, 2001:2). All firms, whether manufacturing products or delivering services, sell something and are, therefore, dependent in one way or another on customers. According to Brassington &

Pettitt (2000:213), 'the satisfaction of customers' needs and wants is the essence of marketing philosophy '.

Industrial buyer behaviour is characterised by a selection of a number of variables (Webster & Wind, 1972:12-19). The variables are divided into four fundamental classes; environmental; organizational; interpersonal and individual. Table 1.1 illustrates this classification by exemplifying variables being used and correlates between these tasks. The variables are also grouped into task and non-task variables that apply to all other classes. Task variables are directly related to the buying problem and the non-task variables are broadened beyond the specific buying problem. Separating task and non-task variables are always not so obvious, so the one being predominant should be chosen in many cases.

Table 1.1: Variables interest in organization buying decisions

	Task	**Non Task**
Environmental	Anticipated price changes	Political climate in an election year
Organisational	Policy regarding local supplier preference	Methods of personnel evaluation
Interpersonal	Meetings to set specifications	Informal, off-the-job interactions
Individual	Desire to obtain lowest prices	Personal values and needs

Source: Webster & Wind (1972:12)

According to Kotler (2000:197), organisational buying is the decision-making process by which formal organisations establish the need for purchased products and services, and identify, evaluate, and choose among alternative brands and suppliers. The term 'organisational buying' reflects purchasing in three different buying situations i.e. industrial buying, buying for resale, and institutional buying. Industrial buying and organisation buying tend to be used interchangeably in the literature, but industrial buying is really a subset of organisational buying. The process of organisational buying behaviour differs from consumer buying in that the psychological and emotional

considerations attached to the latter should not apply here. However, organisational buyers are human, so clearly some 'emotion' might be involved, but, generally, it can be said that commercial considerations are of prime significance when arriving at purchasing decisions. The similarity between consumer and organisational purchasing is that they both represent a need satisfying process. This need reflects itself in buying behaviour, and this is why it is important that marketers understand purchasing motives in order to target their marketing efforts effectively in a way that satisfies these needs. It can be seen that organisational purchasers have to work with more stringent purchasing constraints because they have the commercial and budgetary interests of their respective organisations to serve. They also have logistical factors, such as delivery schedules, to maintain. There are little opportunities for 'impulse' purchasing in which everyday consumers can indulge. As purchasing professionals, they should have a great deal of technical and commercial knowledge about their prospective purchases (Walter, A., Ritter, T., & Gemünden, H.G., 2001:366).

The model of the organisational purchasing decision process in Table 1.2 is, perhaps, more precise in its application than the models that are suggested for consumer buying behaviour as items for purchase require a more business-like description through a formal specification at the 'need description' and 'product specification' stages. The purchasing decision process initiates from the problem recognition stage, followed by the need recognition stage, and then the finalisation of the product specification. Once this stage is complete, the supplier search begins and supplier selection and supplier service level will be then reviewed and, finally, order routine specification will be set, (Kotler, 2000:203).

Likely suppliers tend to be more cautiously vetted prior to a first order being placed, and it is not uncommon for purchasing and other executives to visit the supplying company beforehand, in order to ascertain whether or not the supplying company measures up to quality, financial and other reliability criteria. The purchase routine specification will instruct the supplying company in relation to quantities to be delivered at specific dates through a delivery schedule if the entire order is not all needed at once.

Table 1.2: The organisational purchasing decision process

1) Problem recognition
2) Need description
3) Product specification
4) Supplier search
5) Supplier selection
6) Performance review
7) Purchasing routine specification

Source: Kotler (2000:203)

Organisational purchasing is more 'scientific' than consumer goods purchasing. Individual organisational purchasers are subjected to the marketing actions and efforts of their current and potential suppliers. Reference groups also exist within organizational situations, and there can be influences from outside of the purchasing department. It should also be noted that individual buyers have discrete psychological attributes which can also influence decision-making (Kotler, 2000:203).

2.3 Internal processes behind the purchasing decision

In addition to the value analysis underlying the companies' decisions related to the make-or-buy decisions, also the internal processes of a buying company have gained a lot of attention in the literature. The research related to the organisational buying behaviour has provided a variety of models describing how companies conduct internal purchasing-related activities. Although these models also include aspects related to other elements of the market process, besides the need generated by the buyer itself, these theories are briefly discussed to understand how companies decide to conduct purchasing operations and how they proceed with the acquisition.

In organisational buying behaviour, purchasing has been often analysed from a process point of view, concentrating on the different phases and tasks that occur as organisations are conducting purchasing-related activities (Parkinson & Baker, 1994:78).

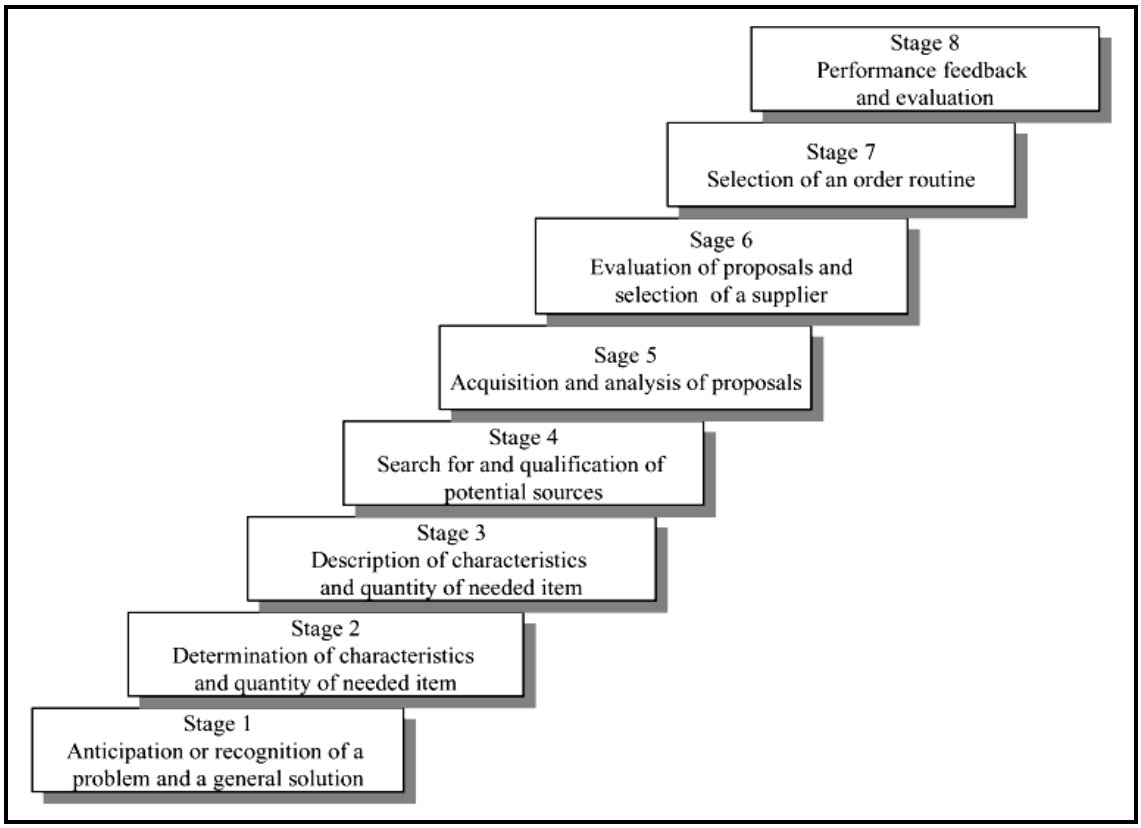
This perspective concentrates on purchasing as a series of decision-making situations, in which the organisation, through its representatives, conducts rational decision-making. This is comparable to theories on complex consumer decision-making. According to Webster & Wind (1972:2), organisational buying is the 'decision-making process by which formal organisations establish the need for purchased products and services and identify, evaluate and choose among alternative brands and suppliers'. The definition brings forth the idea of understanding purchasing as a series of decisions that organisations make in order to conduct the purchasing act.

The purchasing process has been broadly defined as the set of actions and dynamic factors that begins with the identification of a stimulus for action and ends with the specific commitment to action. The phases of the organisational buying process have been formulated by several researchers, each of them presenting more or less similar listings of the phases constituting the industrial buying process (Webster & Wind, 1972; Moller & Laaksonen, 1986:163-207).

One of the most often cited illustrations of this purchasing process are the Buy-Phase model presented by Robinson, Faris &Wind (1967:245). The process of making a purchasing act goes through eight phases shown in Figure 1.2, beginning with the recognition of the need, and ending as the purchased product's performance is evaluated. According to the buy-phase model (Robinson *et al*., 1967), the acquisition of a product or service begins as the need is identified (Stage 1). The following steps include determination of the characteristics and quantity of the needed item (Stage 2), and preparing description of these (Stage 3), searching for potential suppliers (Stage 4), acquisition, and analysis of the proposals (Stage 5) and selecting the best supplier (Stage 6). Finally, the practical order procedures must be selected (Stage 7) and after receiving the product, the performance must also be evaluated (Stage 8). These kinds of description of the purchasing conducted in organisations are, however, not in accordance with all the buying situations taking place in industrial organisations. Evidently, such a complicated and long process is not needed in every buying situation and this has lead researchers to use another perspective as well. The way companies conduct their purchasing activities is

affected by the kind of products they are buying. Several different kinds of product classifications have been formulated for this purpose.

Figure 1.2: The steps in the purchasing process



Source: Robinson *et al*., (1967:14)

These classifications, from the marketing manager's perspective, have created a lot of interest and research related to the decision-making unit or to the buying centre. Webster & Wind (1972:12-19) have presented several roles that the participants have in the decision-making process (shown in Table 1.2) that can be identified. In addition to the users of the purchased item, in the buying centre, there are those factors that may not be centrally involved in the purchasing decision, but have a more or less evident influence on the purchasing decision. Buyers are identified as those having the authority to select suppliers and arrange the terms of purchase, whereas the deciders are those who have the formal or informal power to determine the final choice of supplier. Gatekeepers are those

individuals that have influence over the purchasing decision through having control over the flow of information into the organisation.

Table 1.3 Indicates the types of power to elicit cooperation and it is contended that it is critical for marketers to locate powerful buyers because they tend to have more say, that is, direct in-purchasing decisions at the negotiation stage. Buyers of relatively low status may be able to impede a purchase for a variety of reasons.

Table 1.3: Types of power to elicit cooperation

Reward	Ability to provide monetary, social, political, or psychological rewards to others for compliance
Coercive	Ability to withhold monetary payments or other punishments for non-compliance
Attraction	Ability to elicit compliance from others because they like you
Expert	Ability to elicit compliance because of actual or reputed technical expertise
Status	Compliance from the ability derived from a legitimate position of power in a company

Source: Kotler (2000:501).

2.4 Determinants of the structure of group buying decision-making process

Any buying decision is a complex process. Such questions, as to why buying occurs, when it occurs, how suppliers are chosen, who does the buying, and why one product or a service is chosen over another, are in the focus of explorers. Formal and informal inclusion of many people in situations when buying is not in their personal interest makes the buying task more complicated. Groups and group buying decision-making in enterprises can be characterized by their interaction patterns, decision-making processes, conflict resolution mechanism, and a number of other elements. According to Katrichis (1998:135-146), the interaction patterns are better analyzed in the context of four variables influencing the buying decisions i.e. power, specific buying influence, share and commitment.

The power is the possibility or capability to influence organizational decisions to give results favoured by the source of influence. The influence capability or influence potential could result in an actual influence. It is necessary to differentiate having power and using it for the purpose of exerting influence. The specific buying influence, as well as the change in buying opinions and behaviours resulting from participation in buying decisions, has been extensively explored in the literature about behaviour of enterprise in buying process. Reasons for individual influences are associated with individual characteristics, qualifications, specialty, specific self-confidence, information control, position in communication flows, formal authority, reward system, buying centre size, buying risk, size of organization, and organizational structure. The concept of share is developed on the basis of relation between decision importance, influence, and interaction. It is related to the importance of buying both for departments and for buying centre members. Commitment in buying decision-making is defined as perceived relevance of decisions based on individual needs, values, and interests. The individual effort made in trying to influence organizational decisions is determined by the level of individual interest in the problem (Arora & Allenby, 1999:476-487).

The buying decision-making process in informal communication networks is characterized by interaction of many participants or groups with alternative solutions for buying in an organization. During the buying decision-making process in an organization, different interest groups are formed around particular goals and responsibilities. One of the most important characteristics of the buying decision unit is, therefore, structure, which includes the alliances or coalitions that are formed among members in attempting to achieve particular group outcomes. "Coalition can be defined as a subset of a group in a negotiable mixed-motive conflict situation, which explicitly agrees to coordinate its efforts in the joint use of resources"(Morris, 1999:263-276). The coalitions are temporary, means-oriented alliances among individuals or groups differing in goals, their members usually demonstrate little value consensus, and they effectively agree to tacit neutrality on issues beyond the immediate purpose or object of the coalition (Katrichis, 1998:135-146).

2. 5 Researching industrial buyer behaviour

The formed alliances are probably contemporary since the joint interests will exist in all buying decisions. Some coalitions, however, have long lives and affect a wide variety of buying decisions over time. Business organisational decision-making is a result of the bargaining process between rival coalitions. Each interest group has a vision to direct it toward a designed solution and it tries to influence competitive camps. The aim is to coordinate the camps and desired strategic thinking of the coalitions. The vision of interest group could be conceptualised as a mental model or map representing its key beliefs about the problem. The communication networks, their structure, member interactions, and interaction sources are more significant for strategically important buying. Such decision-making is important for commitment resources quantity, which is complex since the solutions are multidimensional and with uncertain result. Collective, since every solution depends on participation of different groups having a role in the decision-making process. Resultant, since the decision-making process includes relative permanent commitments, which have deep internal and external expansion. In these cases, the members of communication network are managers from different parts and departments of the enterprise and levels of hierarchy (Anderson & Chambers, 1985: 7-23).

Market and situational determinants of buyer-seller relationships are customer evaluations of the supplier legal bonds, operational linkages, cooperative norms, adaptations by sellers, customer evaluation of supplier performance, customer satisfaction, availability of alternatives, supply market dynamism, importance of supply, complexity of supply types of buyer-seller relationships and information exchange adaptations by buyers including key constructs relevant to the practice of buyer-seller relationships (Cannon *et al.*, 1999:439-460).

Complexity of many decisions, combined with the inherent conflict that arise among decision-making participants, provides significance incentives for individuals to collaborate with others. The collaboration can serve any number of purposes. Coalitions may be oriented on information gathering, exchange and learning. They may work to ensure that a particular vendor is considered. They may seek to have the product

specifications modified in some way. If there is a high risk following the decision, coalitions represent a way for its minimising. The individual behaviours in communication network can depend on their perception or own interests. The individual perceptions concerning rewards, risk and power positions are also very important. These perceptions are translated into preferences regarding the relative importance of different products and vendor attributes, priorities regarding what should be purchased and for how much and opinions regarding particular vendors and their offerings (Anderson & Chambers, 1985:11).

The research of interconnected relationships includes three significant aspects: activity of connection is valuable in providing a degree of coordinated activities between companies; tied resources - as the value of adapted resources of each company to requirements of others; and actors of connection - value from the aspect of individuals in two inter-connected organizations. Coordination activities in interconnected relationships increase productivity of inter-connected organizations, resource adaptations, enhance innovativeness of organisations, and social integration expands opportunities for knowledge and information transfer (Dawes, L., Lee, Y. D., & Dowling, R. G, 1998:55-68).

Exploring industrial buyer behaviour is, therefore, not simply concerned with determining the name or position of a person who ultimately makes the buying decision. It is more important to establish a capability of buying centre participants to work with, exert influence, and then become a part of a dynamic group decision process. Doing so requires identification not only of who the relevant participants are in the buying process, but also of which participants common interests have and which are likely to work together in seeking a given outcome (Anderson *et al*., 1985:23).

The two individual characteristics explain why some people have greater influence during the process of supplier selection. The first characteristic, influence on decision, explains people's motivation for participation in the decision-making process in order to enhance the influence on organizational buying decision. Therefore, there is an individual share in the final result of buying decision. The second individual characteristic, orientation on

innovations, is of special importance in new buying when buying centre members have the opportunity to be more innovative or more conservative. Multidiscipline exploring customer behaviour indicates that more innovative managers have a central position in social networks and, consequently, generally greater influence. The results of organizational exploring also indicate that more innovative managers have a central place in communication networks (Dawes *et al*., 1998:55-68).

2.6 Techniques of exploring industrial buyer behaviours

The coalitions are temporary, means-oriented alliances among individuals or groups differing in goals, their members usually demonstrate little value consensus, and they effectively agree to tacit neutrality on issues beyond the immediate purpose or object of the coalition.

Coalition is one of the most explicit interactions in human groups. However, it is quite difficult to detect the existence of a coalition, unless unusual behaviour of its members is recognised. Much of the research on coalitions is an outgrowth of game theory research. Coalitions are typically examined in three or four-person groups, and variables, such as resource positions, communication linkages, or bargaining experiences, are very important (Bonoma & Shapiro, 1984:104-110).

“Coalition can be defined as a subset of a group in a negotiable mixed-motive conflict situation, which explicitly agrees to coordinate its efforts in the joint use of resources” (Morris, H. M., Berthon, P., & Pitt, F. L., 1999:263-276). The identification of coalitions is usually established by requiring subjects to select specific individuals in the group to whom they will make offers, negotiate, and establish some agreement regarding the joint use of resources. In many studies, subjects are allowed to meet separately from the group in order to negotiate, and coalitions are identified in terms of written or observed agreements. The objectives of research are to determine which coalitions are formed and the characteristics of winning coalitions.

Bonoma & Shapiro (1984:104-110) suggest a "nesting approach" to the segmentation of industrial markets, and scaling to identify coalitions can be a useful way of implementing

this strategy. At the more general level, an enterprise could cluster by industry, to observe whether coalition types tended to be industry specific. However, going to particular variables of segmentation, the enterprise is attempting to find more specific bases for coalitions. Disregarding each organization's unique structure, it is possible to identify some usual situations in the sense of "whom with who forms coalition in the scope of market segment".

2.7 Types of buyer behaviour (Buying situations)

The four types of buying behaviour are complex, dissonance reducing, habitual, and variety seeking. In complex buying behaviour, for example, the product to be purchased is expensive, complex, high risk and bought infrequently or will have a major impact on the individual's life. Usually, the buyer does not have a lot of knowledge about the product and will seek advice (Bharadwaj, 2004:323).

Buyers will go through a three-step decision-making process, this being: develop a belief about the product, develop an attitude about the product, and make a thoughtful choice. In contrast, if the buyer is unhappy with the purchase, the opposite will happen. In habitual buying behaviour, buyers form a belief by passive learning, which leads to a purchase behaviour, followed by an evaluation of the product. Price and sales promotions play an important role in this type of buying process and marketing communication focuses on only a few attributes of the product that will create a lasting impression. In variety-seeking buying behaviour, there is low-involvement from the buyer, but there is a significant brand difference (Kotler, 2000:178).

Major purchases, especially those requiring a high degree of involvement for the buyer, may result in some form of cognitive dissonance. When buyers are faced with many attractive alternatives, choosing one will often leave him/her wondering if he/she should have chosen another. Sweeny, Hausknecht, & Soutar (2000:369, 385) analysed the concept of cognitive dissonance over the entire decision-making process. The study concluded that conflict "originates in the pre-purchase phase," and "the construct is labelled apprehensions and increases over the decision process".

High involvement purchases are those that are important to the buyer either from a financial, social, or psychological point of view; for example, the purchase of high priced equipment. The purchase is characterised by personal relevance and identification with the outcome (Hanna & Wozniak, 2001:291).

2.8 Buyer decision-making

Buyer decision making is a process by which formal organisations establish the need for purchased products and services, then identify, evaluate and choose among alternate brands and suppliers (Kotler, 2000:211).

The decision to buy a low value product like a leather safety glove differs from the decision-making process to buy a high value product as a welding machine. As involvement increases, buyers have a greater motivation to attend to, comprehend, and elaborate on information pertaining to the purchase (Mowen & Minor, 1998:64).

As the purchase carries a minimal degree of personal relevance or identification, the individual feels there is little or nothing to be gained from attending to the details of a purchase (Hanna & Wozniak, 2001:32).

The purchase of a pair of welding safety leather gloves valued at a low price may require minimal or no premeditation and planning for some consumers. In low involvement conditions, the arousal level will be low, so the buyer focuses on relatively little memory capacity on the stimulus (Shiffman, L.G., & Kanuk, L.L., 2004:210).

As involvement levels increases, buyers may allocate more capacity to a stimulus. The various types of buying decisions that depend on the buying situation are new task buying, straight re-buy and modified re-buy (Cant *et al*., 2002:203). The marketing implications with new task buying are that they should gather information on issues facing the buying organization, determine requirements, and offer solutions and proposals to meet those needs.

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In low involvement conditions, the arousal level will be low, so the buyer focuses relatively little memory capacity on the stimulus (Shiffman *et al*., 2004:210). As involvement levels increase, buyers may allocate more memory capacity to a stimulus.

The status, authority, credibility, and degree of empathy would influence the outcome of the buying centre, and members from this centre can positively or negatively affect purchase from suppliers. These members can be influencers, buyers, decision-makers, or gatekeepers. In analysing the buying centre, the following should be answered: who are the members, what is their power base, what is the relative influence on decisions and what are each member's evaluation criteria? (Cant *et al*., 2002:204-207).

If the integration and organisation of the purchasing function with the operational functions is not satisfactorily organised and managed, disruptions to output, income losses and different kinds of adverse effects on competitiveness of the company may result (Laios & Moschuris, 2001:351-372).

The consumer's buying decision-making process involves five stages: the problem recognition, and information search, evaluation of alternatives, purchase decision, and post purchase evaluation stage. (Shiffman *et al*., 2004:555), mention that the act of making a consumer decision consists of three stages, namely, recognition, secondly, information search and, thirdly, evaluation of alternatives.

The recognition of a problem occurs where there is a discrepancy between a consumer's desire and the actual state that is sufficient to arouse and activate the decision process. A growing recognition of a need or want can be satisfied through some sort of consumption.

An internal information search is needed if a purchase involvement is low and requires an internal information search. However, if the purchase involvement is high, which required additional search, it would need both internal and external searches (Neal, C., Quester, P., & Hawkins, D., 2000:36- 44).

Beyond physical filters, there are psychological filters that will also modify the customers' perception. These include memory, knowledge, beliefs, and values. Perceptions are genuinely felt and only by reminding customers (counteracting lack of memory), educating them (counteracting lack of knowledge), and changing their beliefs and values can their perceptions be changed (Horvitz, 2000:5).

Feedback mechanisms reduce uncertainty regarding seller quality without increasing the average prices of products, which are significantly lower compared to traditional markets (Kauffman & Wood, 2000:936). In the case of low involvement, a buyer views a purchase as unimportant and regards the outcome of his or her decision as inconsequential. Since the purchase carries a minimal degree of personal relevance or identification, the individual feels there is little or nothing to be gained from attending to the details of a purchase (Hanna & Wozniak, 2001:290). For example, a purchase of low value protective gloves require minimal or no premeditation and planning for some buyers.

High involvement purchases are those that are important to the buyer either from a financial, social, or psychological point of view. The purchase is characterized by personal relevance and identification with the outcome (Hanna & Wozniak, 200:291).

Problem recognition is the first stage in the whole consumer decision-making process. Problems arise for consumers in their attempts to develop, maintain, and/or change their lifestyle. The recognition of a problem occurs where there is a discrepancy between a consumer's desire and the actual state that is sufficient to arouse and activate the decision process (Neal, *et al*., 2000:36).

2.9 Choice criteria

In all models describing industrial buyer behaviour, there is a point of choice between different alternatives. In order to make the best choice and succeed in business, organisations should base their choice of a supplier upon critical evaluation criteria. The four classical criteria are quality, delivery, price and service, and, seemingly, the importance between these criteria has changed during the past years as illustrated in Table 1.4 (Bharadwaj, 2004:318).

Lehman & O'Shaunnessy (1974:36-42) found that the relevance of the attributes is mainly dependant on the product type, the buying situation at hand and buyer perceptions of the supplier. Some researchers have found that generally the purely economical factors, (including delivery, capability, quality, price, repair service, technical capability and historic performance) were the most significant factors (Dempsey, 1978:257).

Table 1.4: The importance of different classical decision criteria across studies
1= most important, 4= least important

Study	Rank order of decision criteria			
	1	2	3	4
Lehman & O'Shaunnessy(1974)	Delivery	Price	Quality	Service
Evans (1981)	Delivery	Price	Quality	Service
Lehman & O'Shaunnessy(1982)	Quality	Price	Service	Delivery
Wilson (1994)	Quality	Service	Price	Delivery

Source: Bharadwaj (2004:318)

Dempsey (1978:257) concluded that no single vendor attribute should get a unique level of importance and that the attributes found at mid-level importance might very well be the ones that make the final decision fall in a specific direction. The author suggests five fundamental factors that are of the most importance in industrial buying:

- Vendor stability;
- Basic economic criteria;
- Geographic affinity;
- Assurance mechanisms; and
- Attendance services.

Vyas & Woodside (1984:370-376) found in their inductive model of industrial choice that the most frequently used qualifying criteria to get approved by buyers were capacity, location and quality, as follows :

- Uninterrupted shipment is very important. Thus, the capacity, capability, and location is a deciding factor;
- Transportation costs are significant with larger quantities. Thus, the location of mining, manufacturing, or storage facilities was important, and local suppliers were preferred; and
- The vendor's ability to supply quality products was frequently referred to at their existing customers and when technically complex products receive the approval from engineering and quality control departments as needs (Vyas *et al*., 1984:370-376).

Table 1.5 illustrates a list of choice criteria used in industry in the past. Factors such as quality, delivery, price and service are often seen as significant choice buying criteria when choosing suppliers. Whether these are controllable or not depends on the situation at hand. The emphasis of these factors changes, depending on the buying organisation, specific buying situation and the individuals involved in the buying decision (Bharadwaj, 2004: 323).

Table 1.5: List of choice criteria in prior studies

Adjustment to your firm's needs	**Packaging capability**
Aid and advice	**Performance history**
Attitude towards buyer	**Post sales (repairs) – service history**
Bidding compliance	**Price**
Order cycle time (between delivery and order).	**Production facilities**
Moral/legal issues	**Progress communications**
Management organisation	**Quality**
Labour relations record	**Reliability of date promised**
Geographical locations	**Reputation**
Financing terms	**Spares availability**
Financial position	**Accuracy of billing**
Ease of operation or use	**Ability to fill emergency orders**
Date on reliability of product	**Accuracy in order processing**
Ease of maintenance	**Technical capability**
Control systems	**Training offered by suppliers**
Convenience of placing order	**Training time required**
Delivery capability	**Technical specifications**

Source: Bharadwaj (2004:323)

2.10 Organisational Buying situations

The various types of buying decisions that depend on the buying situation are new task buying, straight re-buy and modified re-buy (Cant *et al*., 2002:203). Marketing implications with new task buying are that they should gather information on issues facing the buying organization, determine requirements, and offer solutions to meet those needs.

Three major types of organisational buying situation have been identified, together with the problems surrounding each situation, viz. straight re-buy, modified re-buy and new task buying (Kotler, 2000:194,195):

- Straight re-buy :

This continuing or recurrent item or commodity involves little purchasing effort which is routinely dealt with within current purchasing arrangements. Suppliers are known representing much of the purchasing activity in many companies and past experience establishes a reliable supply pattern making market entry difficult for new suppliers.

- Modified re-buy :

This is a continuing need but at an expanded (or decreased) purchase level. Minor changes to the product specification require additional information and, may result in the change of the regular supplier. Companies who are not supplying attempt to convert the straight re-buy into a modified re-buy and internal circumstances such as (e.g. a new buyer) might want to look for cost reductions or better service or better quality.

- New task buying :

New task buying occurs when an unfamiliar or new product or new specification is required having an extensive need description and supplier search. This is a challenging purchasing task as there is no past experience to draw upon. This infrequent purchase occurrence sets the pattern for a more routine straight re-buy and modified re-buy situation. Creative marketers will anticipate this event and will make the appropriate marketing appeals.

The straight re-buy situation is routine for buyers, with low involvement buying and information needs and low consideration of alternatives. Approved vendor lists are used for straight re-buy, thus marketers must influence and build on buyer relationships, meet buyer expectations and adapt to changing needs of the buying organisation. In the modified re-buy situation, the buyer intends modifying product specifications, prices, terms of suppliers and revaluates suppliers. The marketing effort depends whether it is a regular supplier. The in-supplier should intend moving the buyer from a modified re-buy situation to a straight re-buy situation and the out-supplier should intend holding the buyer in the organization in a modified re-buy situation (Cant *et al*., 2002:203).

In past purchasing literature, a great deal of interest has been given to the notion that organisational buying differs according to the type of product that is being bought. The

differences in the purchased products have been seen as the central issue in planning effective purchasing practices for organisations. In a study regarded as something of a classic, Robinson, Faris & Wind (1967:245) also identified three types of buying situations relating to straight re-buy, modified re-buy and new task.

Different buying situations are identified on the basis of the experience that the buying organisation has in relation to the specific item being purchased. It is argued that the described purchasing process with several phases is used in the case of new buy. This process refers to a situation when the product or service has never been bought before. A straight re-buy refers to a situation in which the purchasing is a routine action, conducted by the purchasing department. Usually, only two phases are needed in straight re-buys, the need recognition and placing an order using a list of approved suppliers. A modified re-buy is the kind of buying situation in which the purchased item has also been bought earlier, but not so frequently that it is conducted automatically. The amount and type of information used during the modified re-buy purchasing process varies. The purchasing decision-making has been characterised by the number of individuals participating in the decision-making process as opposed to consumer decision-making (Robinson *et al*., 1967:245).

2.11 The buying centre

The status, authority, credibility, and degree of empathy would impact on the outcome of the buying centre, and members from this centre can negatively or positively impact on the purchase from suppliers. These members can be either influencers, buyers, decision-makers or gatekeepers. In analyzing the buying centre, the following should be answered i.e. who are the members, their power base, relative influence on decisions and what is each member's evaluation criteria? (Cant *et al*., 2002:207).

It is important for marketers to know when, how and where buyers make their choices, which can have influence on the buying centre and buying process. The marketer needs to understand what influences are involved and how they are likely to impact the decision process (Kauffman & Wood, 2000:929-936). These influencing factors can be divided into different groups to help the marketer to understand and structure the influences.

According to Parkinson & Baker (1994:54), studies concentrating on the issue of the buying centre have been focusing on the composition of the buying centre and on the factors affecting the configurations of the decision-making units. Research has also been focusing on the ways in which the different members of the buying centre interact through the purchasing process. Also, a situational factor for organisational decision-making has been studied (Moller & Laaksonen, 1986:163-207), suggesting that there are different kinds of both external and internal factors that influence decision-making.

Buying forces shape organizational behaviour. With regard to the environmental forces, the buyers monitor all economic, technological, political, social, and competitive developments. The individual factor is important as an individual makes the buying decisions and each member has a unique personality, experiences, and status in the firm to best achieve personal and organizational goals (Cant *et al*., 2002:204).

According to Katrichis (1998:135-146), the interaction patterns are better analyzed in the context of four variables influencing the buying decisions power, specific buying influence, share, and commitment. The power is the possibility or capability to influence organizational decisions to give results favoured by the source of influence. The influence capability or influence potential could result in an actual influence. It is necessary to differentiate having power and using it for the purpose of exerting influence. The specific buying influence, as well as the change in buying opinions and behaviours resulting from participation in buying decisions, has been quite explored in the literature about behaviour of enterprise in the buying process. Reasons for individual influences are associated with individual characteristics, qualifications, specialty, specific self-confidence, information control, position in communication flows, formal authority, reward system, buying centre size, buying risk, size of organization, and organizational structure.

The concept of share is developed on the basis of relation between decision importance, influence, and interaction. It is related to the importance of buying, both for departments and for buying centre members. Commitment in buying decision-making is defined as perceived relevance of decisions based on individual needs, values, and interests. The

individual effort made in trying to influence organizational decisions is determined by the level of individual interest in the problem (Morris *et al*., 1999:263-276).

The buying decision-making process in informal communication networks is characterized by interaction of many participants or groups with alternative solutions for buying in an organization. During the buying decision-making process in an organization, different interest groups are formed around particular goals, responsibilities, and intents on different hierarchy levels. One of the most important characteristics of the buying decision unit is, therefore, structure, which includes the alliances or coalitions that are formed among members in attempting to achieve particular group outcomes (Katrichis, 1998: 135-146).

2.12 Buyer/supplier relationships

Buyer/seller relationships are becoming the key ingredient in successful organisational marketing, shifting from activities concerned with attracting buyers to activities concerned with retaining current customers. Technical support, expertise, resource support, service level agreements, and risk reduction can build relationships (Cant *et al.*, 2002:211).

A company is dependent on its environment. Without interaction with other parties, the organisation has no activity and no means of creating value. When companies possess complementary, heterogeneous resources, cooperation is likely to emerge. The access to the resources of another company is achieved through interaction, it is through interaction that relationships are created and maintained. Simply put: "… Interaction is not a simple mechanism regulating the life of the company, but a major part of its life. It is through interaction that a company exists and develops…Hence, interaction is a fundamental aspect of development" (Hakansson & Waluszewski, 2002:14).

Since the 1970´s, the dominant discussion within the IMP Approach (the industrial marketing and purchasing school of thought) is about understanding how business markets operate, from single companies interacting with other companies on a transactional basis, towards long-term relationships through interaction to partnerships, alliances, and networks of companies. The interest has been on why companies invest in

relationships, what can be gained from this type of interaction, and on the different ways of looking at value and value creation in such a context (Walter *et al*., 2001: 366).

As companies interact over a period of time with their partners, they get more or less dependent on each other. Being highly involved in a relationship has its advantages, but is not totally risk, or problem-free either. First of all, a high-involvement relationship is always resource demanding and, secondly, becoming too dependent on a single relationship, either through over customization or dependence in the form of volume is always risky and should be carefully evaluated case by case (Hakansson *et al*., 2002:55). Most companies that have chosen the relationship path seem to be struggling with this issue of how to find the balance between dependence and independence.

Business purchases are not the action of one party and reaction (or not) of the other, and is characterised by two active parties interacting with each other (Ford *et al*., 2002:234-257).

Walter *et al*., (2001:369) studied value from the supplier's perspective by using "functions of a customer relationship" as a way to categorise how the supplier perceives value. They talk about direct and indirect functions and mention that a third type of functions, namely, social functions, could be added to make the picture more complete. By direct functions of a customer relationship they mean: the profit function, the volume function, and the safeguard function. Indirect functions are: the innovation function, the market function, the scout function, and the access function. They argue that the "supplier perceived value" consists of the above-mentioned functions of a customer relationship.

Network processes are often discontinuous due to different types of events that mark or trigger important transition periods either for the evolution or dissolution of networks (Halinen & Tornroos, 2005:285).

There were buying centres with the task of buying as efficiently as possible. The relationship with the supplier was adversarial. Today, companies act in networks of relationships where the interaction between buyer and seller is increasingly characterised by partnership and cooperation. The buyer-seller partnership is one type of (strategic)

alliance between two organizations. Companies tend to enter into high-involvement relationships if it is perceived that there is something to gain in working more closely together. A customer taking a high involvement approach to a relationship does not try to optimise the price in each single transaction. Instead, it aims at improving its operations in the long- term by using its supplier's resources more effectively. In the same way, a supplier that takes this approach does not seek to maximise price and minimise effort, but instead work for improving both its own and the customers' business for the long-term (Kothandaraman & Wilson, 2001:380).

This approach involves attempts to reduce the total costs of the relationship by effective adaptations done by companies as well as innovating and developing new solutions together. Worthwhile noting is, however, that high-involvement approaches to relationships always are resource demanding. The assessment of possible benefits and sacrifices of involvement in any relationship cannot be made in advance. The term "relationship is used to describe the pattern of interactions and the mutual conditioning of behaviours over time, between a company and a customer, a supplier or another organization. Time is the defining feature of a relationship. Both the past and the future affect current behaviour in a relationship and experiences, expectations, and promises underlie the interaction within it (Ford *et al*., 2003:38).

The focus and unit of analysis of the interaction model is a dyad, two companies, a buyer, and a seller. The model includes four groups of variables that influence the interaction between buyer and seller. Although the focus of the network approach is a larger network, instead of a single dyad, interaction is still one of the core concepts. Interaction is understood as being directed towards clearly identified counterparts, and the interaction is assumed to result in different strata, affecting social, economic, and technical features (Hakansson & Waluszewski, 2002).

The interaction model is drawn from ideas in inter-organizational theory, new institutional economic theory, and marketing literature. The interaction model serves as a firm theoretical starting point for the conceptual discussion, because it establishes some of the inherent characteristics of buyer-seller relationships and, thus, provides relevant

conceptual building blocks. The basic assumptions of the interaction approach are the following (Ford, 1990:11):

- "Buyer and seller are active participants in the market";
- "The relationship between buyer and seller are frequently long term, close, and involve a complex pattern of interaction between and within each company";
- "The links between buyer and seller often become institutionalised into a set of roles that each party expects the other to perform"; and
- "Close relationships are often considered in the context of continuous raw material or components supply. The importance of previous purchases, mutual evaluation, and the associated relationship between the companies in the case of infrequently purchased products is emphasised".

2.13 Value and price

The most common association with the word value in business studies is money and, in the discussion on a buyer and a seller, it often boils down to a discussion on price. Although the focus in this study is not specifically on direct monetary value or price, the value and price discussion deserves some attention.

The most active authors on value and price within the IMP approach are Anderson (2004: 138-59) and Anderson & Narus (2004:124-127), who look at price and value, and the customer incentive to buy. Gadde & Hakansson (2001:48-67), provide another angle on the price issue where price is viewed as an empirical phenomenon.

In the Anderson & Narus (2004:124-127) conceptualisation of customer value, the offering is said to have two elemental characteristics: value and price, arguing that value is the expression in monetary terms of what the customer firm receives in exchange for the price it pays for a market offering. The difference between value and price is the "customer incentive to purchase". Lowering the price does not change the value that the product provides, but it changes the customer's incentive to purchase the offering. Value is here expressed in monetary terms. Benefits are net benefits, where any costs a customer incurs in obtaining the benefits are included, except the purchase price. The importance of the supplier being aware of how much the production of this value to the customer

actually costs to provide. What is interesting in this conceptualisation is that price is not included in the assessment of value and that the offering is something that only the supplier produces for the customer.

An opposite view is argued for in this study where price is seen as a benefit or sacrifice and, thus, part of the assessment of value and where value is seen as something that is created through interaction by two active parties in the relationship. Concerning the perception of value in a buyer-seller relationship, it is difficult to see how price could be separated from perceived value.

Benefits – Costs = Net benefits (value is the worth in monetary units of net benefits)
Price = Purchase price
Value – Price = Incentive to buy

In industrial relationships, the price can be seen as either a benefit or a sacrifice or both, depending on its accuracy and justifiability (Okonkwo, & Kortge., 1993:133-141).

According to Gadde & Hakansson (2001:48-67), one obvious reason for a relationship is that it should result in cost reduction due to coordination. The argument is that value is synonymous with cost reduction within a dyadic relationship, when looking at single transactions.

Collaboration with suppliers is a mechanism for cost reduction for the customer firm, which, by implication, impact upon pricing. However, value in long-term buyer-seller relationships can be seen as more than a question of cost reduction.

While research reports that cost-plus pricing is the most commonly used pricing logic, the argument often cited is that price should be based on value and demand. According to Okonkwo *et al.,* (1993:133-141), a supplier should assess the value of a product for the customer and charge a price that is based on customer perceived value.

Shippley & Jobber (2001:310-315) present a six-stage process for strategic price setting in the industrial context, based on cost, demand, and competitor prices. Price is only one aspect of the economic outcome of a business relationship. The main issue is how price is related to other cost and revenue components and how price is seen to depend on the

economic models. As industrial buyer-seller relationships are characterized by interaction over time, the offering and the process of exchange develops. This development means that the logic for pricing also changes, "pricing becomes an interactive matter". The change that happens in the relationship, as the exchange process evolves, requires that both buyer and seller jointly evaluate costs and revenues of different alternatives. "In this way price and pricing are inherent dimensions of exchange rather than something decided by the seller" (Gadde *et al*., 2001:14). Through exchange over time, the cost and revenue structures and how they are perceived are affected. When a buyer perceives its primary revenues in new ways by reconsidering the value of what suppliers can offer, the buyer changes the perceptions of primary costs and secondary effects.

According to Ford (2002:234-57), the study of a business relationship involves two levels i.e. the overall relationship itself and the individual episodes of which the relationship comprise. To be able to grasp the complexity of a buyer-seller relationship, one should analyze both individual episodes and the overall relationship, and also include the analysis of the interaction between the two levels of analysis.

According to previous research, higher income consumers are more time-constrained and less price-sensitive than lower income consumers (Abuja, Gupta, & Raman, 2003:145-151). Aligned with this theory, previous research has found a significant negative association between income and amount of time spent searching (Klein & Ford, 2003:29-49). The issue of large-buyer discounts has generated considerable interest for antitrust policymakers, business journalists, and academic economists. A common approach to the issue is to imagine that buyers negotiate with a seller over the price of the good and to posit that large buyers are somehow better bargainers than small buyers.

Formal implications, from bargaining models for buyer-size discounts, are included in literature from Chipty & Snyder (1999:326-342), and Inderst & Wey (2003:1-13). The conclusion reached by this literature is that large-buyer discounts are not a foregone conclusion; whether such discounts are observed depends on the curvature of the total surplus function over which the parties bargain.

There have been a few empirical papers that provide indirect tests, analyzing whether large-buyer discounts are observed in the presence of a monopoly seller or whether competition among sellers is required. In the particular industries studied, large-buyer discounts were found in markets with competing suppliers but not with monopoly suppliers. While this result does not support the bargaining literature cited above, it is not a direct rejection since the theory does not say large-buyer discounts must emerge in equilibrium. Large-buyer discounts may not emerge if the total surplus function is not concave (Sorensen, 2001:67).

2.14 Buying Behaviour online

Information technology (IT) enables firms to harness the information-richness of the internet in order to provide online customer service. Online customer service is emerging as a promising IT-based alternative to traditional means of customer conversion, such as branding, telephone customer service, and price discounts. As a result, the concept of customer acquisition and retention, this has traditionally fallen within the area of marketing and is permeating the realm of information systems (IS) design. However, the correct, and also incorrect, means through which to attempt to transform browsers into buyers online are still largely unknown (Bellman, Lohse, Gerald, Johnson, & Eric 1999:32-38).

Searching for information on the internet has been found to be the most important predictor of online buying behaviour. Few researchers have examined the relationship between web site design features, online competition, and consumer behaviour. Previous work has suggested that firms can use information technology, such as the internet, to strengthen consumer loyalty (Chen & Sudhir, 2002:1-23).

In addition, researchers have examined the positive impact of online features on price (Pan, Brian, Ratchford, & Shankar, 2001:69), as well as the impact of background pictures and colours of a web page on consumer product choice (Mandel & Johnson, 2002:235-245).

Ultimately, the relationship between IT features and consumer behaviour is an empirical question. Therefore, to analyze this question, one uses a dataset of consumer reported search and purchase behaviour across a variety of product categories sold online. One uses this dataset to analyze the relationship between a consumer's experience with negative IT features and consumer online search and purchase behaviour. It is found that, in the aggregate, there is an association between consumer experience with poorly implemented IT loyalty features and greater consumer searching, as well as with a lower likelihood to purchase online. The growth of online retailing has led many to believe that because the internet offers lower search costs, consumer search increases (Bakos & Yannis, 1997:676-692).

In the offline setting, there is extensive research that discusses consumer search (see Newman, 1977, for a review); for example, consumers reportedly visit approximately three stores when purchasing a major appliance. Previous research has also provided some evidence that consumers limit their online search: Adamic, Huberman, & Bernardo (2001:55-59) found that the top 1% of online sites capture 50% of all site visits; Johnson, Moe, Fader, & Lohse (2004:299-308) and Bellman & Lohse (1999:299-308) found that, on average, households visit online 1.2 book sites, 1.3 CD sites, and 1.8 travel sites during a typical active month.

Other studies, regarding online consumer search, have either examined consumer behaviour at a given store: over time (Moe, 2003:29-40) or within a given session (Bucklin & Sismeiro, 2003:249-267); or they have examined consumer behaviour across sites, including: rates of learning and purchasing across sites (Johnson *et al*., 2004:299-308) and visiting behaviour links from one site to another.

With regards to the online customer service experience, research has shown relatively high search costs among consumers and differential levels of consumer "stickiness" across online retail sites. For example, research has shown that consumers implicitly have a favourite firm when shopping online, that sites with fast learning curves are associated with higher rates of purchase and that shoppers search across very few sites in a given month (Johnson, Moe, Fader, & Lohse, 2004:299-308).

Similarly, a growing body of research shows that consumers face relatively high search costs when taking seemingly simple actions such as reading a screen of offers at a shopbot (Brynjolfsson, Dick, Smith, & Michael, 2003:3), re-bidding at a name your own price intermediary (Hann & Terwiesch, 2003:1563-1579), and entering eBay auctions. Such implicit loyalty is due to consumers preferring the shopping experience provided by the firm.

Firms utilize various IT enabled web design features, including personalisation, interaction, and information, in an attempt to increase loyalty (Awad, Neveen, & Krishnan, 2002:68-79), and thereby maximise consumer benefits of shopping at their site. However, there are several unwanted outcomes that can come from poorly implemented IT enabled online services.

In this regard, poorly implemented IT features could include the following: poor ease of use, information overload (Iyengar & Lepper, 2000:995-1006), and abundant online advertising (McLaughlin, 2002:57).

However, there are several unwanted outcomes that can come from poorly implemented IT enabled online services. Thus, while previous research has explored the positive effects of online IT factors on price and customer satisfaction (Urban, Sultan, & Qualls, 2000:39-48), there has yet to be examination of consumer perceived negative impacts of poorly implemented IT features online.

The factor information overload attempts to assess the amount of non-value-added information that a consumer has encountered in his/her shopping experience. Non-value-added information consists of all information that is publicly available and standardised, such as objective information that describes the product sold. For a bookstore, such information can be the book title, author, and publisher (Koufaris, 2002: 205-223, 51). One expects greater amounts of non-value added information, as measured by the factor information overload, to be associated with greater consumer searching.

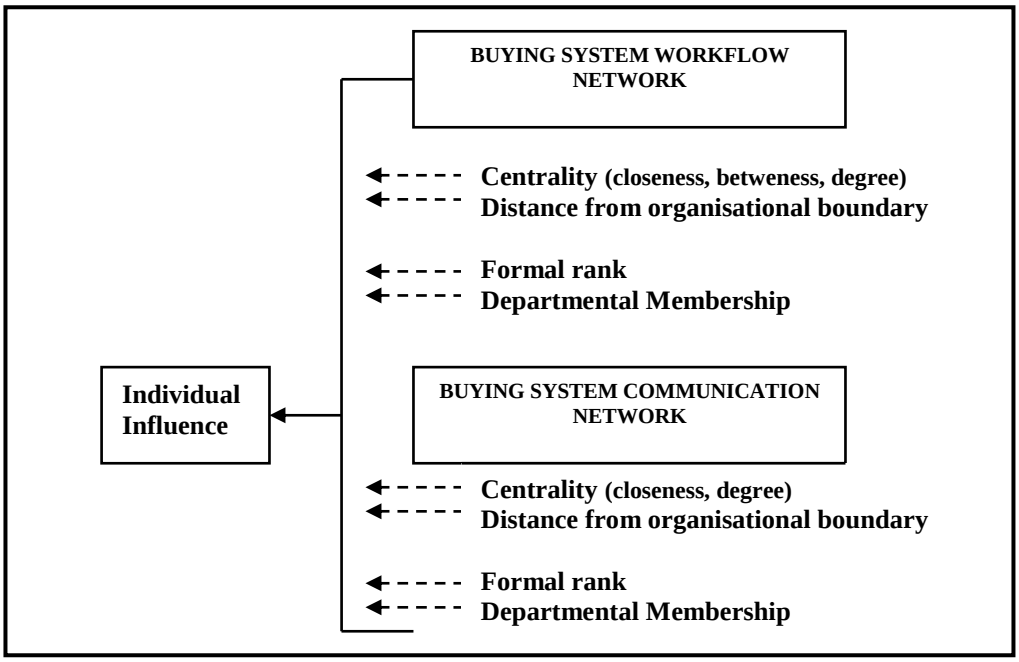
2.15 Key constructs relevant to the practice of buyer-seller relationships

Exploring industrial buyer behaviour is, therefore, not simply concerned with determining the name or position of a person who ultimately makes the buying decision. It is more important to establish a capability of buying centre participants to work with, exert influence and then become a part of a dynamic group decision process (Figure 1.3). Doing so requires identification not only of whom the relevant participants are in the buying process but also of which participants have common interests and which are likely to work together in seeking a given outcome. The individual behaviours in communication network can depend on their perception or own interests. The individual perceptions concerning rewards, risk and power positions are also very important. These perceptions are translated into preferences regarding the relative importance of different products and vendor attributes, priorities regarding what should be purchased and for how much and opinions regarding particular vendors and their offerings (Ronchetto, Hutt, & Reingen, 1989:53).

The two individual characteristics (Dawes *et al.*, 1998:55-68) explain why some people have greater influence during the process of supplier selection. The first characteristic, influence on decision, explains people's motivation for participation in the decision-making process in order to enhance the influence on organizational buying decision. That is, therefore, an individual share in the result of buying decision. The second individual characteristic, orientation on innovations, is of special importance in new buying when buying centre members have the opportunity to be more innovative or more conservative. Multidiscipline exploring customer behaviour indicates that more innovative managers have a central position in social networks and, consequently, generally greater influence.

The results of organizational exploring also indicate that more innovative managers have a central place in communication networks. The central position in the network is a source of power for an innovator and he/she can use it for influencing and persuading other participants about the importance of change, information and material resources for overcoming any resistance to the change.

Figure 1.3: Structural forces of influence



Source: Ronchetto, Hutt, & Reingen (1989:53)

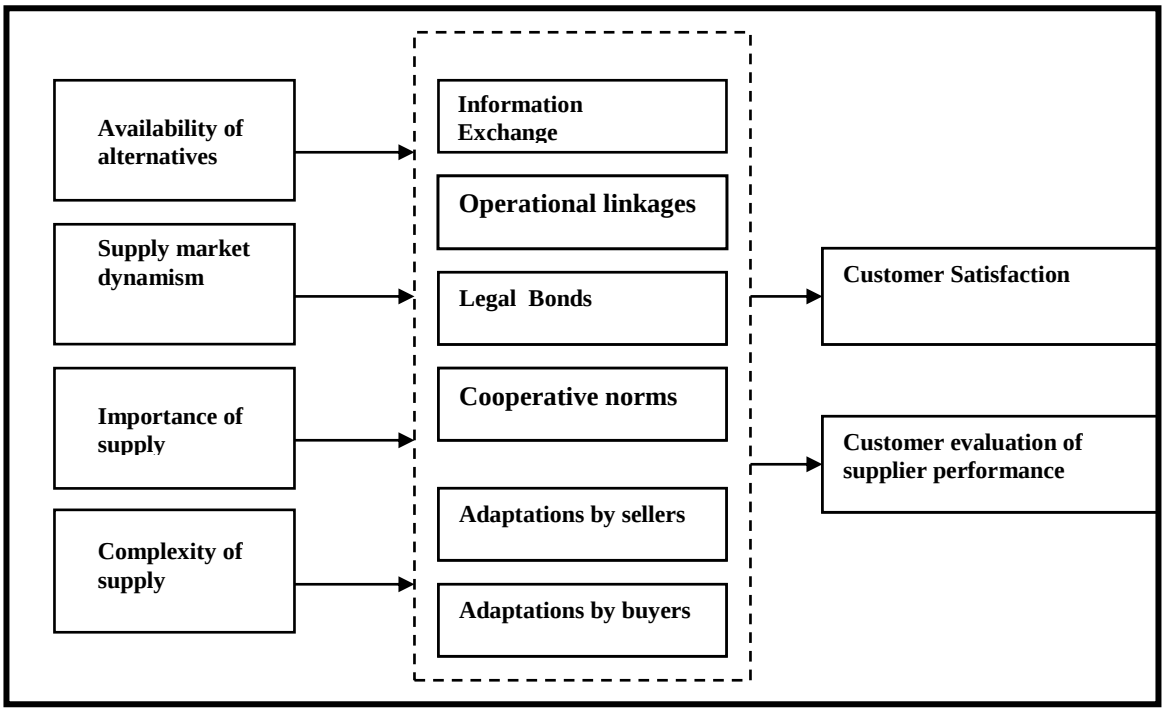
Figure 1.3 explores the buying centre and often overlooks the fact that organizational buying behaviour appears in the context of the formal organization. Identifying and analyzing only buying centre members, the buying centre becomes isolated from its context, which prevents the recognition of organizational members participating in buying decision-making. Therefore, the two aspects of formal organizational structure – centralization and formalization should also be included in the analysis of power and influence of group members and determination of power relations in the structure. Centralization or decentralization is treated as the most important structural characteristic influencing buying behaviour in industrial buying explorations (Ronchetto *et al.*, 1989:53).

Formalization, on the other hand, is important for explaining interpersonal information control and it has a direct influence on persons in organizational buying decision-making (Ghymn, Jaffe & Eugene, 2003:5-22). Focusing the resources of an enterprise on key competences and dependence on resources controlled by other firms is the basis for

creating business networks between different enterprises. Investors, financial institutions, insurance companies, suppliers, and buyers are included in the networks. Network structures could be different, but all of them have some common characteristics, minimizing investments by cross-organizational teams in different business domains, flexibility and responsiveness to changes. Position of an enterprise in the network or its connection with other network parts in delivering value to customer is a source of great competitive advantage. Growing network relationships between enterprises gives a new dimension in exploring organizational buying. This dimension enables interconnectedness of enterprises - business network members use different techniques for analyzing inter-organizational relationships significant for buying, and to recognize other business network influences. These techniques are important since some forms of collaboration between individual enterprises and networks can reduce autonomy of in research, including increased uncertainty of future development and capital investment planning (Ronchetto *et al.*, 1989:53).

The research of interconnected relationships includes three significant aspects: activity of connection - this is valuable in providing a degree of coordinated activities between companies; tied resources-as the value of adapted resources of each company to requirements of others; and actors of connection - value from the aspect of individuals in two inter-connected organizations. Figure 1.4 refers to the coordination activities in interconnected relationships and increased productivity of inter-connected organizations, resource adaptations enhance innovativeness of organizations, and social integration expands opportunities for knowledge and information transfer (Cannon & Perreault, 1999:439-460).

Figure 1.4: Key constructs relevant to the practice of buyer-seller relationships



Source: Cannon & Perreault (1999:442)

2.16 The Decision Making Unit (DMU)

The scope and roles of organisational buyers vary widely according to the type of service or commodity being purchased and whether purchasing is a centralised or decentralised function. Large retail chains now tend to centralise their purchasing in order to employ specialist buyers who can negotiate keen terms and conditions. Some companies employ buyers who have only superficial knowledge of the products offered and handle only the commercial aspects of the sale. Whatever the buying structure, organisational salespersons know that the buyer is not always the final decision-maker.

The predominant difference between consumer and organisational buying is that organisational buying often involves group decision-making. In 1972, Webster proposed that there were distinct roles in the purchasing process, sometimes taken up by different individuals, and sometimes the same individuals combining some of these roles as shown in Table 1.6. Webster, in 1972 termed this idea the notion of the 'buying centre' or the decision making unit (DMU).

Table 1. 6: The Decision Making Unit (DMU) - Buying Centre & buying roles

Influencers	Can affect the buying decision in different ways (e.g. technical people may have helped in a major or minor way to develop the product specification).
Gatekeepers	Control the flow of information to and from the people who buy (e.g. the buyer's secretary or an assistant buyer).
Users	Are individuals who work with, or use the product. Depending upon how purchasing decisions are made, they are sometimes involved in product specification.
Deciders	Are people who make the buying decision. In many cases this is the buyer, but on some occasions it can be the specifier, or in a tightly budgeted situation, the accountant.
Buyers	Have authority to sign orders and make the purchase. They may also help to shape the specification, but their principal role is in supplier negotiation and selection.
Influencers	Can affect the buying decision in different ways (e.g. technical people may have helped in a major or minor way to develop the product specification).

Source: Kotler (2000:176)

2.17 Role of buying in organisations and business management

The past two decades have witnessed a fundamental change in the role of purchasing functions in many organisations. Traditionally, purchasing has had a rather obscure position in most companies, as it has been considered as a separate function just dealing with operational issues, such as making orders, and receiving deliveries from suppliers. However, nowadays the role of purchasing among organisations' activities has become more and more important (Laois & Moschuris, 2001:351-372).

The more highly developed the society becomes, the greater is the degree of differentiation and the more specialised are the units in organisations. In other words, the needs of the customers are to become more sophisticated, and therefore, the offerings provided by companies are to be more differentiated as well. Thus, also the purchasing function has to be more sophisticated in order to ensure the effectiveness of the firm. This sophistication requires a well-designed and competent purchasing function playing an important role in the company's business processes. Closely related to purchasing, the concept of outsourcing has been a central topic in management trends during the last decades (McIvor, 2000:22-36).

Organisations' purchasing functions often involve large expenditures, draining a large proportion of a company's income (Laios & Moschuris, 2001:351-372) or a public organisation's budget.

The productivity of purchasing is particularly significant for most organisations, because of the fact that the gains attained through successful purchasing operations influence directly the bottom line of the companies' income statements (Buvik & John, 2000:52-64).

If the integration and organisation of purchasing function with the operational functions is not satisfactorily organised and managed, disruptions to output, income losses and different kinds of adverse effects on competitiveness of the company may result (Laois & Moschuris, 2001:351-372).

The importance of purchasing can also be discussed in relation to the several tasks that the purchasing functions have to fulfil in companies, for example, the cost rationalising role. As discussed, the economic impact that purchasing has on the organisation's financial state is direct and easy to understand. In addition cost relation, purchasing also has a developmental role, as suppliers and their product innovations are seen as an important potential development resource (Gadde & Hakansson, 1993:125-143).

It can even be argued that companies can use purchasing or outsourcing to gain not only more non-core resources, but also core capabilities (Baden-Fuller *et al*., 2000:285-295). This would further indicate the growing importance of purchasing in the current economy and also illustrate the possibilities that companies may have if they can thoroughly take advantage of purchasing knowledge.

Although the focus has mostly been on customer relationships, one of the main ideas relevant to the purchasing research has been that, in studying relationships, supplier relationship management and customer relationship management confront rather similar issues, and that the difference between the two ends of the relationship become blurred. Many models and theories are applicable regardless of the side in which one operates.

Therefore, many of the business relationship models are very useful both in the purchasing sense and in this research. In addition to this generality, there are also a number of supplier relationship specific studies, especially from the supply network management perspective (Dubois & Gadde, 2000: 207-215).

2.18 Make-or-buy decisions (Outsourcing)

According to Brassington & Pettitt (2000:213), the satisfaction of customers' needs and wants is the essence of marketing philosophy. Researchers have recognized the fact that buying behaviour varies with the buying situation at hand. Value forms the basis for the organisation's decisions regarding its own needs and purchasing. In order to understand how companies come to reject the internalisation of a specific action in relation to a product or a service and decide to go forward with purchasing, one can analyse the literature related to needs assessments and make-or-buy decisions. In relation to the concept of outsourcing, a variety of interesting ideas have been presented on how companies make the make-or-buy decisions. This recognition makes it meaningless to generalize as this buyer behaviour will vary across product lines (Bharadwaj, 2004:317).

The notion of outsourcing has been one of the key words in the current management philosophies. Although the term is not unambiguously defined, it usually encompasses a variety of purchasing operations in companies. Often the term refers to a situation in which a company chooses to purchase something from an external supplier, something that could also be manufactured in-house. This definition suggests that all companies buying something from an external supplier would perform outsourcing activities. Another, more strict definition, however, regards only those activities as outsourcing, in which companies make a fundamental decision to reject the internationalisation of an activity (Gilley & Rasheed, 2000:736-790).

The costs associated with outsourcing, when comparing it to internal development, can be divided into production costs and costs of governance, such as bargaining costs and opportunism costs (Vining & Globerman, 1999:642-645). The production costs are either those resulting from internal production or those deriving from the purchase price of a commercial product.

Bargaining costs cannot be as easily measured, as they can include at least four types of costs. Firstly, the costs arising from the negotiation of a particular detailed contract are the most concrete kind of bargaining cost. The costs of negotiating the possible changes to the contract after the purchase are more difficult to measure in advance. Thirdly, some costs are also connected to the monitoring of the performance of the product and supplier. Finally, bargaining costs can be related to the possible disputes that the contract parties can be caught in, if, e.g., either party wants to break the contract. Opportunism costs are those that derive from the behaviour of the contract party aiming at changing the agreed terms of the transaction to be more in its favour. The notion of the contract party acting in bad faith is an essential feature of opportunism. The costs arising from this notion are difficult to measure (Vining *et al*., 1999: 645-648).

In addition to asset specificity and cost efficiency reasons, one of the often-used explanations of outsourcing decision is the much-highlighted concentration on companies' core competencies. Outsourcing is typically argued as being relevant in those areas of business processes that are not related to the core competence of the company (Prahalad & Hamel, 1990:79-91). As a result of strategic make-or-buy decisions, companies outsource the non-core activities in their business processes (Brandes, Lillecreutz, & Berge, 1997:63-75).

According to some research, even the processes closely related to the core competence of a company can and, in some instances, should be outsourced (Baden-Fuller, Targett, & Hunt, 2000:285-295). According to this view, four different circumstances can be identified in which outsourcing could also be beneficial in relation to the core areas of the organisation's business.

This benefit allows companies to concentrate on those resources and processes that are the most relevant from the point of view of their business. It also enables them to gain access to the specialised resources of other companies. Gadde & Hakansson (2001:48-67), however, emphasise the difficulties of defining core competencies and, therefore, to use it as a basis for a company's strategic decisions may be precarious.

According to Baden-Fuller *et al*., (2000:285-295), the outsourcing of core capabilities can enable companies to attempt to catch up with competitors if the company has fallen behind in the competition, e.g. due to technological development or customer needs which the company has not been able to follow. Furthermore, according to these authors, by outsourcing core capabilities, companies can attempt to gain control over new and emerging markets through buying core-competence related resources outside the company, as the company does not yet possess them. The circumstances are identified on the basis of two dimensions, the pace of changes in customer needs, and the pace of changes in the technology.

2.19 Co-operating horizontally

Another important dimension in understanding how companies may be interested in their competitors is to consider the underlying reasons for the horizontal interest. The purpose of horizontal interest may be related towards effects in either downstream (customer interface) or upstream (supplier interface) of the supply chain. In other words, the interest may be driven by efficiency improvements in the supply strategies or improvements towards customer markets (Doz & Hamel, 1998: 88) as illustrated in Figure 1.5.

The research on industrial purchasing has not paid much attention on analysing how companies can co-operate horizontally in order to make purchasing more effective. More generally, in the research on industrial networks (Hakansson & Snehota, 1995:114), alliances, and partnerships, it is often argued that in complex business networks, even competitors may more or less voluntarily have to co-operate with each other and have argued that one of the main purposes of alliances is co-option, which may turn competitors into allies and providers of complementary goods and services that allow new business to develop.

Co-option, in this sense, means that potential rivals are effectively neutralised as threats by bringing them into the alliance and that firms with complementary goods to contribute are allured to create network economies in the benefit of the coalition. Gadde & Hakansson (2001:48-67) have discussed the way in which the activity structures in a supply network can be used to create efficiency improvements. One form of efficient

activity structures are those created between the buyer and other buyers. By co-ordinating their activities, buyers may influence the supply side of the market.

Figure 1.5: Different types of relating horizontally with other buyers

		Nature of horizontal interest	
		Co-operating	Competition
Purpose of horizontal interest	To gain advantages in downstream supply chain	Companies co-operate in order to gain advantages in relation to customer markets.	Companies have competitive interest in other companies in order to gain competitive advantages in relation to customer markets.
	To gain advantages in upstream supply chain	Companies co-operate in order to gain advantages in relation to supply markets	Companies have competitive interest in other companies in order to gain advantages in relation to supply markets.

Source: Doz & Hamel (1998:88)

For example, the buyers may set conditions for technological development or efficiency in manufacturing operations and, thus, jointly work towards efficient markets. As a group of buyers agree upon certain standards and requirements, suppliers can utilise the economies of scale and be more able to adapt their technologies and offerings.

In other words, this kind of co-operation between buyers may actuate the development of industry standards. These standards can be jointly agreed upon between all the actors in the specific industry. The purpose of standards is to direct the development in the industry towards the most effective directions with regard to technologies. Doz & Hamel (1998:88) argue that especially in the current economy characterised by information technologies, in addition to vertical relations between actors in a supply chain, companies need to pay more and more attention to horizontal structures of companies as well.

In many new product and service networks, the value of the service or the product may be related to the amount of other users, e.g., in the case of digital cash or software applications and operating systems. As services and products include more and more complex technologies, the development of industry standards and compatibility of the

offerings of alternative companies also becomes important. From the buyer company's view, this makes them focus their attention on analysing the surrounding environment more horizontally as well. The horizontal co-operation between companies is also, to some extent, related to cartels and other forms of unfair business practices that are regulated through antitrust laws. In designing collaborative arrangements horizontally, companies thus naturally need to take these restrictions into account (Doz *et al*., 1998:88).

2.20 Exchange mechanisms in business markets

The way companies conduct their market exchanges is also an integral part of the market process. Especially in business-to-business context, companies have developed a variety of different exchange mechanisms through which they conduct their inter-organisational transactions. These are needed in different kinds of situations in relation to different kinds of products and services.

The traditional way of conducting business transactions as single exchanges has been considered to be only applicable in some situations. Instead, different kinds of co-operative forms of relating with the exchange counterpart have emerged. Partnerships, alliances, joint ventures, and mutual long-term relationships have become essential means of conducting transactions. Inter-organisational exchange has been rather extensively studied in management literature and a variety of different perspectives have been adopted. This fragmentation of perspectives also aptly reflects the complex nature of inter-organisational exchanges. When trying to understand business relationships, researchers are often faced with, e.g., complex patterns of individual interactions, multiple motives, and various different forms of inter-organisational exchange mechanisms (Barringer *et al*., 2000:367-403).

According to Williamson (1996:67), the exchanges that buyers conduct with the suppliers are not without friction, and these discords create costs that are related to the specific form of transaction. These costs then give the basis for companies' decisions on the alternative organisational or governance mechanism. The alternative governance mechanisms in this perspective are called free markets, vertical integration, and bilateral governance.

Barrainger *et al*., (2000:367-403) have also analysed the stream of literature related to strategic choice as an alternative explanation for inter-organisational relationships. This includes literature arguing that firms pursue different kinds of inter-organisational alliances to increase their competitiveness or market power. Also, the stakeholder theory provides alternative views on the relationships, emphasising that companies need to consider the legitimate claims of their stakeholders when conducting business transactions.

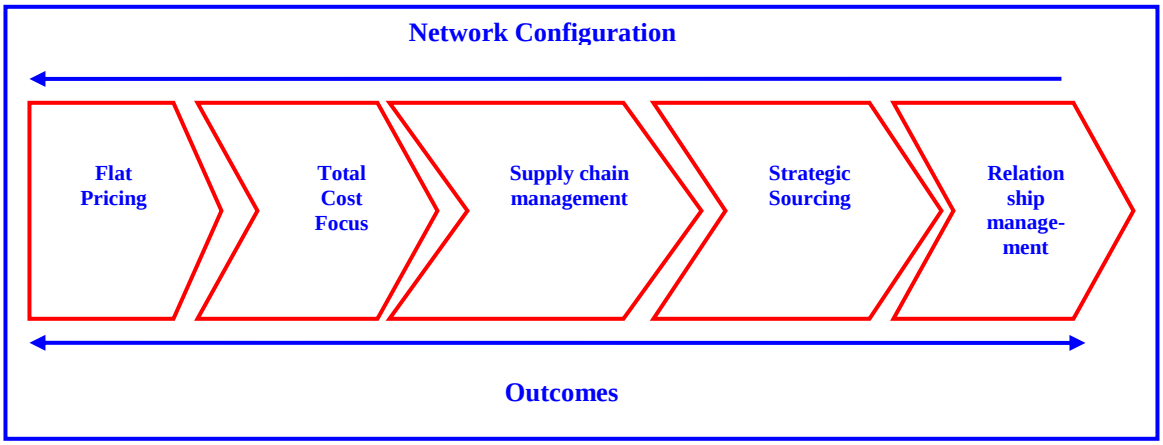
The resource dependence theory serves as an important disciplinary background for a variety of these theories. The underlying idea is to avoid unnecessarily complex and resource demanding purchasing practices in case the purchased items do not require it on the basis of the dimensions of the model. Also, on the other hand, the idea is to use intensive management practices in case they are required by the purchase. Similar models have also been presented by other authors more recently such as Gelderman & Weele (2000:54-68).

The current research on purchasing and supply management emphasises the importance of close and co-operative relationships with suppliers. The increasing importance of purchasing as a function in organisations and as a part of the company's strategic management has emphasised the need for companies to focus on a limited number of most strategic suppliers with whom close co-operation is to be developed. Hines, Lamming, Jones, Cousins, & Rich, (2000:195), have presented a transition model describing this kind of development in purchasing.

According to this model, five distinct phases can be identified in the movement of purchasing focus from flat pricing towards network and relationship management. At the first stage, companies regard purchasing as a tactical operation in which the main focus is to bargain for low prices. Relationships with the suppliers are adversarial and transaction-focused. At the next stage, a low purchase price is still the main objective of purchasing, but now the total lifetime costs of the product are considered.

Relationships with the suppliers are still distant and multiple suppliers are used. The third stage describes a situation in which the purchasing has evolved towards developing closer relationships with the fewer suppliers. Focus is more on supply service package and on gaining the special expertise and skills that the supplier possesses. Strategic sourcing is a stage in which the company starts to work jointly with a single supplier or with a few suppliers in order to increase the value in the whole value chain. In this model, supply management gains strategic attention and, purchasing, are integrated with other business processes. The extreme end of this development model describes purchasing as network and relationship management in which the focus is on supply, demand, and mutual development with a network of key single suppliers. Notions of total commitment, mutual network development, and total understanding characterise the main objectives of purchasing at this stage of development (Hines *et al*., 2000:195).

Figure 1.6: Development of purchasing: the transition model.



Source: Hines, P., Lamming, R., Jones, D., Cousins, P., & Rich, N., (2000:195)

This development model (Figure 1.6) suggests that companies develop in their purchasing as they move to the next level. The development, however, can differ in relation to different aspects of purchasing, such as supply mechanism, supply structure and performance measures (Hines *et al.,* 2000:195). The aim of developing purchasing practices in a company is to integrate them into strategic management of the whole company.

Generally, the practical focus in purchasing is seen as working closely and co-operatively with a small group of suppliers. The supply markets are developed to comprise a network of different level key suppliers with whom co-operation is extremely close, and the companies may even become vertically integrated. Thus, this perspective suggests that it is through this market process element that companies can co-ordinate the supply markets. However, in this sense, the supply markets are seen as consisting of those few supplier relationships in which the buying company is involved directly or more indirectly through different sub-levels in the supply network. Among the most important questions in designing the supply networks is whether the company chooses to rely on single sourcing, or whether it prefers to use multiple sourcing. Single sourcing would be the kind of strategy where company relies on one supplier only with regard to a specific product type. Multiple sourcing refers to a strategy where the company uses two or more sources per product type and maintains a competitive situation between the alternative suppliers (Hines *et al.*, 2000:195).

Managing supplier relationships has been emphasised in both marketing and purchasing literature in recent years. Although the focus has been on developing close and co-operative long-term relationships with the key suppliers, also the notion of managing different kinds of relationships with suppliers has been discussed in the purchasing literature (Gadde & Hakansson, 2001:48-67).

According to Araujo, Dubois, & Gadde, (1999:505), although the current research on supplier relationships has been characterised by a dramatic change from transaction relationships towards relational modes of exchange, companies still have and, in fact, need to have different types of relationships with their customers. They have presented a categorisation of resource interfaces that companies have with their suppliers. The four different resource interface types are standardised, specified, translation and interactive interfaces.

In standardised interfaces, the supplier and the customer organisations do not have, nor do they need to have any knowledge of each other's contexts. Specified interfaces are those in which the product is customised and, therefore, the supplier is given precise

instructions on how to produce it. In translation interfaces, the buyer provides the supplier with the information regarding the function of the product in its user context. Finally, the interactive interface is the kind of resource interface in which knowledge of both parties is combined into joint development, as reflected in Table 1.7, (Araujo *et al*., 1999:505).

In addition to understanding the importance of close and co-operative relationships with suppliers, it is also essential to realise that the company needs to manage a variety of different kinds of supplier relationships. Maintaining the different types of relationships according to different situations is also a way for the company to influence the market process.

Table 1. 7: Different types of supply interfaces from a customer-based perspective

Interface Category	Characteristics	Customer Benefits Productivity	Customer Costs Productivity	Customer Benefits Innovativity	Customer Costs Innovativity
Standardised	No directions. No specific connection between user and producer contexts.	Cost benefits from supplier economies and scope, as well as learning curve effects.	Adaptation to standardised solutions may create indirect costs elsewhere.	None	No direct costs. Allows only indirect feedback to suppliers based on sales figures.
Specified	Precise directions given by customer on how to produce.	Supplier can pool together similar orders; economies of scale and scope can be attained.	Supplier's resource base "locked in." Limited possibilities to influence specifications.	Minimal (supplier can propose changes to blueprints).	Suppliers used as capacity reservoir. Development of supplier resources may suffer.
Translation	Directions given by customer based on user context and functionality required.	Supplier can propose efficient solutions that improve its own as well as the customer's productivity.	Supplier may reap benefits that are not shared with customer.	Supplier has some leeway to propose innovative solutions.	Supplier may not know enough about customer context to innovate radically.
Interactive	Joint development based on combined knowledge of use and production.	Open-ended exchange allows full consideration of direct and indirect costs of both parties.	Investments in knowledge of how best to make use of existing resources.	Supplier learning about user context opens up the gamut of solutions offered.	Requires investments in joint development and learning.

Source: Araujo *et al.* (1999:505)

2.21. Major influences on industrial buyer behaviour

According to Kotler (2000:197), the five traditional groups are individual factors, interpersonal/social factors, organisational factors, environmental factors, and other factors:

- Individual factors deal with the personal point of view, concerns, personal motivations, perceptions, and the perceived risk. These factors are influenced by

an individual's age, income, education, job, position, personality, and attitude. All these factors influence the expectations of buying;

- Interpersonal/social factors, group memberships, and members influence have received most research attention to all factors influencing the organisational choice processes. These factors arise since different members of the buying centre have different interests, authority, empathy, and persuasiveness and, therefore, influence the group structure in different ways;
- Organisational factors are those influencing the buying organisations, such as purchasing objectives, policies, procedures, systems and structure the buying organisation. Environmental factors are all those factors outside of the firm that the organisation has no control/influence off. These include economic factors such as level and type of demand, economic outlook, and interest rates; and
- Other factors involved are technologically change, political and regulatory developments, competitive developments, and social responsibility.

2.22 Porters Five Forces

With regard to Figure 1.7, the focus is on only two of the five forces from Porters model i.e. 'buyer power' and 'supplier power' due to the relevance of the buyer/supplier relationship. There is continuing interest in the study of the forces that impact on an organisation, particularly those that can be harnessed to provide competitive advantage. The ideas and models emerged during the period of 1979 to the mid-1980's (Porter, 1998) and were based on the idea that competitive advantage came from the ability to earn a return on investment that was better than the average for the industry sector (Thurlby, 1998:67).

Understanding the nature of these forces gives organizations the necessary insights to enable them to formulate the appropriate strategies to be successful in their market (Thurlby, 1998:67). Buyer power is one of the two horizontal forces that influence the appropriation of the value created by an industry. The most important determinants of buyer power are the size and the concentration of customers. Other factors are the extent to which the buyers are informed and the concentration or differentiation of the competitors.

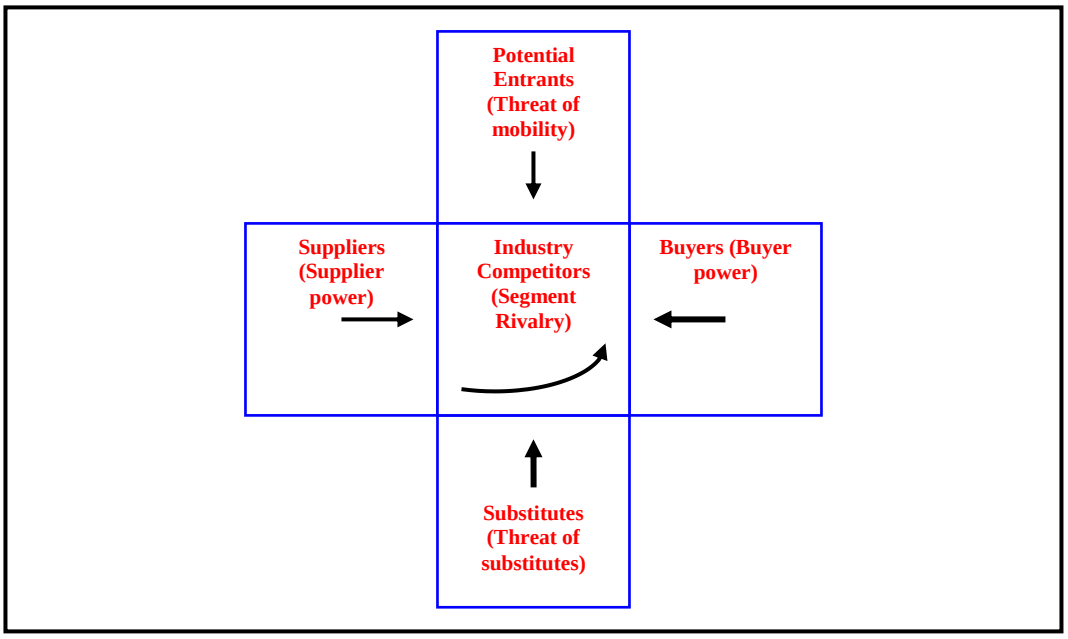
Kippenberger (1998:24-25) states that it is often useful to distinguish potential buyer power from the buyer's willingness or incentive to use that power, willingness that derives mainly from the" risk of failure" associated with a product. Key attributes of buyer forces are as follows:

• Relatively high where there a few, large players in the market, as it is the case with retailers and grocery stores;

• Present where there is a large number of undifferentiated, small suppliers, such as small farming businesses supplying large grocery companies; and

• Low cost of switching between suppliers, such as from one fleet supplier of trucks to another.

Figure 1.7: The five forces determining segment structural attractiveness



Source: Kotler (2000:218)

Supplier power is a mirror image of the buyer power. As a result, the analysis of supplier power typically focuses, first, on the relative size and concentration of suppliers relative to industry participants and, second, on the degree of differentiation in the inputs supplied.

The ability to charge customers different prices in line with differences in the value created for each of those buyers usually indicates that the market is characterized by high

supplier power and at the same time by low buyer power. In concentrated industries, according to this model, organizations would be expected to compete less fiercely, and make higher profits, than in fragmented ones. However, as Haberberg & Rieple (2001:128) state, the histories, and cultures of the firms in the industry also play a very important role in shaping competitive behaviour.

2.23 Conclusion

Industrial buyer behaviour is, in essence, the arrangement of how industrial organisations purchase goods and services characterised by four classes i.e. environmental, organisational, interpersonal and individual class. Buyers are identified as those having authority to select suppliers and arrange terms of purchase, whereas the deciders are those who have the formal or informal power in determining the final choice of supplier.

The determinants of structure of group buying decision-making process are when it occurs, who does the buying, and why one product or service is chosen over another. The business decision making is a result of bargaining processes between rival coalition's, typically examined in three or four person groups, and variables such as resource positions, communication linkages or bargaining experiences. Buyer decision-making is understood as a process by which organisations establish the need for products and services, identify, evaluate and choose among brands and suppliers. The types of buyer behaviour are classed as complex, dissonance reducing, habitual and variety seeking. Organisational buying situations depend on the buying situation i.e. new task buying, straight or modified re-buys.

The post purchase stage, especially those requiring a high degree of individual focus for the buyer, result in some form of cognitive dissonance. Buying centres, the status, authority, credibility and degree of empathy would impact on the outcome of the buying centre and its members can negatively or positively impact on acquisition from suppliers. These members can either be influencers, buyers, decision-makers, or gatekeepers.

The buyer decision-making process involves the problem recognition stage, information stage, evaluation of alternatives, purchase decision stage, and finally the post-purchase stage.

Buyer-seller relationships are the key ingredients for successful organisational marketing, focusing on retention of customers, through technical support, expertise, resource support, service level agreements and risk reduction. Value and price is always a point of discussion between buyer-seller and it is argued that the difference between the two is the customer's incentive to purchase.

Buying behaviour online has emerged as a promising IT-based alternative to traditional items of customer conversion such as branding, telephone, customer services, and price discounts. The key constructs relevant to the practice of buyer-seller relationships such as exploring industrial buyer behaviour establishes a capability of buying centre participants to work with, exert influence, and then become a part of a dynamic group decision.

Decision making units (DMU's) at companies now tend to centralise their purchasing in order to employ specialist buyers who can negotiate keen terms and conditions. Make-or-buy decisions impact on fabrication sales if firms choose to purchase from a supplier or choose to manufacture internally. Horizontal strategies at firms are concerned with the efficiency improvements in supplier strategies or improvement towards customer markets. The literature review finally discusses parts of Porters five forces model, specifically the forces of supplier power and the power of the buyers.

Researchers have found that, generally, the purely economical factors, (including delivery, capability, quality, price, repair service, technical capability and historic performance) were the most significant factors. Also of key importance were the uninterrupted shipments, transport costs, and quality. The five fundamental factors that are of the most importance in industrial buying are vendor stability; basic economic criteria; geographic affinity; assurance mechanisms and attendance services.

The next chapter discusses the research methodology employed in this study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research technique and methodology used for this study. It describes the procedure that the researcher went through when gathering data and the information required for analysing the research question. First, this chapter covers the theoretical research approach and strategy, the target population, the questionnaire design, the pilot test, data collection, respondent selection, data preparation, data analysis, and ,finally, a conclusion this chapter. The choice of research strategy was descriptive, the choice of research method was quantitative, the research technique was via a survey, selection of collection method was through primary and secondary data, and the sample selection was through a census.

3.2 Research approach

Saunders, Lewis, & Thornhill (2000:43) believe that all research practically includes some numerical data or information that is being used to assist researchers to examine their research problem. When researchers are gathering and approaching the information, it is done in either quantitative or qualitative manner. The quantitative method was based on measuring numerical information in an objective view, whereas the qualitative method was in subjective theoretical view, seeking a deeper understanding of the topic. This quantitative, cross-sectional, and descriptive study aimed to identify the factors that influence buyer behaviour in the fabrication industry and the instrument used to collect the information will be a questionnaire.

3.3 Target population

According to Curwin & Slater (2002:33), the identification of the relevant population is essential. The population is the entire set of elements being studied and should be defined in terms of time, place element and sample unit. The sample of interest in this study was the 485 buyers in the fabrication industry identified through the company database. The sample was drawn from the company customer database for purchases in the last financial year. The number of active customer buyers researched was 485 and, based on Sekaran, (2002:294), a statistically significant sample of 214 was recommended.

3.4 Questionnaire design

The questionnaire was informed by the literature review, by buying centres at companies and from records of customers of the company, including gap analysis of sales and purchase patterns. The questionnaire has accessed information on general statistics to fabrication customers, the buying centre, buying process, internet use for purchasing needs, purchase choice criteria, product needs, and environmental factors. The questionnaire has been developed with the needs of buyers in mind, as the language used in the instrument was simple and the terminology is regularly referred to in industry communications.

For some questions, the respondents were requested to indicate their preferences by ranking a number of different combinations of attribute levels on a Likert scale. These questions forced respondents to make trade-offs between product attributes and allows the researcher to understand what is important to the respondent when making purchasing decisions on fabrication products.

The respondents were requested to indicate which profile (options 1, 2 or 3) they preferred, featuring price, quality or other in some questions. Two hundred and eighty buyer respondents participated in this study. These respondents were recruited from the company database relating to the purchase of fabrication type products in the last year. The subjects were presented with a five page questionnaire including a covering letter.

3.5 Pilot test

A pilot test was conducted to detect weaknesses in design and instrumentation. It should, therefore, draw subjects from the target population and simulate procedures and protocols that have been designated for data collection. The size of the pilot group may range from 25 to 100 subjects, depending on the method tested, but the respondents do not have to be statistically selected. In certain pilot testing runs, the risk is exhausting the supply of respondents and sensitising them to the purpose of the study. The risk is generally overshadowed by improvements made to the design by a trial run (Cooper, & Schindler, 2001:81).

The questionnaire has been tested through a group of twenty six customers calling at the Afrox fabrication retail centre. These customers were randomly selected from different firms. These customers reviewed the questionnaire and corrected questions that they felt represented bias, irrelevance, and ambiguity. In this pilot test, the risk of exhausting the supply of respondents and sensitizing them to the purpose of the study was not an issue. These individuals that participated in the pilot study were not part of the respondent population.

3.6 Data collection

Once the researcher was satisfied that the plan was sound, data collection resumed. Data was collected, edited, coded, and prepared for analysis. Analysis involves reduction, summarisation, pattern examination, and the statistical evaluation of hypothesis. A written report describing the study's finding's used to transmit the results and recommendations to the intended decision-maker. By cycling the conclusions back into the original problem, new research iteration may begin, and findings may be applied (Cooper *et al*., 2000:84). Saunders *et al.,* (2000:381), explain that when gathering data and information to meet the research questions, there are two options to face, i.e., primary and secondary data.

Each respondent was issued with a questionnaire with basic explanations for completion. Should there be further explanations that were required; respondents would gain clarity on request. In addition, the questionnaires were distributed to buyers using the current sales representatives who have also issued return postal envelopes. Return mail was expected from September 2007 to the end of November 2007.

Reminders were sent to all participants, two weeks, and again four weeks after the original mailing and delivery of questionnaires. These reminders had thanked recipients and reminded them to complete and return the questionnaires. The reminder after four weeks included a new questionnaire, along with a letter reminding respondents that the questionnaire had not been received and repeated the appeal of the first letter.

3.7 Respondent selection

The goal behind a census strategy is different since it seeks to obtain responses from hundred percent of the targeted population. Census and sampling strategies have more in common then one might expect, such as their joint emphasis on measuring populations and population analysis are very important. Regarding the census approach, it practicality creeps in: one simply can't target hundred percent of customers every time feedback is required, especially since care must be taken not to over-survey customers. One simple approach used by many customers is to regularly contact all customers but to carefully manage the contact interval. To make this approach work, it is important to select a long interval, anywhere from quarterly to annually. When programmes are executed, one should make sure to keep the response interval open for at least a month, and one should not send too many reminders and direct contact, whenever possible, to encourage response. Another approach for a census study is to stagger the invitations over a fixed period (from monthly to quarterly). For example, each month, contact 1/12 of the target customers. After one-year, all customers will have been contacted and the census will have been achieved. This approach gives one continuous feedback without continually saturating any one customer. (Cooper *et al.*, 2001:164).

The respondent selection was drawn from the company customer database that purchased in the last financial year. The number of active customers was 485 and, based on Sekaran (2002:294), a statistically significant sample of 214 is recommended.

Mason (1996:54) identifies different possibilities when searching for primary data. One of them is interviewing adequate persons. The benefits when choosing interviews are that people can contribute with knowledge, experience, interactions, memories, feelings, thoughts and ideas, which are not reachable in other ways of collecting information (Wengraf, 2001:115). Although factors have been identified that are common to consumer and organisational buying behaviour, it was emphasised that the two markets should be approached differently.

3.8 Selection

For the study, a census was conducted. The reason for this choice was that there were 485 fabrication customers obtained from the company database.

Relevant population -- 485 fabrication customers in the Afrox database

Population parameters – the buyers in the fabrication customer list

Sample frame – the list of fabrication customers.

3.9 Data preparation

The primary analytical approach of coding, editing, and tabulating the data received was used in this study to clean data sets so that errors and anomalies are not captured. The questionnaire was pre-coded.

3.10 Data analysis

The results were captured using SPSS (Version 13). This study was viewed as a formal study in which a questionnaire is used as the data collection instrument analysis as the principal method of data analysis. The information gathered from this questionnaire consisted of quantitative continuous data (e.g. on quantity purchased) and ordinal data (e.g. According to a Likert -type scale). The aim of this study was to determine and uunderstanding the decision-making processes that buyers go through when purchasing industrial and special products (welding products, consumables, safety products and gases). In order to accomplish this aim, attributes had to be identified and each attribute had to be subdivided into a number of levels. Respondents were asked to make trade-offs between attributes at various levels, enabling them to make complex decisions not only on one factor, but on several factors.

With regards to the statistical analysis, the t- test and Anova was possible with most of the fields of data since most were nominal/ categorical in nature. However, an Anova was generated with the type of industry by volume and values in the data were not statistically different, refer to Appendix 6.

The One-sample Chi-square test assumed that all categories in the question had an equal proportion example; the number of “yes’s” was equal to the number of “no’s”. The actual

number of yes's and no's are the observed proportions. The observed proportions were compared to the expected proportions and the chi square statistic was calculated. A "p" value less than 0.05, indicates a statistical difference between observed and expected at the 95% level. The chi-square results were used in analyzing the relevant questions, example, 70.9% of respondents indicated that the buying department uses the internet as compared to 26% who don't and 3.1% who are not sure. Therefore it can be concluded that these results that are statistically significant at the 95% level (Chi-square = 291.608, df =3, $p<0.05$). The results of the Kruskal-Wallis test will show that there is a statistically significant difference in the percentage of time spent in the search for technical info, example, purchase ordering, purchase deliveries, technical support or claims between the types of industry at the 95% level ($p<0.05$).

3.11 Conclusion

This chapter has profiled the various research processes and methods used to ascertain buyer behaviour of fabrication customers at Afrox. The choice of research strategy was descriptive, the choice of research method was quantitative, the research technique was via a survey, selection of collection method was through primary data and secondary data, and the sample selection was probability sampling. The study area and population selected attempted to ensure that the survey was representative of the population. The questionnaire design ensured that the questions were relevant to the research being conducted. Administering the questionnaire ensured the most efficient and most convenient method ensuring speedy responses to the questionnaire administered to buyers and owners in the fabrication industry. A statistically significant sample of 216 questionnaires was returned from respondents. The data that was collected, processed, and interpreted are presented in the chapter four. Statistical analysis tests used were the Kruskal-Wallis test and the one-sample Chi-square test.

CHAPTER FOUR: PRESENTATION AND INTERPRETATION OF RESULTS

4.1 Introduction

The data that was collected and processed has been presented and interpreted in this chapter with specific reference to fabrication customers of Afrox. Of major importance was to identify the value and non-value drivers in the fabrication buying segment of the market; and to establish the needs and the selection criteria buyers use when purchasing fabrication products from Afrox.

The analysis and interpretation of the results regarding buyer behaviour of fabrication customers in the company are presented under the following sections:

- General statistics pertaining to fabrication customers;
- Buying centre;
- Buying process;
- Internet for purchasing needs;
- Choice criteria;
- Product; and
- Environmental factors.

In order to establish the buyer behaviour of fabrication customers at Afrox, the questions administered in the survey were structured and grouped within the relevant buyer behaviour sections defined.

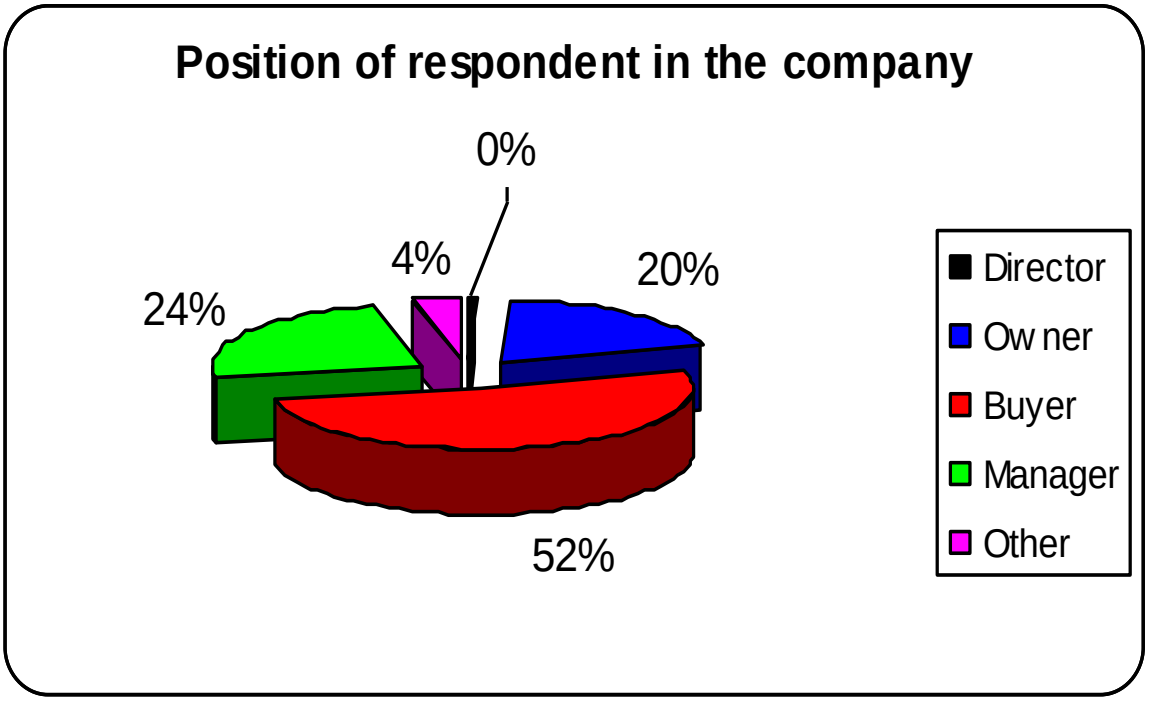
4.2 General statistics pertaining to fabrication customers within Afrox

To evaluate general customer statistics amongst the surveyed customers, the following were analysed:

4.2.1 Position of respondent in the company

The analysis of the data, as revealed in Figure 1.8, indicates that 52% of the respondents were buyers; 24% were managers; 20% were owners; 4% were of other designation and 0% directors. The majority of respondents were 52% of buyers that responded.

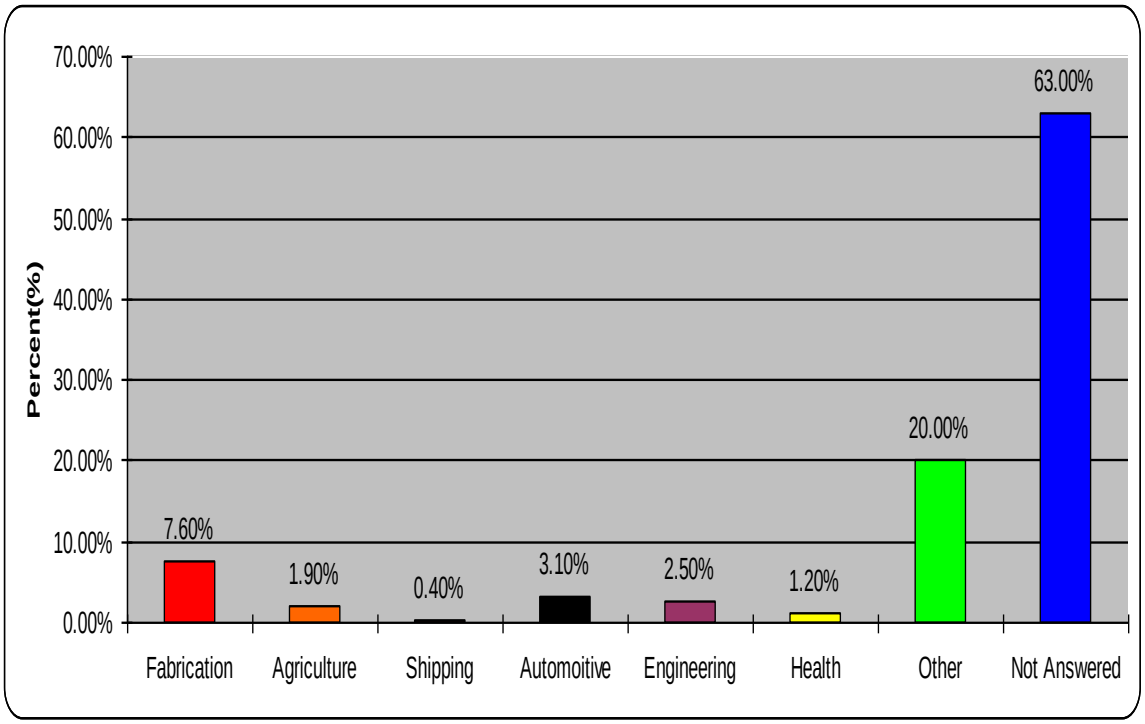
Figure 1.8: Position of respondent in the company



4.2.2 Type of industry segment

Customers from seven industry segments were surveyed. 63% of respondents did not respond as to the industry to which they belonged to, 8% were from the fabrication segment, 1% were from agriculture, 3% were from the automotive industry, 3% were from engineering, 1% were from health and 20% of customers from other industry segments responded as depicted in Figure 1.9. The majority of respondents fell in the other segment, followed by fabrication segment.

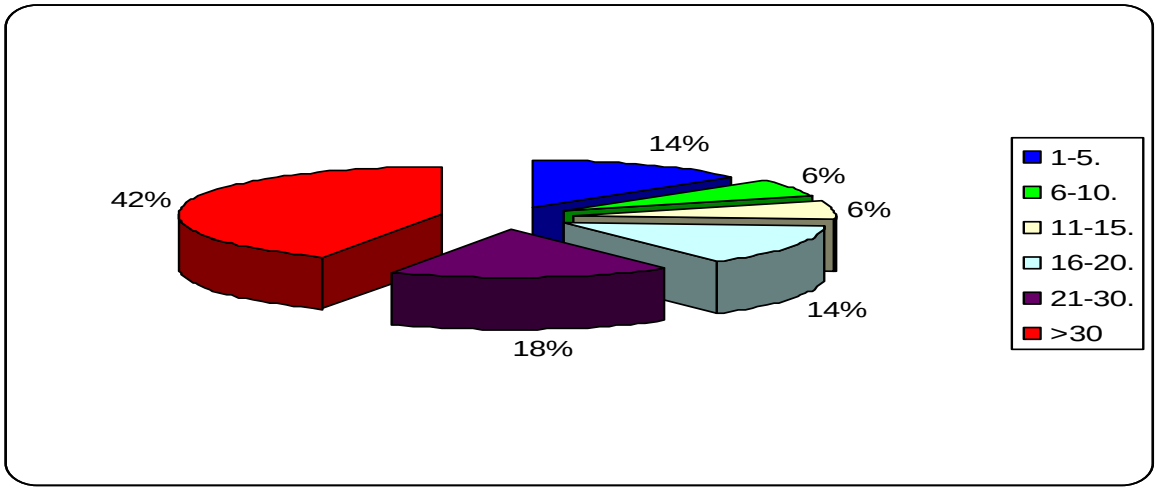
Figure 1.9: Type of industry segment



4.2.3 Number of employees in the company's employ

The survey revealed that the number of employees in the category of 1 to 5 employees was 14%, the number of employees in the category of 16 to 20 employees was 14%, the number of employees in the category of 21 to 30 employees was 18%, and the number of employees in the category of greater than 30 employees was 42%, as presented in Figure 1.10. The most significant response was 42% having greater than 30 employees.

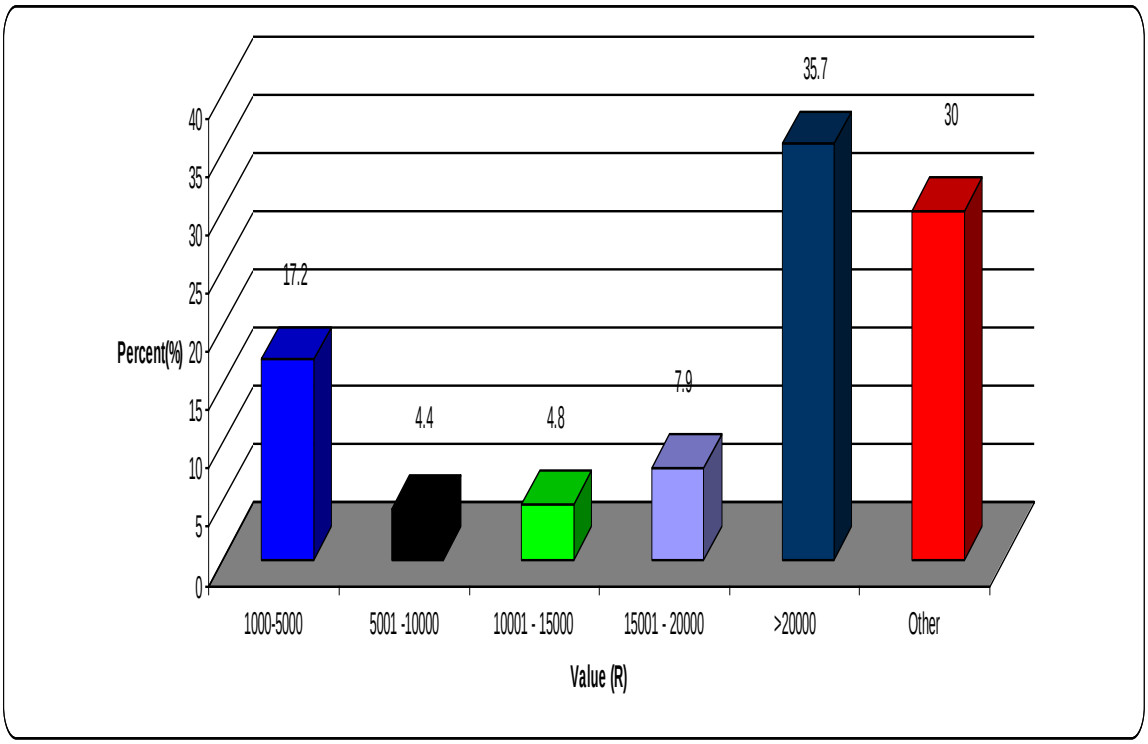
Figure 1.10: Number of employees



4.2.4 Total gross value amount of purchase

The analysis of the data in Figure 1.11 shows the total purchase per month. 17, 2% of respondents purchased products in the range of R1000 to R5000; the most significant percentage was 35, 7% of respondents who purchased products in the range greater than R20000, and 30% of respondents purchased products in the range representing other product purchase values.

Figure 1.11: Total gross value amount of purchase



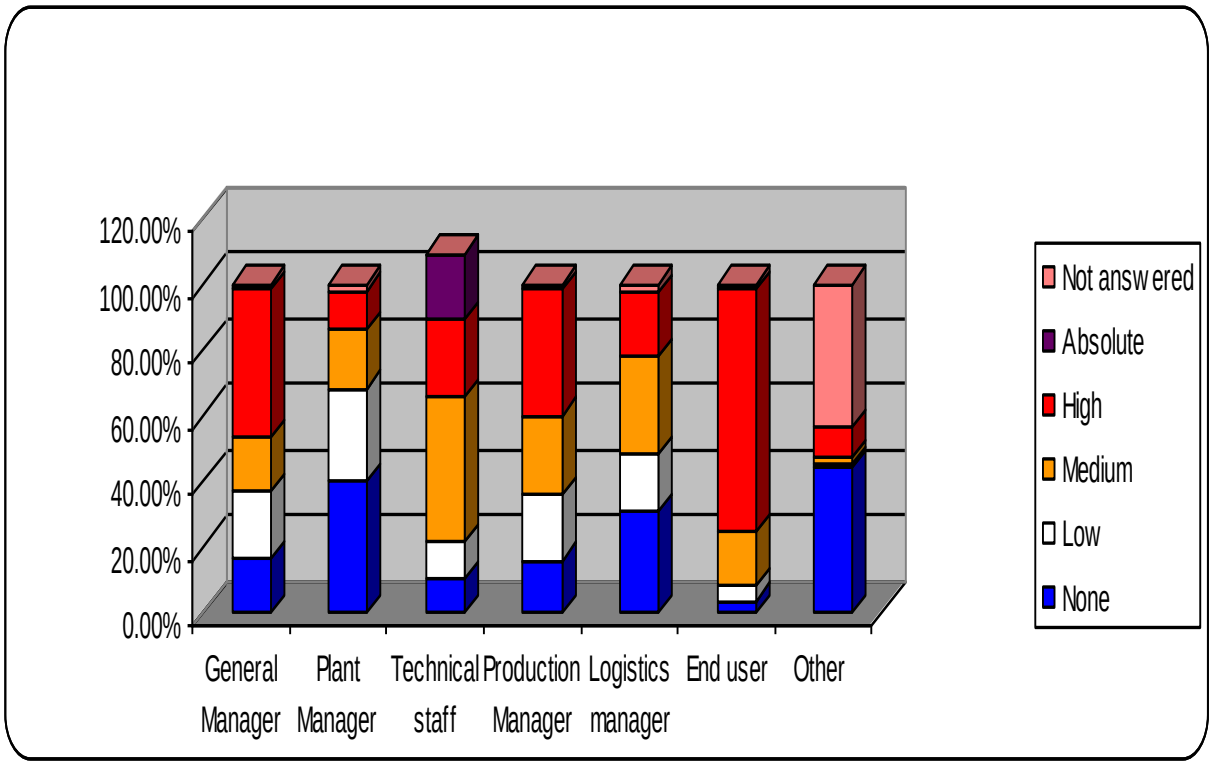
4.3 Buying centre

4.3.1 Level of involvement by staff in the buying process

Figure 1.12 indicates the level of involvement by staff in the buying process. For no level of involvement by staff in the buying process, the plant manager spent 40% of his time; 5, 9% for the production manager; 30, 4% for the logistics manager and 44, 1% for other levels of involvement in the buying process. With regard to the 'low' level of involvement by staff in the buying process, the general manager was involved 20,7% of the time, 28,2% for the plant manager; 19,8% for the production manager and 18,5% for the logistics manager. For the 'medium' level of involvement by staff in the buying

process, the general manager was involved 16,3% of the time; 18,1% for the plant manager; 44,1% for the technical staff, 25% for the production manager; 29,5% for the logistics manager and 16,35% for the end user. For the 'high' level of involvement by staff in the buying process, the general manager was involved 45, 4% of the time, 24, 2% for the technical staff, 38, 8% for the production manager, 19, 44% for the logistics manager, and 74% for the end user. For the 'absolute' level of involvement in the buying process, 19, 8% of the time was spent by on the buying process by technical staff.

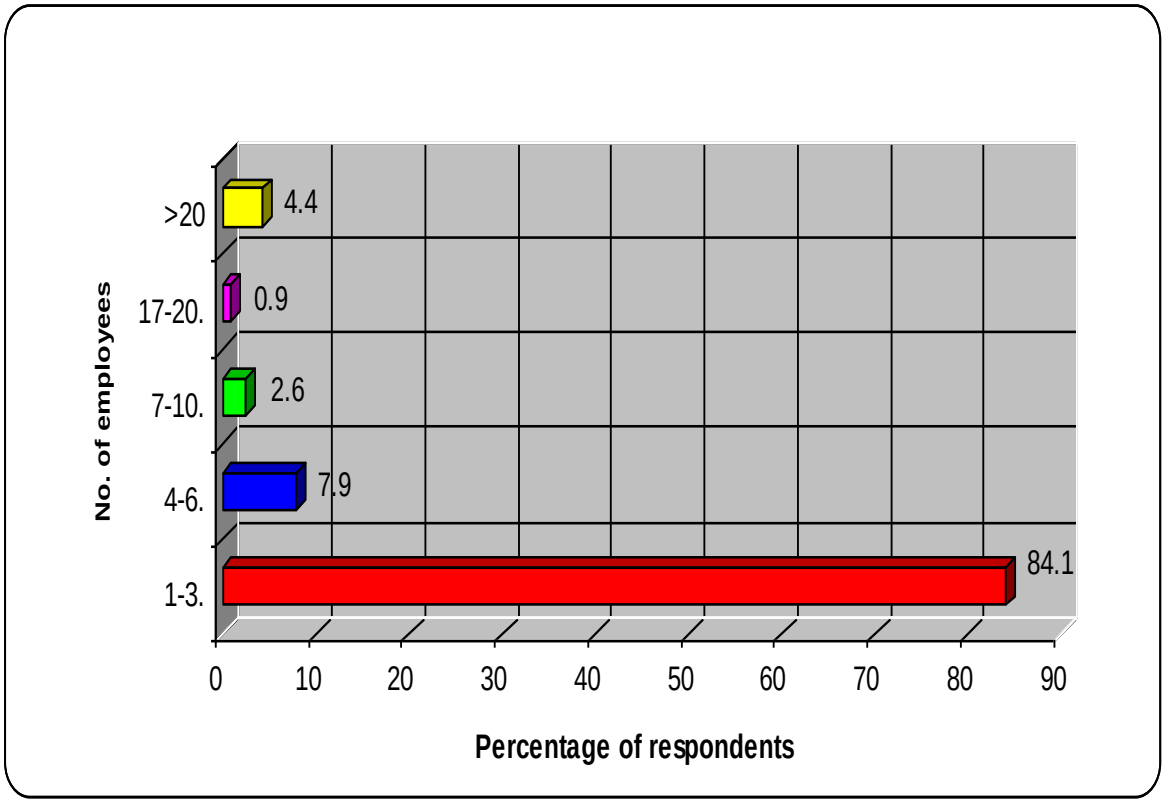
Figure 1.12: Level of involvement by staff in the buying process



4.3.2 Number of employees in the buying centre

The analysis of the data relating to the number of employees in the buying centre, as indicated in Figure 1.13, reveals that 84% of respondents have between one and three employees in their buying centre, 8% have between four and six employees in their buying centre, 4% have between seven and ten employees in their buying centre, 1% have between seventeen to twenty employees in their buying centre and 4% have greater than twenty 20 employees in their buying centre.

Figure 1.13: Number of employees in the buying centre



4.3.3 The numbers of employees in the buying centre versus modified re-buys of fabrication products

The analysis of the data in Table 1.8 relating to the number of employees in the buying centre versus the modified re-buy of fabrication products indicated the following:

- In the category between two and ten percent, the purchase of new products or equipment compared to the number of employees in the buying centre in the range between one and three people and between four and six was 113 (49,8%) customers and 11 (4,8%) customers respectively.
- In the category between eleven and twenty percent, the purchase of new products or equipment versus the number of employees in the buying centre in the range between one and three was 38 (16, 7%) customers.

Table 1.8: The number of employees in the buying centre versus modified re-buys of fabrication products

2a % purchase of new products/equipment * Q1g Number of employees who work in th buying centre Crosstabulation

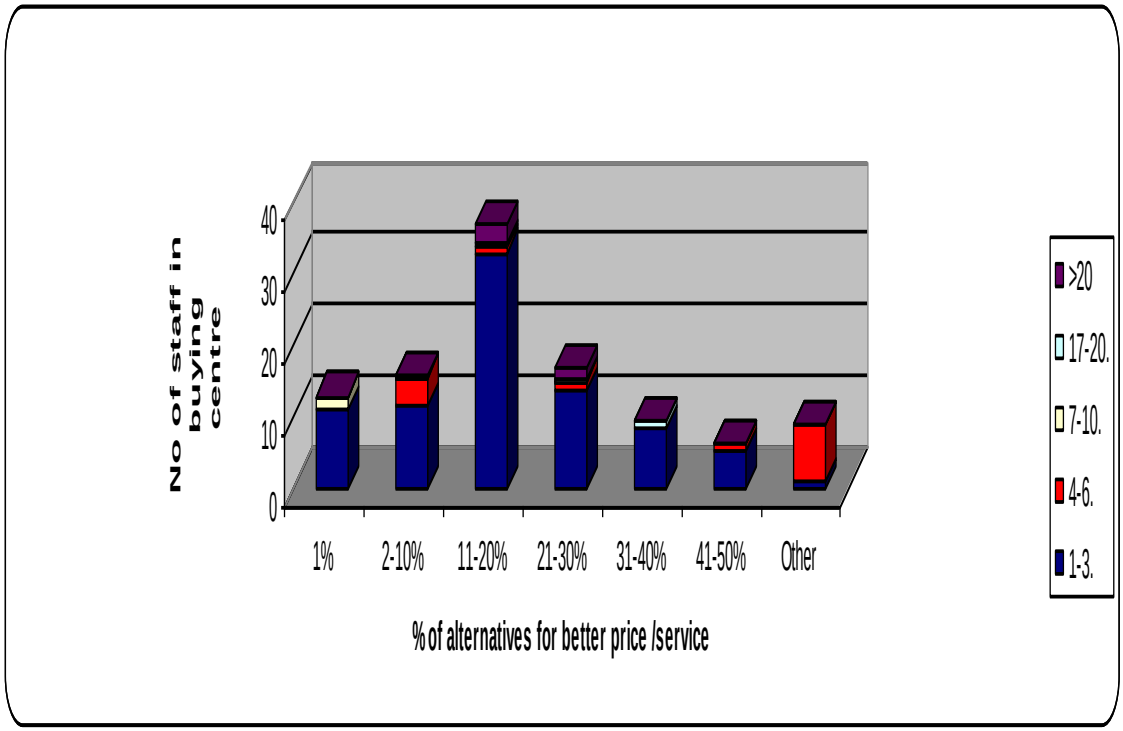
			Q1g Number of employees who work in the buying centre					Total
			1-3	4-6	7-10	17-20	>20	
Q2a % purchase of new products/equipment	1%	Count	26	0	1	0	0	**27**
		Total %	**11.5%**	**.0%**	**.4%**	**.0%**	**.0%**	**11.9%**
	2-10%	Count	113	11	0	0	5	**129**
		Total %	**49.8%**	**4.8%**	**.0%**	**.0%**	**2.2%**	**56.8%**
	11-20%	Count	38	5	4	1	2	**50**
		Total %	**16.7%**	**2.2%**	**1.8%**	**.4%**	**.9%**	**22.0%**
	21-30%	Count	11	2	1	1	0	**15**
		Total %	**4.8%**	**.9%**	**.4%**	**.4%**	**.0%**	**6.6%**
	31-40%	Count	3	0	0	0	1	**4**
		Total %	**1.3%**	**.0%**	**.0%**	**.0%**	**.4%**	**1.8%**
	41-50%	Count	0	0	0	0	1	**1**
		Total %	**.0%**	**.0%**	**.0%**	**.0%**	**.4%**	**.4%**
	Other	Count	0	0	0	0	1	**1**
		Total %	**.0%**	**.0%**	**.0%**	**.0%**	**.4%**	**.4%**
Total		Count	**191**	**18**	**6**	**2**	**10**	**227**
		Total %	**84.1%**	**7.9%**	**2.6%**	**.9%**	**4.4%**	**100.0%**

4.3.4 Number of employees in the buying centre versus the alternative to search for new or better services

The analysis of the data in Figure 1.14 relates to the number of employees in the buying centre versus the alternative to search for new or better services indicated the following:

- In the 1% category, the purchase of alternatives taken into account with the consideration of obtaining a goal of better price, or faster delivery, or general improvement versus the number of employees in the buying centre in the range between one and three was 25 (11%) customers.
- In the category between eleven and twenty percent, the purchase of alternatives taken into account with consideration of obtaining a goal of better price, or faster delivery, or general improvement versus the number of employees in the buying centre in the range between one and three people was 75 (33%) customers.

Figure 1.14: Number of employees in the buying centre versus alternative to search for new /better services



4.4.5 Numbers of employees in the buying centre versus purchases on a repeated basis (straight rebuy) of fabrication products

The analysis of the data in Table 1.9 relates to the number of employees in the buying centre versus the purchases on a repeated basis (straight re-buy) of fabrication products:

- In the category between thirty one and forty one percent, the purchase of a product on a repeated basis without consideration of possible alternatives versus the number of employees in the buying centre in the range of 1-3 was 46 (20,3%) customers.
- In the category between forty one and fifty one percent, the purchase of a product on a repeated basis without consideration of possible alternatives versus the number of employees in the buying centre in the range of 1-3 was 75 (33%) customers.

Table 1.9: Number of employees in the buying centre versus purchases on a repeated basis (straight re-buy) of fabrication products

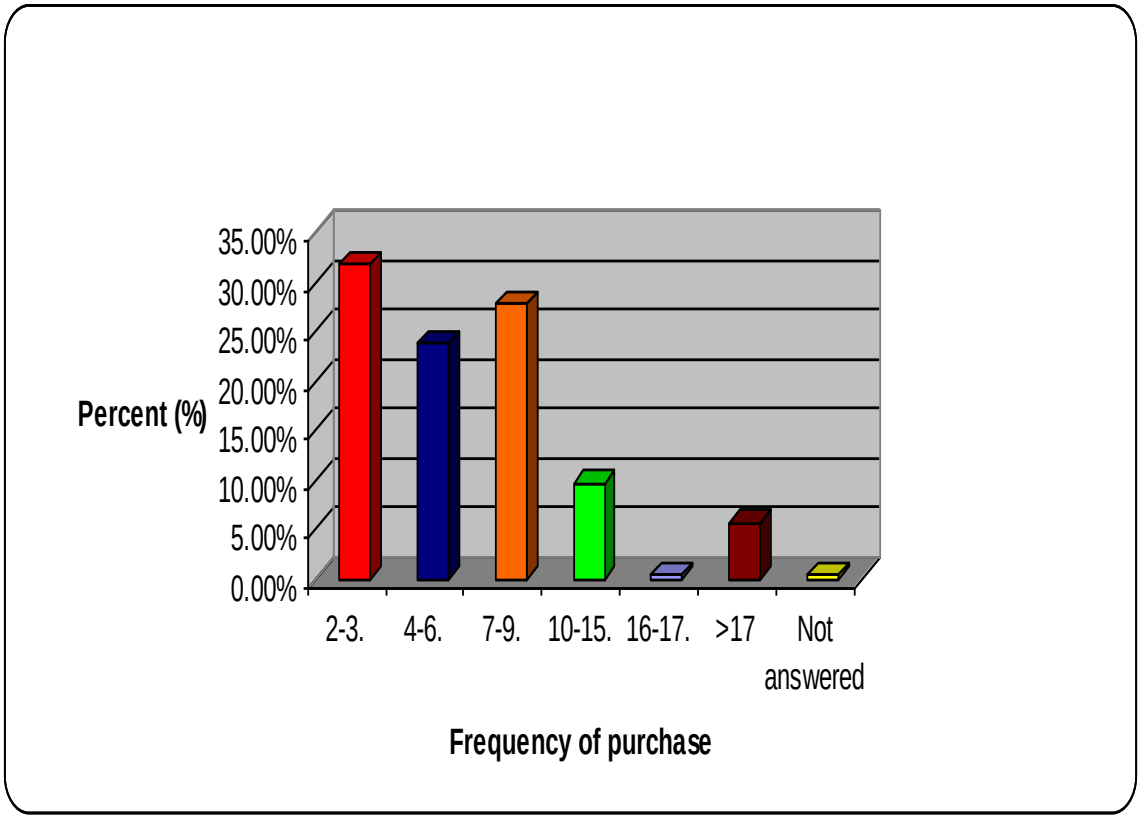
			Q1g Number of employees who work in the buying centre					Total
			1-3	4-6	7-10	17-20	>20	
Q2b What is the percentage purchase of a product or equipment on a repeated basis without consideration of possible alternatives?	1%	Count	28	2	3	0	0	**33**
		Total %	**12.3%**	**.9%**	**1.3%**	**.0%**	**.0%**	**14.5%**
	2-10%	Count	12	5	0	1	1	**19**
		Total %	**5.3%**	**2.2%**	**.0%**	**.4%**	**.4%**	**8.4%**
	11-20%	Count	16	1	0	1	3	**21**
		Total %	**7.0%**	**.4%**	**.0%**	**.4%**	**1.3%**	**9.3%**
	21-30%	Count	12	0	0	0	1	**13**
		Total %	**5.3%**	**.0%**	**.0%**	**.0%**	**.4%**	**5.7%**
	31-40%	Count	46	3	1	0	0	**50**
		Total %	**20.3%**	**1.3%**	**.4%**	**.0%**	**.0%**	**22.0%**
	41-50%	Count	75	7	1	0	3	**86**
		Total %	**33.0%**	**3.1%**	**.4%**	**.0%**	**1.3%**	**37.9%**
	Other	Count	2	0	1	0	2	**5**
		Total %	**.9%**	**.0%**	**.4%**	**.0%**	**.9%**	**2.2%**
Total		Count	**191**	**18**	**6**	**2**	**10**	**227**
		Total %	**84.1%**	**7.9%**	**2.6%**	**.9%**	**4.4%**	**100.0%**

4.3 Buying process

4.4.1 Purchase frequency per month

The analysis of the data in Figure 1.15 indicates that 31,7% of respondents made between two and three purchases of fabrication products per month; 28% made between four and six purchases of fabrication products per month; 27,8% made between seven and nine purchases of fabrication products per month; 9,7% of respondents made between ten and fifteen purchases of fabrication products per month.

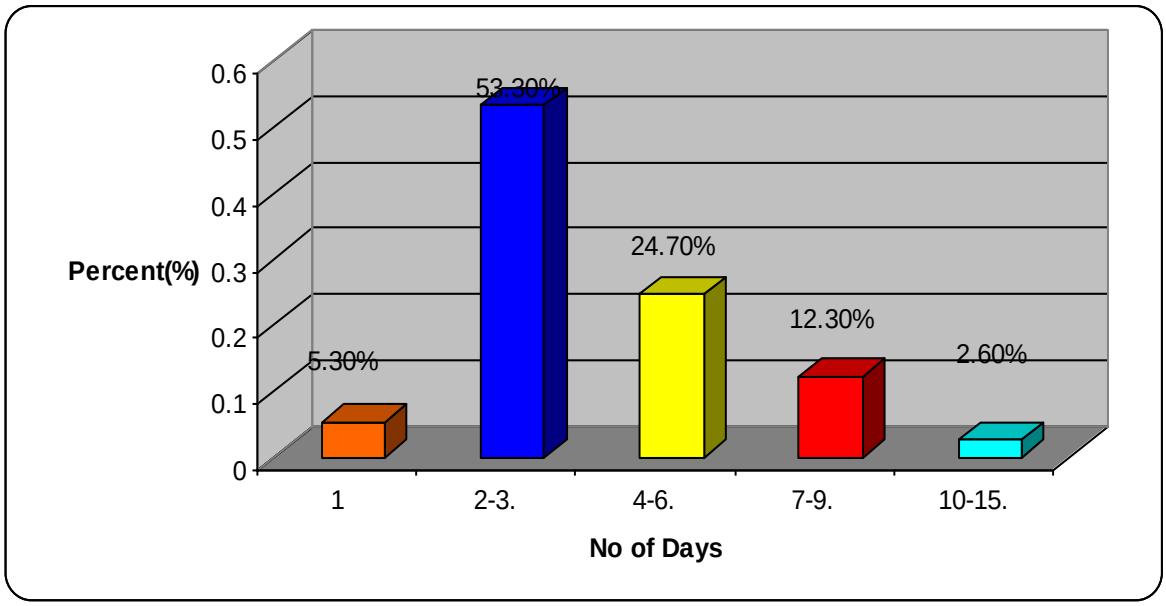
Figure 1.15: Purchase frequency per month



4.4.2 The period between need recognition and delivery in days from the supplier

The analysis of the data in Figure 1.16 indicates that 5,3% of respondents required 1 day between need recognition and delivery in days from the supplier; 53,3% required between two and three days from need recognition and delivery period from the supplier; 24,7% required between four and six days from need recognition and delivery from the supplier; 12,3% of respondents required between seven and nine days between need recognition and delivery from the supplier.

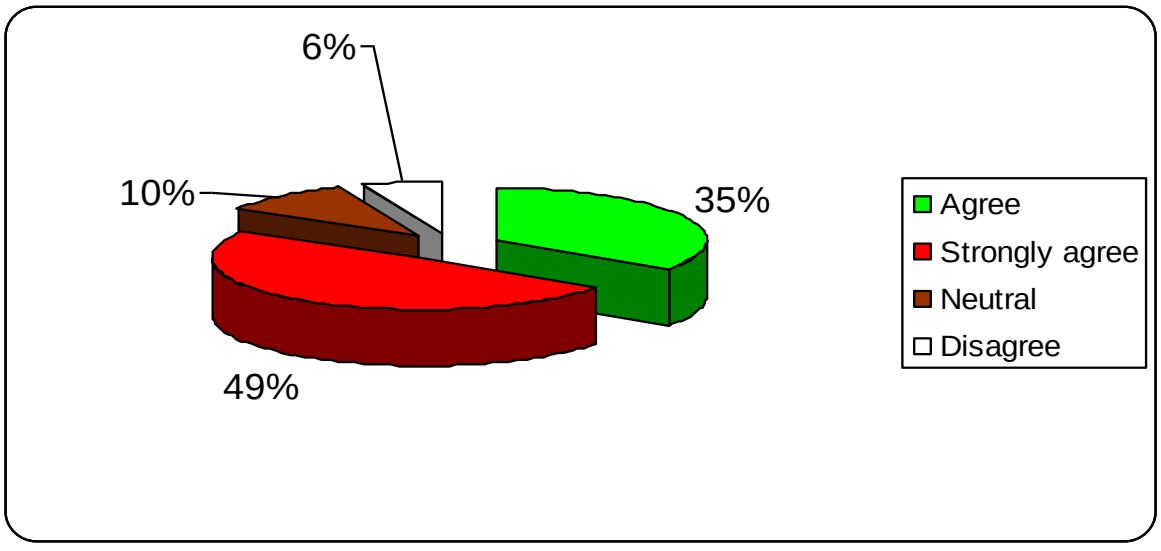
Figure 1.16: The period between need recognition and delivery in days from the supplier



4.3.3 The cost of switching supplier

The analysis of the data in Figure 1.17 indicates that 49 % strongly agreed; 34% agreed; 10% of respondents were neutral; 6% disagreed and 1% strongly disagreed that the cost of switching suppliers is high.

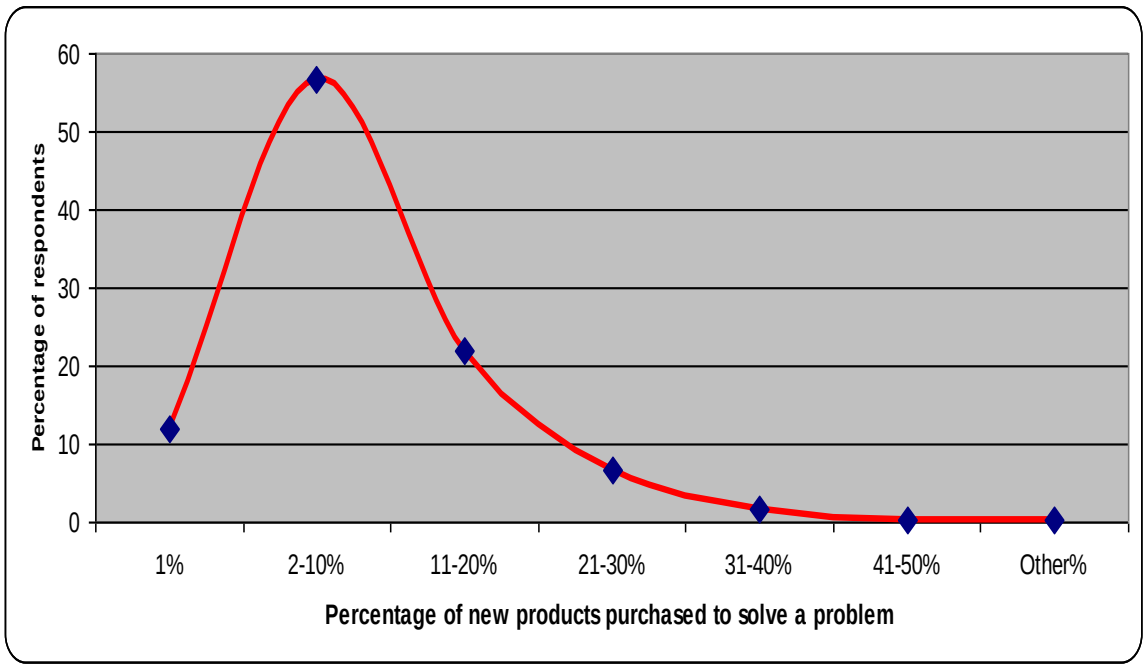
Figure 1.17: The cost of switching supplier



4.4.4 Purchase of new equipment or products for the first time to solve a new problem

The analysis of the data in Figure 1.18 indicates that 57% in the range between two and ten percent of buyers purchase products for the first time to solve a new problem, 22% in the range between eleven and twenty percent, 12% of buyers do 1% of new task buying, 7% in the range between twenty one and thirty percent do new task buying.

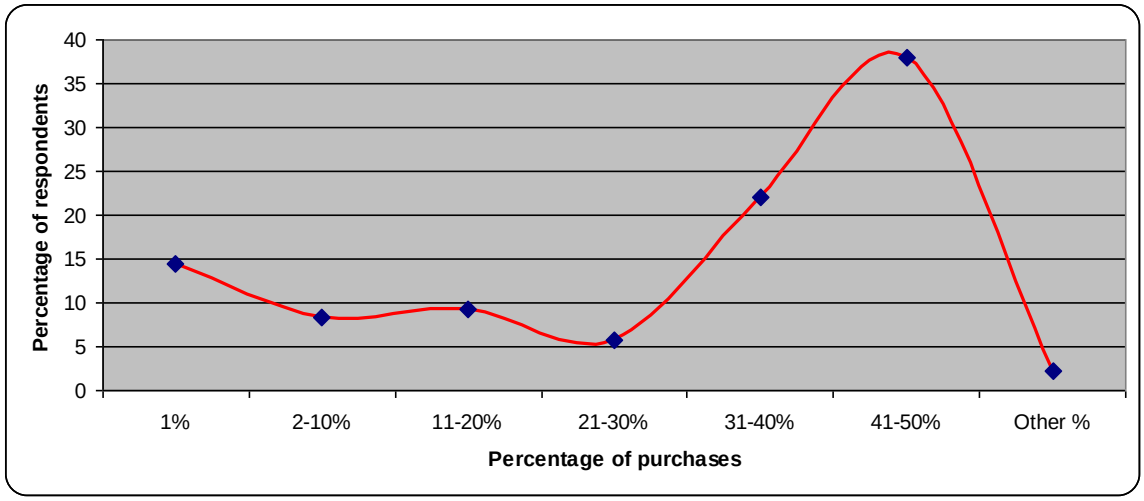
Figure 1.18: Purchase of new equipment or products for the first time to solve a new problem



4.4.5 Purchase of a product or equipment on repeat basis without consideration of possible alternatives

Figure 1.19 indicates the percentage of purchase of a product or equipment on repeat basis without consideration of possible alternatives, 38% in the range between forty one and fifty percent, 22% in the range between thirty one and forty percent, 15% in the 1% range, and 9% in the range between eleven and twenty percent.

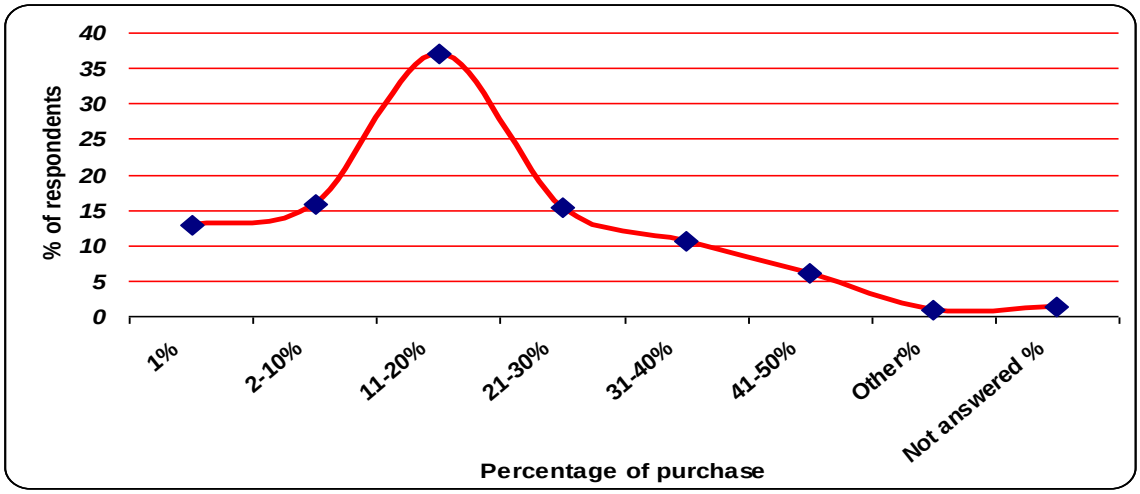
Figure 1.19: Product purchases on a repeat basis



4.4.6 Purchase alternatives taken into consideration with a goal of obtaining a better price, faster delivery or a general improvement

The analysis of the data relating to a goal of obtaining a better price, or faster delivery or a general improvement in Figure 1.20 indicates that 37% of purchases are in the range between eleven and twenty percent, 16% of purchases were in the range between two and ten percent, 15% of purchases were in the range between twenty one and thirty percent, 13% of purchases were in the range of 1%, and 11% of purchases were in the range between thirty one and forty percent.

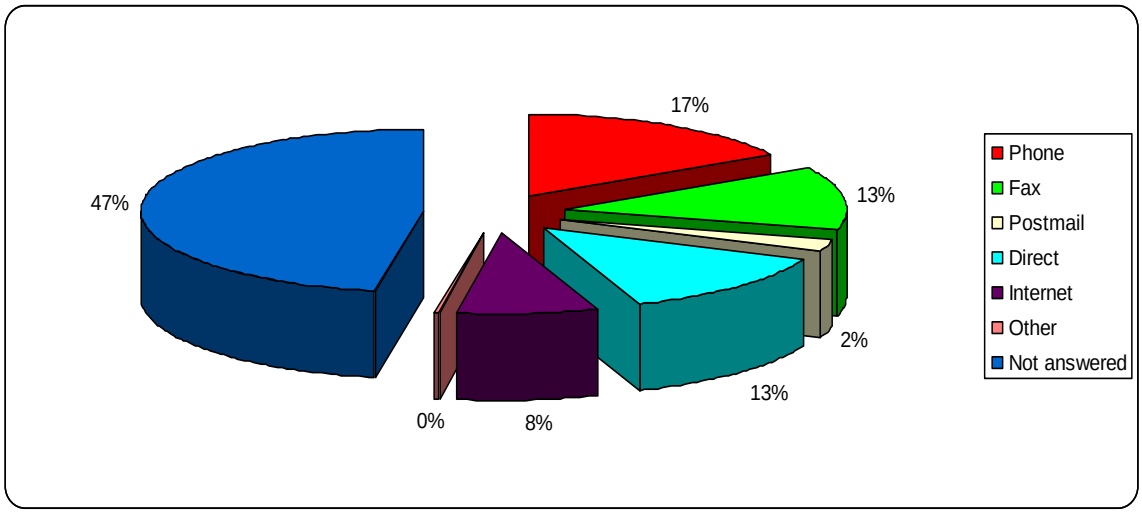
Figure 1.20: Purchase alternatives with a goal of obtaining a better price, or faster delivery or a general improvement



4.4.7 The main form of contact with suppliers

The analysis of the data relating to the main form of contact with suppliers in Figure 1.21 revealed that 47% did not answer this question; 17% used the telephone; 13% used the fax; 13% used the direct mode; 8% used the internet, and 2% used mail.

Figure 1.21: Main form of contact with suppliers



4.4.8 Product needs recognition versus order frequency

The analysis of Table 1.10 with regard to product need recognition versus order frequency indicated the following:

- The purchase frequency between two to three times by the company each month compared to the period of 2 to 3days and 4 to 6days, between need recognition and delivery from supplier is 44 (19,4%) and 22 (9,7%), respectively.
- The purchase frequency between four to six times by the company each month compared to the period of, 2 to 3days, 4 to 6days, between need recognition and delivery from supplier is 34 (15%) and 14 (6,2%), respectively.
- The purchase frequency of between seven and nine times by the company each month compared to the period of 2 to 3days, 4 to 6days and 7 to 9days between need recognition and delivery from supplier is 23 (10,1%), 16 (7%) and 21 (9,3%), respectively.

Table 1.10: Product need recognition versus order frequency

Q3d What is the purchase frequency of the company each month? * Q3e What is the period between need recognition and delivery in days from your supplier? Crosstabulation

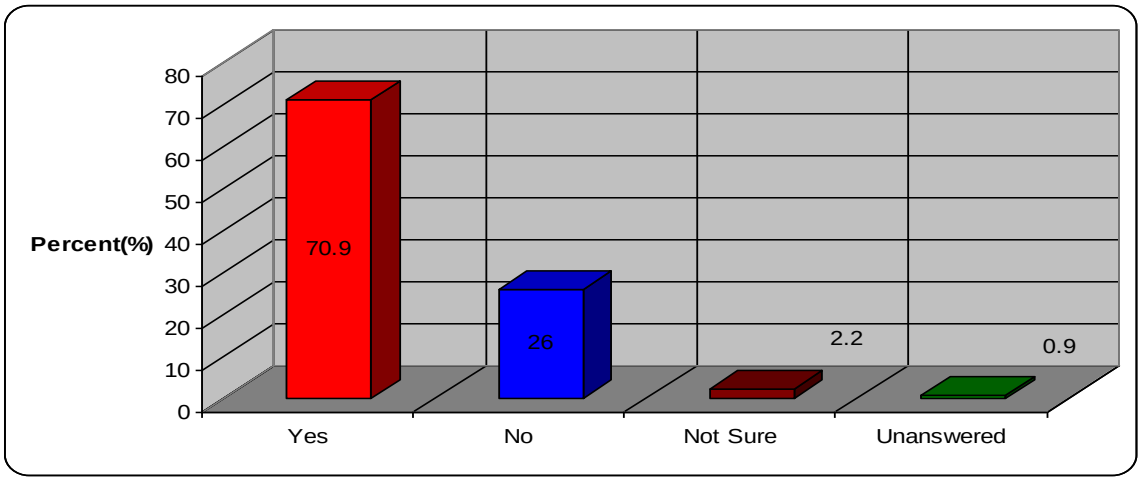
			Q3e What is the period between need recognition and delivery in days from your supplier?								Total
			1	2-3	4-6	7-9	10-15	16-18	Not answered	20000	
Q3d What is the purchase frequency of the company each month?	2-3	Count	3	44	22	1	1	1	0	0	**72**
		Total %	**1.3%**	**19.4%**	**9.7%**	**.4%**	**.4%**	**.4%**	**.0%**	**.0%**	**31.7%**
	4-6	Count	1	34	14	3	2	0	0	0	**54**
		Total %	**.4%**	**15.0%**	**6.2%**	**1.3%**	**.9%**	**.0%**	**.0%**	**.0%**	**23.8%**
	7-9	Count	1	23	16	21	1	1	0	0	**63**
		Total %	**.4%**	**10.1%**	**7.0%**	**9.3%**	**.4%**	**.4%**	**.0%**	**.0%**	**27.8%**
	10-15	Count	1	13	4	2	2	0	0	0	**22**
		Total %	**.4%**	**5.7%**	**1.8%**	**.9%**	**.9%**	**.0%**	**.0%**	**.0%**	**9.7%**
	16-17	Count	0	1	0	0	0	0	0	0	**1**
		Total %	**.0%**	**.4%**	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.4%**
	>17	Count	6	6	0	1	0	0	0	0	**13**
		Total %	**2.6%**	**2.6%**	**.0%**	**.4%**	**.0%**	**.0%**	**.0%**	**.0%**	**5.7%**
	Not answered	Count	0	0	0	0	0	0	1	0	**1**
		Total %	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.4%**	**.0%**	**.4%**
	20000	Count	0	0	0	0	0	0	0	1	**1**
		Total %	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.0%**	**.4%**	**.4%**
Total		Count	**12**	**121**	**56**	**28**	**6**	**2**	**1**	**1**	**227**
		Total %	**5.3%**	**53.3%**	**24.7%**	**12.3%**	**2.6%**	**.9%**	**.4%**	**.4%**	**100.0%**

4.5 Using the internet for purchasing needs

4.5.1 Use of internet by the buying department.

The analysis of the data in Figure 1.22 indicates that 71% of the buying department answered that they used the internet, 26% did not use the internet, 2 % were not sure, and 1% did not answer the question.

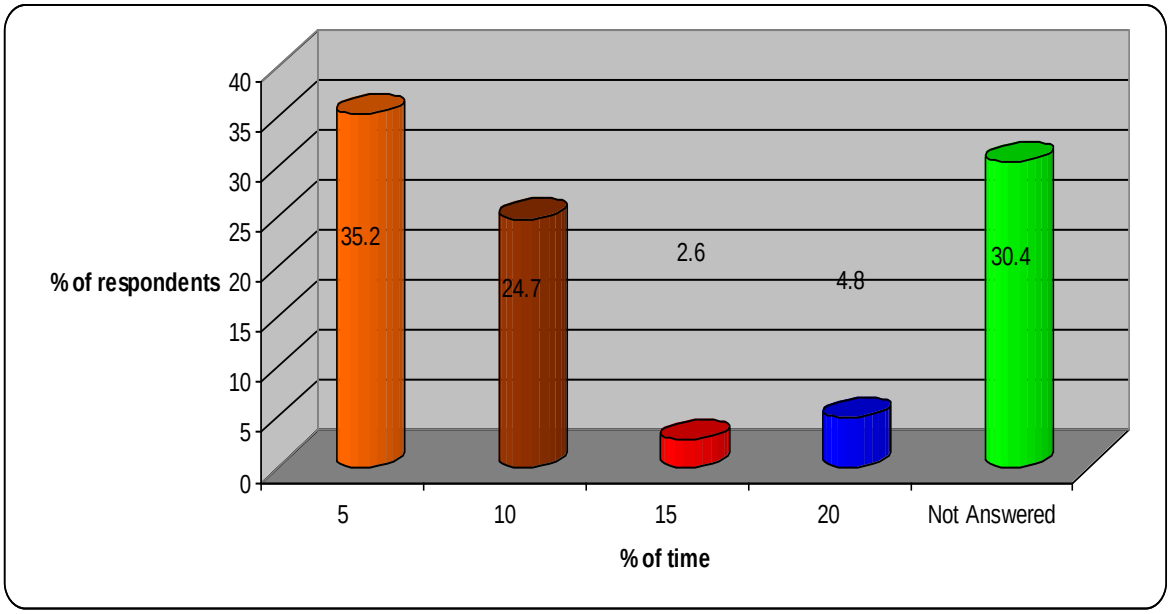
Figure 1.22: Does the buying department use the internet?



4.5.2 Use of internet for searching suppliers

The analysis of the data in Figure 1.23 relating to the percentage of buyers using the internet for searching of suppliers indicated that 5% spent 36% of time searching for suppliers on the internet; 10% spent 25% of time searching for suppliers on the internet; 15% of respondents spent 3% of time searching for suppliers on the internet; and 20% spent 5% of time searching for suppliers on the internet. The results of the Kruskal-Wallis test shows that there is no statistically significant difference in the percentage of time spent in the searching of suppliers between the types of industry at the 95% level ($p<0.05$) ($x^2 = 7.860$, DF = 6 , p = 0,249).

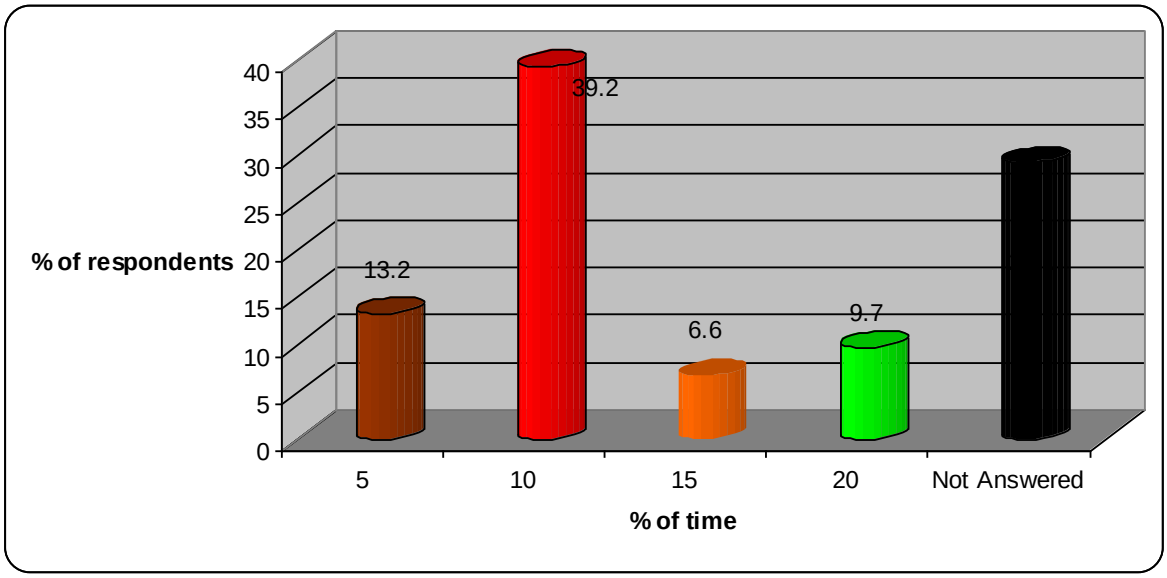
Figure 1.23: Use of internet for searching suppliers



4.5.3 Use of the internet for searching of products or services

The analysis of the data in Figure 1.24 relating to the percentage of time spent using the internet for searching for products and services indicated that 5% of respondents spent 13% of time; 10% spent 40% of time; 15% spent 7% of time; 20% spent 10% of time; and 29% of respondents did not answer. The results of the Kruskal-Wallis test shows that there is no statistically significant difference in the percentage of time spent in the searching of products or services between the types of industry at the 95% level, ($x^2 = 3.745$, DF= 6, p = 0,711).

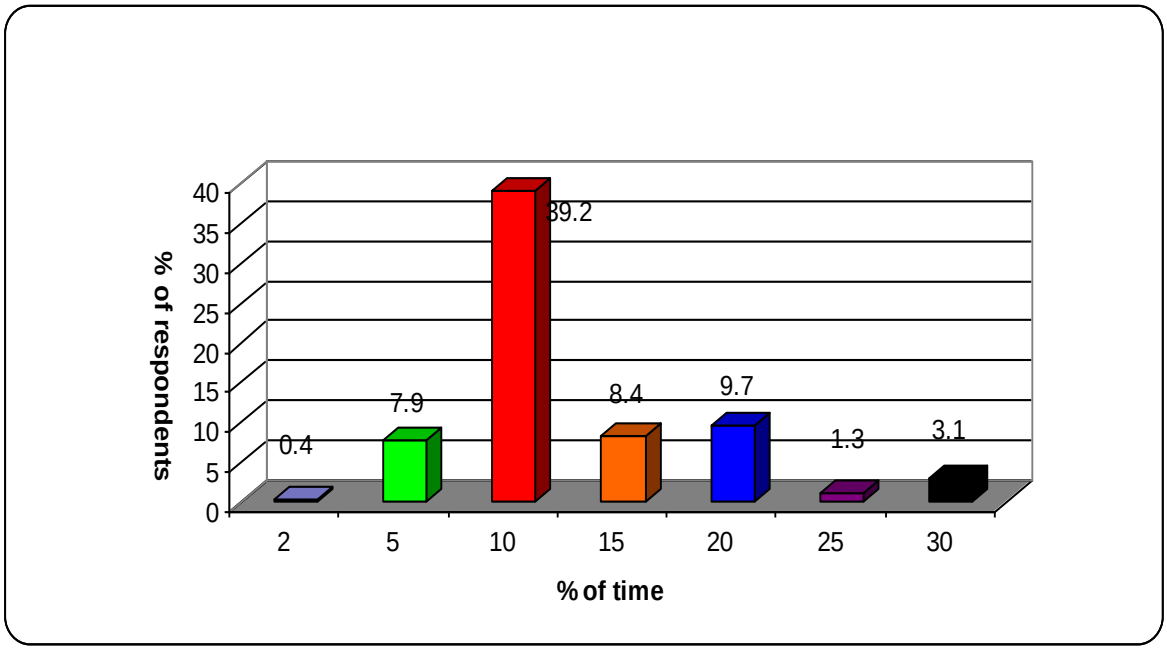
Figure 1.24: Time spent on internet searching for products and services



4.5.4 Use of the internet for searching of technical information

The analysis of the data in Figure 1.25 indicates the percentage of time spent using the internet for searching of technical information. 5% spend 11% of time; 10% spend 55% of time; 15% spend 12% of time; and 20% of respondents spend 14% of time. The descriptive statistics show that the agriculture and shipping industry spent 20% of the time searching for technical information while engineering and health spent less than 10%. The other industries range between 11% and 20%. The results of the Kruskal-Wallis test shows that there is a statistically significant difference in the percentage of time spent in the searching for technical information between the types of industry at the 95% level (x^2 =39.257, DF = 6, p = 0,001).

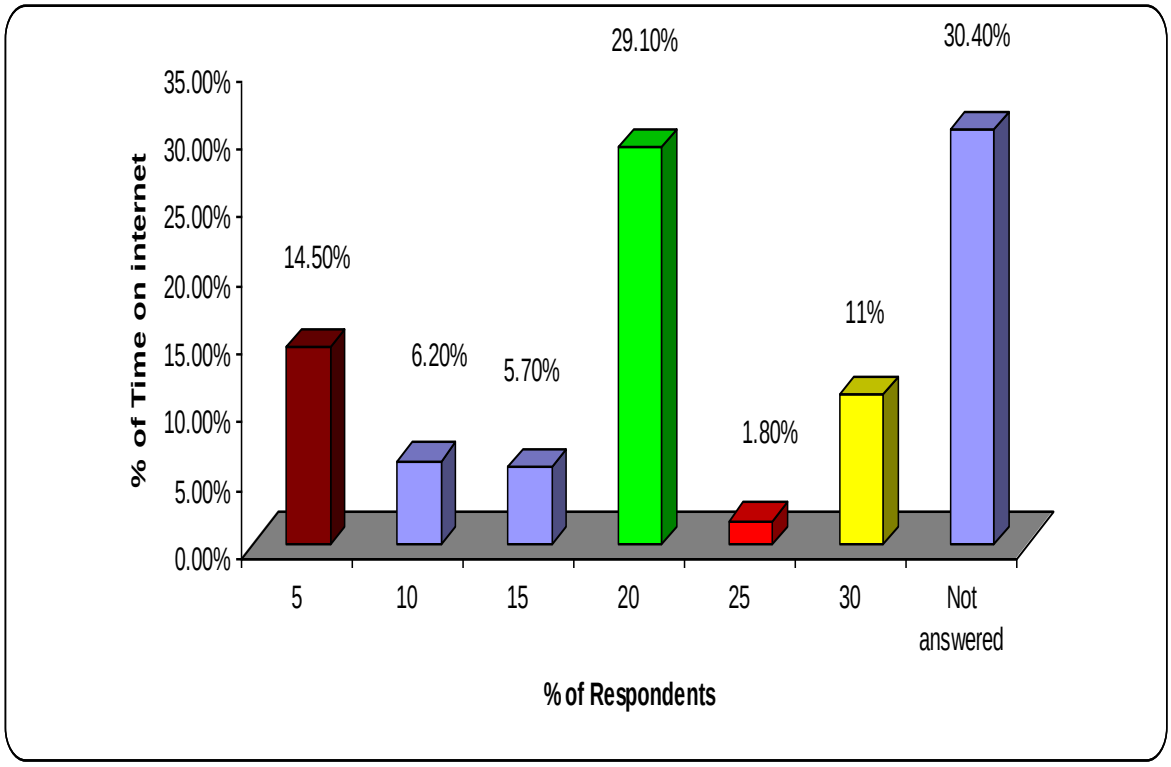
Figure 1.25: Use of the internet for searching of technical information



4.5.5 Using the internet for orders and purchases from suppliers

The analysis of the data in Figure 1.26 indicates the percentage of time spent using the internet for orders and purchases from suppliers. 5% of respondents used the internet for 15% of the time for orders and purchases with customers; 10% of respondents used the internet for 6% of the time; 15% of respondents used the internet for 6% of the time; 20% of respondents used the internet for 29% of the time; 30% of respondents used the internet for 11% of the time; and 50% of respondents used the internet for 1% of the time. The results of the Kruskal-Wallis test shows that there is a statistically significant difference in the percentage for orders and purchases from suppliers between the types of industry at the 95% level (x^2=25.294, DF= 6, p = 0, 00).

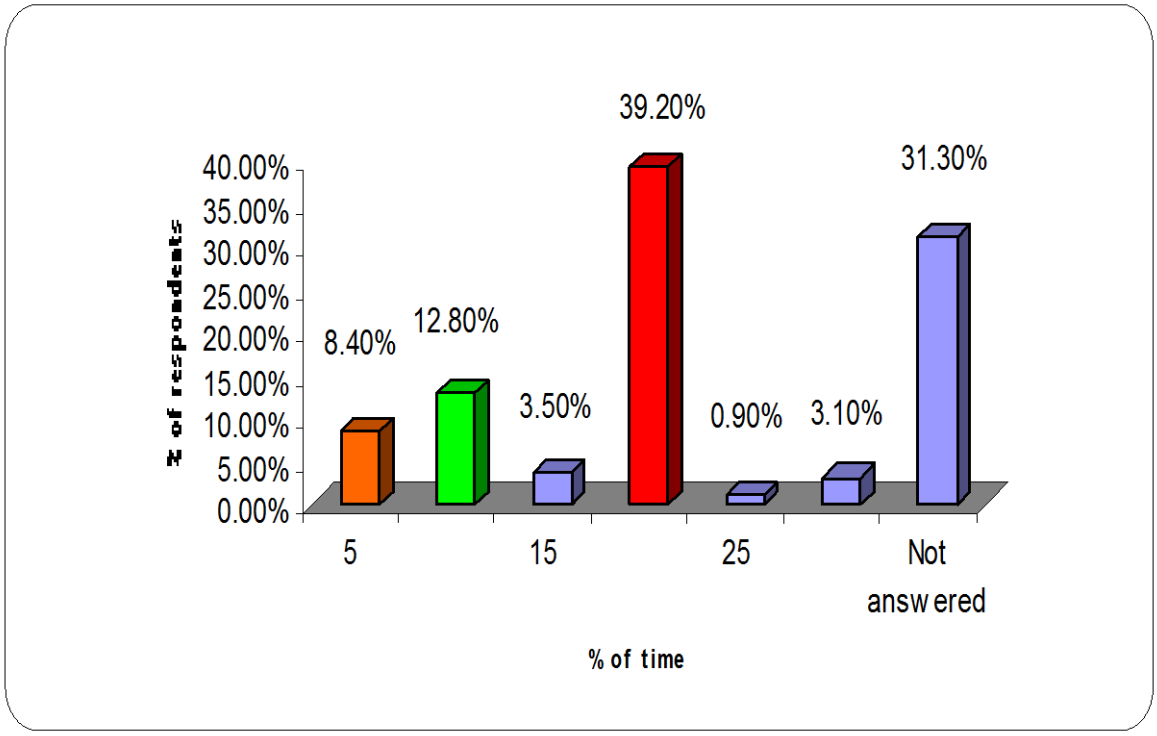
Figure 1.26: Time spent on the internet for orders and purchases from suppliers



4.5.6 Time spent on the internet following up on deliveries

The analysis of the data in Figure 1.27 revealed that 5% of respondents spent 8% of the time following up on deliveries; 10% of respondents spent 13% of the time; and 20% of respondents spent 40% of the time. The results of the Kruskal-Wallis test shows that there is a statistically significant difference in the percentage for following up on deliveries between the types of industry at the 95% level (x^2=29.793, DF= 6, p = 0, 00).

Figure 1.27: Time spent on the internet following up on deliveries

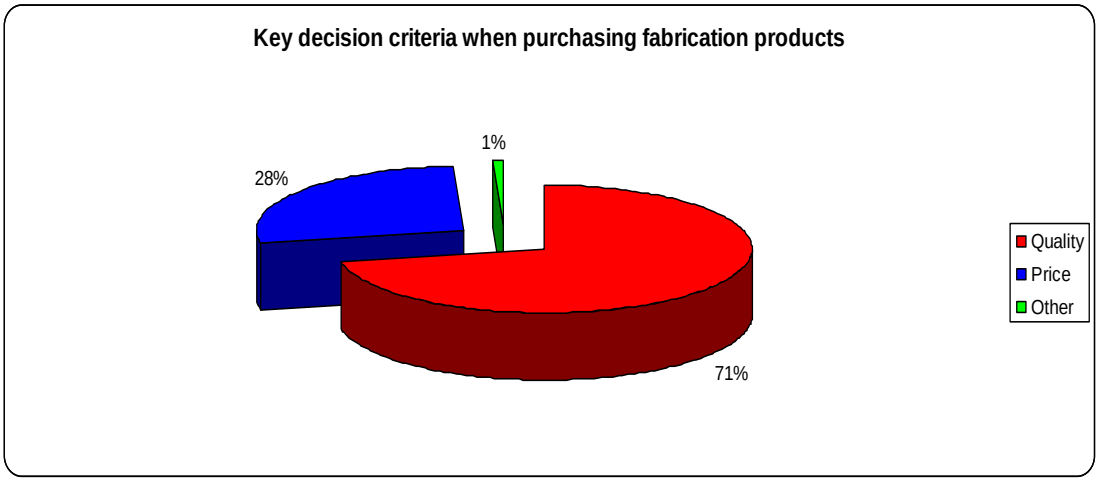


4.6. Choice Criteria

4.6.1 Key decision criteria when purchasing fabrication products

Figure 1.28 indicates the analysis of data relating to key decision criteria when purchasing fabrication products. 71% of respondents selected quality as their key decision criteria when purchasing fabrication products; 28% of respondents selected price as their key decision criteria when purchasing fabrication products and 1% of respondents selected other decision criteria when purchasing fabrication products.

Figure 1.28: Key decision criteria when purchasing fabrication products



4.6.2 Factors affecting selection of supplier

Factors effecting the selection of suppliers and the importance of each factor are illustrated in the Figure 1.29. 149 (65,6%) of respondents indicated a high level of importance and 75 (33%) indicated at the absolute level of importance for price.

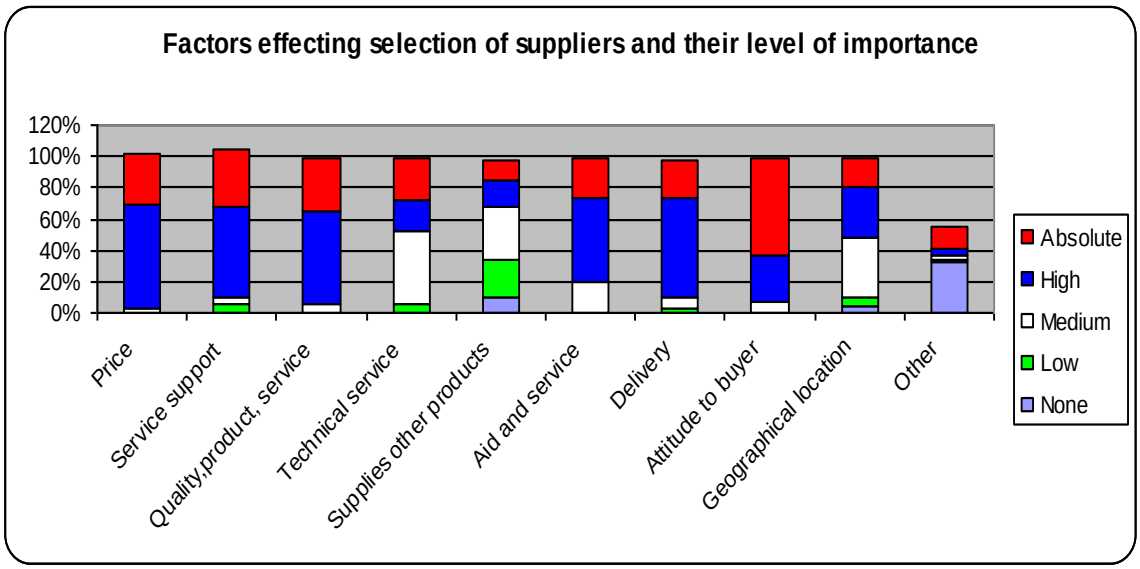
133 (58, 6%) respondents indicated a high level of importance and 82 (36, 1%) indicated an absolute level of importance for service and support. 136 (59, 9%) respondents indicated high level of importance and 76 (33, 5%) indicated at the absolute level of importance for quality, product and service.

105 (46,3%) respondents indicated a medium level of importance, 46 (20,3%) respondents indicated a high level of importance and 61 (26, 9%) indicated an absolute level of importance for technical capability. 56 (24,7%) respondents indicated a low level of importance, 77 (33, 9%) respondents indicated a medium level of importance, and 39 (17, 2%) respondents indicated a high level of importance.

44 (19,4%) respondents indicated a medium level of importance, 122 (53,7%) respondents indicated a high level of importance and 59 (26, 0%) indicated an absolute level of importance for aid and advice. 144 (63,4%) respondents indicated a high level of importance and 55 (24,2%) indicated an absolute level of importance for the delivery factor. 66 (29, 1%) respondents indicated a high level of importance and 143 (63%)

indicated an absolute level of importance for the factor attitude to buyer. 86 (37,9%) respondents indicated a medium level of importance, 74 (32, 6%) respondents indicated a high level of importance and 43 (18,9%) indicated an absolute level of importance for technical capability.

Figure 1.29: Factors affecting selection of supplier and their level of importance

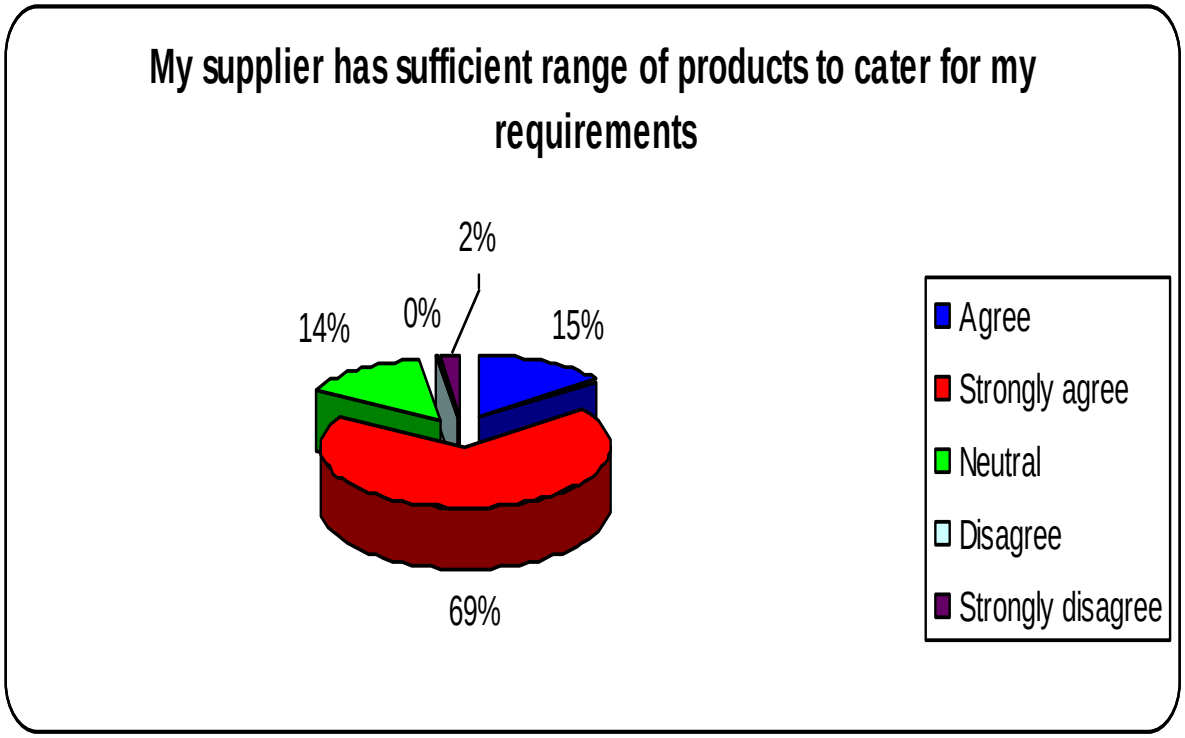


4.7 Product

4.7.1 Adequacy of product range to cater for requirements

The analysis of the data as reflected in Figure 1.30 revealed that 69% of respondents strongly agreed with the statement that the **s**upplier has a sufficient product range to cater for their requirements; 15% agreed with this statement; 14% were neutral; 2% strongly disagreed and 0% disagreed.

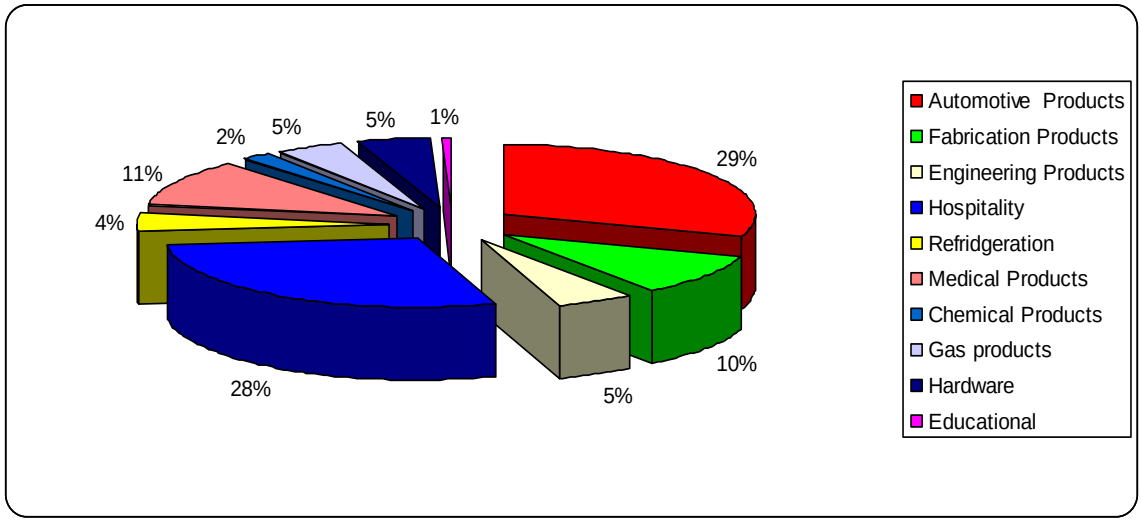
Figure 1.30: Adequacy of product range



4.7.2 Five main products manufactured

The analysis of the data in Figure 1.31 showing the five main products manufactured at the buyer's company indicated the following: 29% was automotive products; 28% was fabrication products; 11% was medical products; 10% was fabrication products; 5% was hardware products; 5% was gas products; 5% was engineering products; 4% was refrigeration products; 2% was hospitality products; 2% was chemical products; and 1% was educational products.

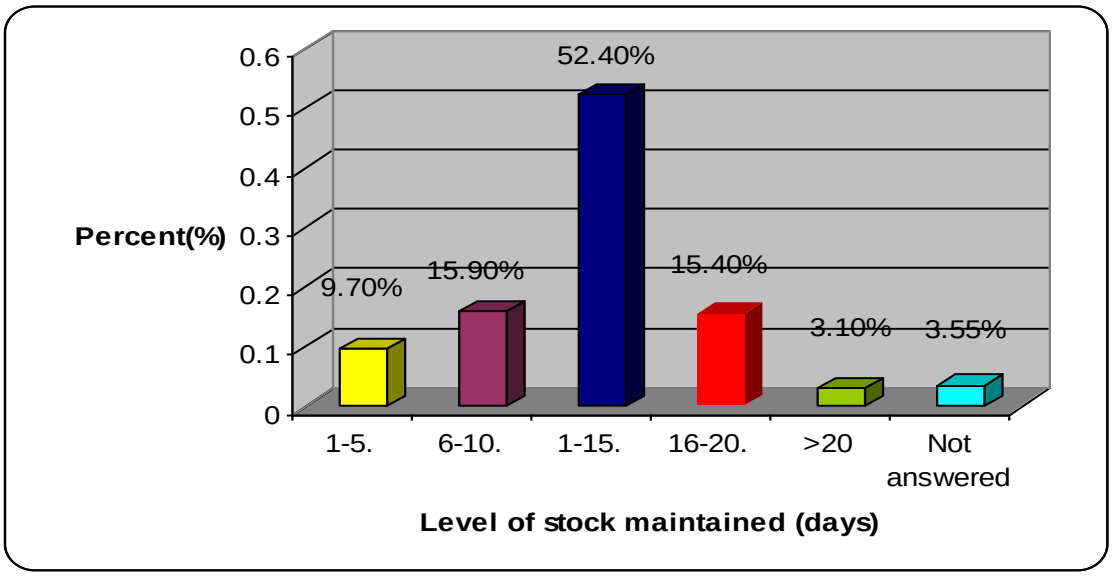
Figure 1.31: Main products manufactured



4.7.3 Level of stock maintained for fabrication products

Figure 1.32 indicates the level of stock maintained for fabrication products. 9,7% of respondents maintained stock at 1-5 days; 15,9% of respondents maintained stock for 6-10 days; 52,4% of respondents maintained stock for 1-15 days; 15,4% of respondents maintained stock for 16-20 days; 3.1% of respondents maintained stock for >20 days and 3,55% of respondents did not answer this question.

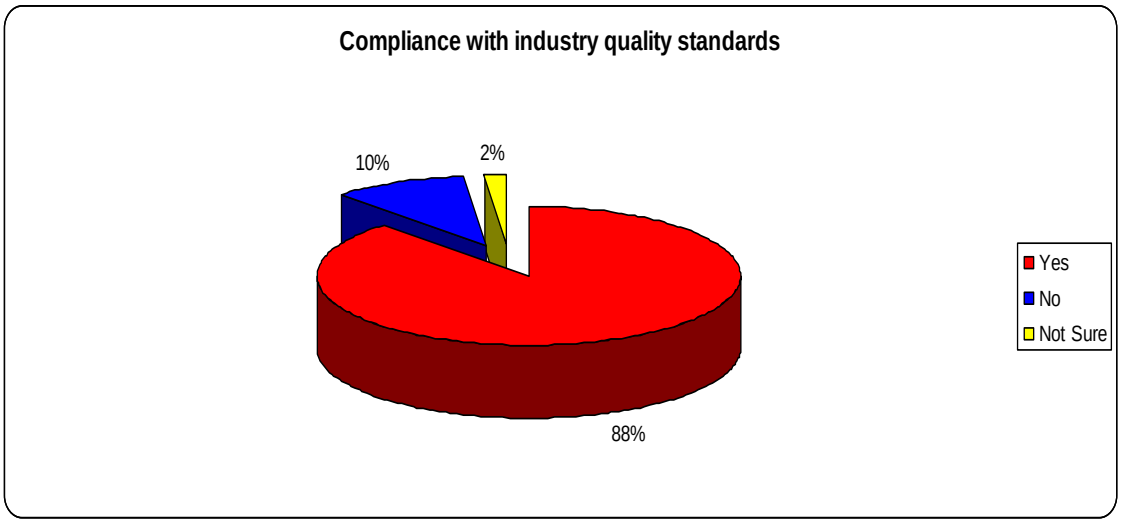
Figure 1.32: Level of stock maintained for fabrication products



4.7.4 Compliance with industry standards

Figure 1.33 indicates that 89% of respondents answered yes to product compliance to industry quality standards; 10% responded no to product compliance to industry quality standards; and 2% responded not sure to product compliance with regard to industry quality standards.

Figure 1.33: Compliance with industry standards

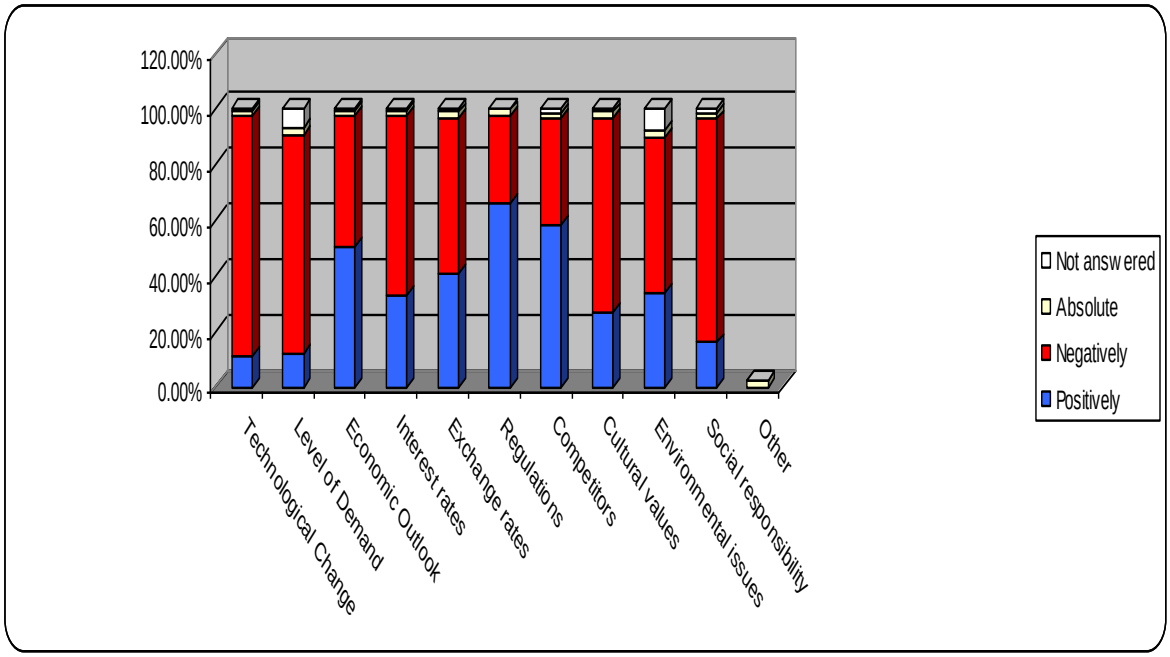


4.8 Environmental factors in buying

4.8.1 Environmental factors that impact on buying patterns

Figure 1.34 indicates the environmental factors that impact buying patterns of fabrication products. For technological change, 11% answered positively and 86% answered negatively. With regard to level of demand, 12, 3% answered negatively and 78, 4% positively. With regard to the economic outlook, 50, 2% answered negatively and 47, 1% positively. With regard to the interest rates, 33% answered negatively and 64, 3% positively. With regard to the exchange rates, 40, 5% answered negatively and 55, 9% positively. With regard to regulations 66, 1% answered negatively and 31, 3% positively. With regard to cultural values, 26, 9% answered negatively and 69, 6% positively. With regard to environmental, 33, 9% answered negatively and 55, 9% positively and with regard to social responsibility, 15, 9% answered negatively and 80, 2% positively.

Figure 1.34: Environmental factors that impact on buying patterns



4.8.2 Value spent per month versus industry segment

Table 1.11 indicates the value spent per month versus the industry segment. It was indicated that 14,1 % in the other segment spent a total gross amount of purchase between R1000 and R5000, 18,5 % in the greater than R20000 segment, 11,5% in the other segment spent greater than R20000. A large percentage did not respond.

Table 1.11: Value spent per month versus industry segment

$Q1c*Q1f Crosstabulation

			Q1f Total gross amount of purchase						Total
			1 000-5000	5 001-10 000	10 001-15 000	15 001-20 000	>20 000	Other	
$Q1c[a]	Fabrication	Count	0	0	2	3	42	5	52
		% of Total	.0%	.0%	.9%	1.3%	18.5%	2.2%	22.9%
	Agriculture	Count	0	2	1	0	10	0	13
		% of Total	.0%	.9%	.4%	.0%	4.4%	.0%	5.7%
	Shipping	Count	2	0	0	1	0	0	3
		% of Total	.9%	.0%	.0%	.4%	.0%	.0%	1.3%
	Automotive	Count	5	0	0	1	2	13	21
		% of Total	2.2%	.0%	.0%	.4%	.9%	5.7%	9.3%
	Engineering	Count	3	1	1	3	8	1	17
		% of Total	1.3%	.4%	.4%	1.3%	3.5%	.4%	7.5%
	Other	Count	32	6	7	8	26	57	136
		% of Total	14.1%	2.6%	3.1%	3.5%	11.5%	25.1%	59.9%
	Health	Count	0	1	0	3	4	0	8
		% of Total	.0%	.4%	.0%	1.3%	1.8%	.0%	3.5%
	Not answered	Count	75	20	22	35	151	128	431
		% of Total	33.0%	8.8%	9.7%	15.4%	66.5%	56.4%	189.9%
Total		Count	39	10	11	18	81	68	227
		% of Total	17.2%	4.4%	4.8%	7.9%	35.7%	30.0%	100.0%

Percentages and totals are based on respondents.

a. Group

4.9 Interpretation of results

4.9.1 General statistics of fabrication customers

As far as position of respondents in the company was concerned, the response was that the majority of respondents were buyers, followed by managers and a small percentage was owners and directors.

The analysis revealed that customers in seven industry segment types responded. A balanced response across the fabrication segment was realised, the agriculture segment, the shipping segment, the automotive segment, the engineering segment, the health segment, other segments.

It was revealed that most of the fabrication customers had significantly greater than 30 employees in their employ. The lowest number of employees was between 21 and 30 in the companies' employ.

4.9.2 Buying centre

With respect to the number of employees in the buying centre, 84% had between one to three employees in their buying centres, 8% had between four and six percent, 4% had between seven and ten, 1% had between seventeen and twenty employees in their buying centre, and 4% had greater than twenty employees in their buying centre. Between 1 to 3 was the most significant number of employees in the buying centre.

As far as the level of involvement by staff in the buying process was concerned, the 'high involvement in the buying process'- indicated that the end user had the most involvement in buying process, followed by the production manager, the general manager and lastly, technical staff. Regarding 'low involvement in the buying process' – the technical staff had low involvement in the buying process followed by the plant manager general manager, production manager and end-user.

The study revealed that an area of significance was that between one to three employees in the buying centre purchased between two to ten percent of new products or equipment for a new task followed by between eleven to twenty percent.

With regard to the numbers of employees in the buying centre versus the alternative to search for new or better services, the most significant responses were 1 to 3 employees in the buying centre took 11% to 20 % of alternatives taken into consideration with a goal of obtaining a better price, faster delivery, or general improvement followed by 21% to 30%.

As far as the number of employees in the buying centre versus purchases on a repeated basis of fabrication products is concerned, 1 to 3 employees, who work in the buying centre, purchase 41% to 50% of product or equipment on a repeated basis without consideration of possible alternatives, followed by 31% to 40 %.

4.9.3 Buying process

The analysis revealed that the purchase frequency per month indicated that the most significant percentage of respondents made between 2 to 3 purchases of fabrication products per month , followed by between 4 to 6 purchases per month, 7 to 9 purchases per month and 10 to 15 purchases per month.

The period between need recognition and delivery in days from supplier was significantly the 2 to 3 day period, followed by 4 to 6 days, 7 to 9 days, and 2 to 6 days.

With regard to the statement, the cost of switching supplier is high, the feedback from respondents were that at least 50% strongly agreed with this statement, a large proportion of respondents agreed. A small proportion of respondents disagreed and strongly disagreed that the cost of switching supplier is high.

With regard to the statement, “my supplier has sufficient range to cater for requirements,” a significant percentage of 69% of respondents strongly agreed with this statement, 15% agreed and 14% of responses were neutral.

It emerged that the main form of contact mode with suppliers was through the telephone, followed by fax, and by the direct mode. A small percentage used the internet and post mail.

It was revealed that in the percentage of purchase of new products or equipment for the first time to solve a problem, 57% of respondents purchased between 2 to 10 % of products, 22% purchased between 11 to 20%, and the remainder of the respondents did small purchases. It was indicated that a large number of respondents purchased a low percentage of products (2 to10% & 11 to 20%) for purchase of new products or equipment for the first time to solve a problem. The most significant percentage of purchase of new products or equipment for the first time to solve a problem was between 2 to 10% of products.

It was revealed that in the percentage of purchase of a product or equipment on repeat basis without consideration of possible alternatives, 38% of respondents in the range between forty one and fifty percent purchased products on a repeat basis, 22% in the range between thirty one and forty percent, 15% in the 1% range purchase products on a repeat basis, 9% in the range between eleven and twenty percent, 8% in the range between two and ten percent and 6% in the range between twenty one and thirty percent. The most significant response was 38% of respondents in the range between forty one and fifty percent purchase products on a repeat basis.

When purchase alternatives were taken into consideration with a goal of obtaining a better price, faster delivery or a general improvement, 37% of purchases were in the range between eleven and twenty percent, 16% of purchases were in the range between two and ten percent, 15% of purchases were in the range between twenty one and thirty percent, 13% of purchases were in the range of 1%, 11% of purchases were in the range between thirty one and forty percent, 6% of purchases were in the range between forty one and fifty percent, and 1% of purchases was in the range between twenty one and thirty percent.

It emerged from the responses regarding the buying department using the internet that the response significantly indicated that the buying department did use the internet. It emerged from the responses that a significant number of respondents used the internet 5 % of the time and 10% of the time searching for suppliers; 10%, 5%, and 20% of the time searching for products and services; 10%, 15%, and 20% of the time searching for

technical information; 30 % of the time, 5% of the time and 30% of the time for orders and purchases from suppliers; 20 % of the time and 10% of the time for follow-up of deliveries.

It emerged from the responses relating to value spent per month versus the industry segment that the most significant response was that in the fabrication segment, the gross amount of purchase was greater than R20000 per month.

4.9.4 Choice criteria

The findings revealed that a significant number of respondents selected 'quality' as their key decision criteria, followed by a smaller percentage of respondents choosing 'price' as their key decision criteria when purchasing fabrication products.

The findings revealed that with regard to the factors affecting the level of purchase, a significant number of respondents responded to ratings of 'high' and 'absolute' on 'price', 'service and support', 'quality, product and service, 'geographical location', 'delivery' and 'aid and advice'. A significant number of respondents responded 'medium' and 'high' to technical capability; a significant number of respondents responded 'medium' to 'already supplies other products' and a significant number of respondents responded 'absolute' to 'attitude to buyer'.

4.9.5 Product

It emerged that the main products manufactured at these fabrication customers were automotive products; fabrication products; medical products; fabrication products; hardware products; gas products; engineering products; refrigeration products; hospitality products; chemical products; and the smallest percentage products manufactured was educational products.

It emerged from the responses that with regard to the total gross value amount of purchases, 35, 7% of respondents purchased in the range greater than 20000 rand. In the R5001 to R10000 and R15001 to R20000 range, a small percentage of respondents had purchased to this value, however 17, 2% of respondents purchased products in the range

of R1000 to R5000. This finding shows that a significant number of respondents purchased greater than R20 000 in value in the fabrication industry.

It was indicated that a significant number of respondents held 1 to 15 days stock followed by respondents holding a 6 to 10 day stock level.

It emerged from the responses with regard to compliance with industry standards, that a significant proportion of respondents responded yes.

It emerged from the responses with regard to product need recognition versus order frequency, in order of significance, that in 2 to 3 days, 2 to 3 purchases are made by fabrication companies, in 2 to 3 days between 4 to 6 purchases are made and then in 2 to 3 days, 7 to 9 purchases are made by fabrication customers.

4.9.6 Environmental factors and purchasing

With regard to environmental factors, there was a significant response on ‘negatively’ for ‘technological change’, for ‘level of demand’ and on ‘economic outlook’; a significant response from respondents on ‘negatively’ for ‘interest rates’, on ‘exchange rates’; on ‘cultural values’, on ‘environmental issues’ and for ‘social issues’. A significant response was received from respondents on ‘positively’ and ‘negatively’ for competitors; and a significant response from respondents on ‘positively’ on ‘regulations’.

4.10 Conclusion

The majority of respondents were buyers, followed by managers and a small percentage were owners and directors. The analysis revealed that customers in seven industry segment types responded, i.e., fabrication, agriculture, automotive, engineering, health and other segments. The fabrication customers had significantly greater than thirty employees in their employ and with respect to the number of employees in the buying centre, eighty four percent had between one to three employees in their buying centres. The end-user of fabrication products had the most involvement in the buying process, followed by the production manager, the general manager, and, lastly, technical staff.

Between one to three employees in the buying centre purchased between two to ten percent of new products or equipment for a new task. Between one to three employees in the buying centre took 11 to 20 % of alternatives with a goal of obtaining a better price, and faster delivery. Between one to three employees, who work in the buying centre, purchase between 41 to 50% of product or equipment on a repeated basis without consideration of possible alternatives. The purchase frequency per month indicated that the most significant percentage of respondents made between two to three purchases of fabrication products per month. The period of need recognition and delivery in days from supplier was significantly between the 2 to 3 day period. With regard to the statement that the cost of switching supplier is high, the feedback from respondents was that at least 50% strongly agreed with this statement.

Sixty nine percent of respondents agreed that their supplier had sufficient range to cater for their requirements. The main form of contact mode with suppliers was through the telephone, followed by fax, and the direct mode. In the fabrication segment, the gross amount of purchase was greater than R20000 per month. The respondents selected ‘quality’ as their key decision criteria, followed by ‘price’ as their key decision criteria when purchasing fabrication products. The respondents held between 1 to 15 days stock followed by respondents holding a 6 to 10 day stock level. It emerged from the responses, with regard to the compliance with industry standards, that a significant proportion of respondents answered yes. With regard to product need recognition versus order frequency, the significant period was 2 to 3 days.

With regard to environmental factors, there was a significant response on ‘negatively’ for ‘technological change’, for ‘level of demand’ and on ‘economic outlook’; a significant response from respondents on ‘negatively’ for ‘interest rates’, on ‘exchange rates’; on ‘cultural values’, on ‘environmental issues’ and for ‘social issues’. A significant response was received from respondents on ‘positively’ and ‘negatively’ for competitors; and a significant response from respondents on ‘positively’ on ‘regulations’.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

A review of the study is performed in this chapter. The review is based on the following sections:

- Conclusions;
- Recommendations for the company; and
- Recommendations for further research.

This dissertation deals with industrial buying behaviour of fabrication customers at Afrox, and the aim has been to provide a better understanding of the buying process, the dimensions, and roles in the buying centre for different buy classes, and to point out the most important supplier selection criteria when buying fabrication products. The chapter provides directions for further research which will further assist in enabling value creation and growth for fabrication customers.

5.2 Conclusions

5.2.1 The literature review

Industrial buyer behaviour is the arrangement of how industrial organisations purchase goods and services characterised by four classes' i.e. environmental, organisational, interpersonal and individual. Buyers are identified as those having authority to select suppliers and arrange terms of purchase, whereas the deciders are those who have the formal or informal power in determining the final choice of supplier. The determinants of structure of group buying decision-making process are when it occurs, who does the buying, and why one product or service is chosen over another. Buyer decision - making is understood as a process by which organisations establish the need for products and services, identify, evaluate and choose among brands and suppliers. The types of buyer behaviour are classed as complex, dissonance reducing, habitual and variety seeking. Organisational buying situations depend on the buying situation, i.e., new task buying, straight, or modified re-buy.

The post purchase stage, especially those requiring a high degree of individual focus for the buyer, results in some form of cognitive dissonance. Buying centres, the status, authority, credibility, and degree of empathy would impact on the outcome of the buying centre and its members can negatively or positively impact on acquisition from suppliers. These members can either be influencers, buyers, decision makers, or gatekeepers. The buyer decision-making process involves the problem recognition stage, information stage, evaluation of alternatives, purchase decision stage, and, finally, the post-purchase stage. Buyer-seller relationships are the key ingredients for successful organisational marketing focusing on retention of customers, through technical support, expertise, resource support, service level agreements and risk reduction. Value and price is always a point of discussion between the buyer and seller and it is argued that the difference between the two is the customer's incentive to purchase. Buying behaviour online has emerged as a promising IT-based alternative to traditional items of customer conversion such as branding, telephone, customer services, and price discounts. The buyer-seller relationship, such as exploring industrial buyer behaviour, establishes a capability of buying centre participants to work with, exert influence, and then become a part of a dynamic group decision.

Decision making units (DMU's) at companies now tend to centralise their purchasing in order to employ specialist buyers who can negotiate keen terms and conditions. Make-or-buy decisions impact on fabrication sales if firms choose to purchase from a supplier or choose to manufacture internally. Horizontal strategies at firms are concerned with the efficiency improvements in supplier strategies or improvement towards customer markets. The literature review finally discusses parts of Porters five forces model specifically the forces of supplier power and the power of the buyers. Researchers have found that generally, the economical factors, (including delivery, capability, quality, price, repair service, technical capability, and historic performance) were the most significant factors. Also of key importance were the uninterrupted shipments, transport costs, and quality. The five most important fundamental factors in industrial buying are vendor stability; basic economic criteria; geographic affinity; assurance mechanisms and attendance services.

5.2.2 The research methodology

This summary concludes the various research processes and methods used to ascertain buyer behaviour of fabrication customers at Afrox. The choice of research strategy was descriptive, the choice of research method was quantitative, the research technique was via a survey, selection of collection method was through primary data and secondary data, and the sample selection was probability sampling. The study area and population selected attempted to ensure that the survey was representative of the population. The questionnaire design ensured that the questions were relevant to the research being conducted. Administering the questionnaire ensured the most efficient and most convenient method and resulting in speedy responses to the questionnaire administered to buyers and owners in the fabrication industry.

For the study, probability sampling has been used, specifically the simple random sampling method. The reason for this choice was that there were 485 fabrication customers and by using this approach, each population element had a known and equal chance of selection. A list of customers was obtained from the company database. The population parameters were the buyers in the fabrication customer list, and the sample frame was the list of fabrication customers. The relevant population was 485 fabrication customers in the Afrox database. A statistically significant sample of 216 questionnaires was returned from respondents. The enhancement of quantitative research using pilot study and interviews ensured validity and reliability of the data.

5.2.3 The findings

The designations for the majority of the respondents were buyers and managers from seven industry segment types, namely: fabrication, agriculture, shipping, automotive, engineering health, and other. The fabrication customers had greater than 30 employees in their employ and 84% of respondents had between 1 to 3 employees in their buying centres. The end user, as the customer, had the most involvement in the buying process, followed by the production manager. Between 1 to 3 employees in the buying centre purchased between 2% to 10% of new products or equipment for a new task followed by between 11% to 20%, 1 to 3 employees in the buying centre took 11% to 20% of alternatives with a goal of obtaining a better price, faster delivery, or general

improvement followed by 21% to 30%, 1 to 3 employees, who work in the buying centre, purchased 41% to 50% of product or equipment on a repeated basis without consideration of possible alternatives, followed by 31 to 40 %.

The period between need recognition and delivery in days from the supplier was the 2-3 day period and 50% strongly agreed with the statement that the cost of switching supplier is high. 69% of respondents agreed that their supplier had a sufficient range to cater for their requirements and 69 % of respondents strongly agreed with this statement. It emerged that the main form of contact with suppliers was through the telephone, followed by fax, and then by the direct mode. Purchase of new products for the first time to solve a problem revealed that 57% of respondents purchased between 2 to 10 % of products, 38% of respondents in the range between 40 and 50 % purchased products on a repeat basis, a better price, faster delivery or a general improvement, 37% of purchases were in the range between 11% to 20%.

It was significantly indicated that the buying department did use the internet for 5% of the time and 10% of the time searching of suppliers, 10% , 5% and 20% of the time searching of products and services, 10%, 15% and 20% of the time searching for technical information, 30% of the time, 5% of the time and 30% of the time for orders and purchases from suppliers, 20% of the time, and 10% of the time for follow up of deliveries. Respondents selected ‘quality’ as their key decision criteria, followed by ‘price’ when purchasing fabrication products. The study revealed that with regard to the factors affecting the level of purchase, a significant number of respondents responded to ‘high’ and ‘absolute’ for most factors. A significant number of respondents purchased greater than R20 000 in value in the fabrication industry and held 1 to 15 days stock followed by a 6 to 10 day stock level.

5.3 Recommendations

Based on the literature review and the findings of this quantitative, cross-sectional, and descriptive study, the following recommendations are made:

5.3.1 General statistics of fabrication customers

The following recommendations are made with regard to general statistics:

- In order to ensure that the company achieves a good return, fabrication buyers need to have a comprehensive knowledge of the product offer and the commercial aspects of the sale. Whatever the buying structure is, the salespersons must know that the buyer is not always the final decision-maker and must develop a more relevant and executable strategy in sales.

- For the sake of efficiency, the supplier should recognise that workshops and maintenance departments exist and that they use fabrication products. It is, therefore, recommended that the marketing management develop a supply strategy for the seven segments identified, namely: fabrication, agriculture, shipping, automotive, engineering, health, and other. Great interest must be given in that organizational buying differs according to the type of product that is being bought for each segment.

5.3.2 The buying centre

The following recommendations are made with regard to the buying centre:

- Suppliers need to understand that the high involvement of the end-user in the buying process is appropriate in that the end-user is the individual that influences the fabrication product purchase. Interaction should take place with all levels of the company, having special focus on the end-user who would influence the sale the most.
- The telephonic contact mode followed by fax and then directly was the main contact modes with suppliers. The telephonic or fax mode will not assist with the technical interaction and relationship management between supplier and end-user. For effective relationship management between the fabrication customer and supplier, the contact mode of direct calling should be increased.

5.3.3 The buying process

The following recommendations are made with regard to the buying process:

- The purchase value of greater than twenty thousand rand should be used as a yardstick to set account customer credit limits. This value will assist in the reduction of debtor's days and improve the management of cash flow within the company.
- The company needs to understand how, why and through what kind of processes the fabrication customer identifies his/her own needs and communicates them to suppliers. The frequency of between two to three purchases per month should be a guide to the supplier for business planning in the area of maintaining correct stock level and for budgetary planning.
- Suppliers should plan their inventory levels and delivery schedules according to the significant period of two to three days between need recognition and delivery expectation from their customers. This will not only improve service level to the customers but also reduce the costs due to better management of stock cover.
- To gain competitive advantage, the supplier needs to press forward on customer service improvement as it was acknowledged by customers that the cost of switching customers was high. The supplier strategy for managing the business initiatives should be augmented by building on its current state of doing most things right and to delight fabrication customers.
- In the case of repeat purchases, the fabrication customer does not have to go through a supplier search, as their suppliers are already known. A recommendation is that the supplier should arrange for blanket orders with customers to be placed over longer periods ensuring security of product for customers and will aid with inventory planning within the supplying company.
- The supplying company should augment itself by keeping products that have high efficiencies, including processes and service offers to meet the fabrication customer's goal of obtaining a better price, faster delivery or a general improvement to be the supplier of choice.

- The supplying company should anticipate the event of new products or equipment that are purchased for the first time to solve a problem and should make appropriate marketing appeals for this type of purchase. As there is an extensive need description and supplier search by the buyer with a challenging purchasing task, as there is no experience to draw upon for the buyer compelling buyers to turn to the supplier for answers. Afrox should, therefore, avail resources with expertise on specification and product knowledge to fabrication customers.

5.3.4 Internet use for purchasing needs

The following recommendations are made with regard to internet use for purchasing needs:

- Online customer service has emerged as a promising IT-based alternative to traditional means of customer conversion, such as branding, telephone customer service, and price discounts. The buying departments at fabrication customers used the internet significantly, indicating to suppliers that they should invest in internet technology to market and create a communication band through the internet with fabrication customers;
- To remain competitive, the company must provide technical information which is one of the buyer's choice criteria for suppliers. Management should make available welding procedures, process, and technical information which are seen as important by the fabrication customer and, therefore, the supplying firm must position technical resources for this purpose;
- A significant amount of time is spent on the internet following up on deliveries that are due by suppliers. It is recommended that, as an opportunity for proactively improving future service levels to the customer, the customer can be advised of their product delivery status through e-mail; and
- The supplier should provide operational support to ensure continuity of operations and the focal point to be on high service level. Afrox needs to advance the methodology used for customer service through the value enablers such as quality, price, technical capability, reputation, support, and reliability capacity as these enablers are important to the fabrication customer.

5.3.5 Choice criteria

The following recommendations are made with regard to choice criteria:

- All products supplied must be accompanied with test certification and approval certification to ensure high quality as evidence or proof that the fabrication product was reliable. This is not surprising since the use of these fabrication products are directly related to the core business of fabrication customers and every non-operational minute lost is disastrous for profitability for these customers.
- Price of product appeared as the second most significant factor when purchasing fabrication products amongst respondents, given that the product can manage the minimum demands set on the solution. Since most of the technical demands in quality preset by the fabrication customer were essential for them, and if not met by the supplier, they would not be considered. It is suggested that prices can, therefore, be set marginally higher in line with the market as long as the product quality is guaranteed to fabrication customers.

5.3.6 Product

- With regards to the main products manufactured at the fabrication customers, the manufacture process for each of these product types require defined consumable types. The supplier should completely understand the required quantities and product specification so that buyers will require that the correct products are delivered in full on time with full approval and certification detail.

5.3.7 Environmental factors effecting purchasing

- Fabrication product suppliers must accurately observe and analyse the environmental factors for each market segment they operate in as industrial buying decisions do not always include just individuals from the buying process. Hence, it is important for the supplier to understand whether a purchasing decision is made jointly or autonomous. Where the availability of goods and services are concerned, the supplier must be aware of the influence of any physical, technological, and economic factors in order to make correct decisions in this regard. In addition, political and economical effects on the business condition,

such as national income and unemployment must guide the supplying company in terms of inventory levels and sales forecast. The Cultural, legal, social, and political issues have to be the dominant forces when determining the values and norms of organisational and personal relationships, between a supplier and buyer.

5.3.8 Recommendations for further research

This study has brought forth several fruitful and interesting possible avenues for future research that might be required into the future in relation to the theme of this study. During the study, several areas emerged that may necessitate further research to provide a basis for understanding of the buyer behaviour of fabrication customer in Afrox. The areas under consideration for further research can be:

- Buyer /supplier relationship management;
- Influence of buying situations;
- Brand importance in the manufacturing industry; and
- Buyer behaviour specific to industry segment.

5.3.9 Conclusion

The area of knowledge of buyer behaviour in the fabrication segment has been discussed intensively in this study. Furthermore, the understanding of the decision-making processes that the buyers go through when purchasing industrial and special products for the fabrication industry have been adequately analysed and will assist in enhancing the marketing capability of the company. The objectives have been met through the theoretical contributions described and feedback from the respondents to the questionnaires. Moreover, the study has provided new insights for practical business management. This study has also illustrated the need for purchasing practices to adapt to the new kinds of interfaces with fabrication buyers, emphasising the importance of management of these interfaces with fabrication suppliers. Organisational buyers tend to work to obtain satisfaction in relation to the company's commercial needs.

How needs arise were considered critical and stimulating information. Even though it is believed that fabrication products are becoming commodity type products, it is the belief

of respondents that the fabrication community is best addressed through outstanding technical capability and service. The role of the gatekeeper was analysed to be kept internally by the end-user of fabrication products and, therefore, it is important for the supplier to meet these well and supply them with the required information and specification. Also brand familiarisation and affiliation of these fabrication products were crucial for supply schemes to fabrication customers.

The most important criteria when choosing suppliers in the fabrication market are quality and, secondly, price, given that the solution can be managed on minimum technical standards required by the customer. To this end, the research topic has been satisfactorily discussed. The objective of this study to understand buyer behaviour when purchasing industrial and special products with specific reference to fabrication customers of Afrox has been achieved. The sub-objectives of identifying the value and non-value drivers in the fabrication buying segment of the market; and to establish the needs and selection criteria buyers' use when purchasing welding and fabrication products have also been achieved.

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Appendix One

Letter administered to respondents

LETTER TO RESPONDENTS

Date

Dear Respondent,

My company recognises the importance of high service levels to our customers and wishes to assist the fabrication industry to improve the level of customer satisfaction. This questionnaire has been developed to satisfy the research objectives of my MBA study, namely: Buyer behaviour of fabrication customers at Afrox.

The survey will measure how satisfied customers are with their current suppliers and the level of service they receive. This research will assist the fabrication industry to improve the quality of its products and services to the benefit of all buyers. The research contains some specific questions, to assist the company in improving service levels to buyers.

I would appreciate your completion of the questionnaire and returning it in the pre-paid addressed envelope provided. The overall findings of this study will be released through publication at libraries.

While participation is voluntary, I hope that you will see the benefits to the buying fraternity in the fabrication industry in providing your valuable opinions. Please be assured that I will not pass on any personal information to anyone and your feedback will remain confidential. The questionnaire should be returned promptly after completion to R. Naidoo by the 5 November 2007.

Thanking you for your participation.

R. Naidoo.

Any queries should be directed to R. Naidoo at raj.naidoo@afrox.boc.com or on 0824914668.

Appendix Two

Survey questionnaire administered to respondents

APPENDIX 2 - SURVEY QUESTIONAIRE

1. Please, complete the following in respect of your company and yourself.

a) What is the name of your company? (Optional)

b) What is your position in your company?

Owner	
Manager	
Buyer	
Other	

c) What is the type of industry that you work in?

Fabrication	
Agriculture	
Shipping	
Automotive	
Engineering	
Other	

d) How many employees are in your company's employ?

1 -5	
6-10	
11-15	
16-20	
21-30	
>30	

e) Please list the five main products manufactured at your company:

f) What is the company's total gross amount of purchase value (R) from all fabrication suppliers per month?

1000-5000	
5001 -10000	
10001 - 15000	
15001 - 20000	
>20000	
Other	

g) How many employees work in the buying centre?

1 -3	
4-6	
7-10	
11-13	
14-16	
17-20	
>20	

2. Distribution of purchase types:

a) What is the percentage purchase of new equipment or products for the first time to solve a new problem at your company? (It could be related to large fixed assets or new raw materials, for instance).

1%	
2-10%	
11-20%	
21-30%	
31-40%	
41-50%	
Other%	

b) What is the percentage purchase of a product or equipment on a repeated basis without consideration of possible alternatives? i.e. (supplier, delivery logistics, etc.)

1%	
2-10%	
11-20%	
21-30%	
31-40%	
41-50%	
Other %	

c) What percentage of alternatives is taken into consideration with a goal of obtaining a better price, or faster delivery or a general improvement? (It could imply renegotiations or even supplier change could be taken into account).

1%	
2-10%	
11-20%	
21-30%	
31-40%	
41-50%	
Other%	

3. Internet Use

a) Does the buying department use the internet?

Yes	
No	
Unsure	

b) How much of time, when buying through the internet, is spent doing the tasks listed below?

Use of Internet	**% of time**
Searching of suppliers.	
Searching of products and services.	
Search for technical info.	
Purchase / ordering.	
Purchase deliveries follow up.	
Technical support or claims.	
Other (Specify).	

c) What is the company's volume (kilograms) and value (Rands) of gas and welding products purchased per month through the internet?

Volume	
Value	

d) What is the purchase frequency of the company each month?

1 -3	
4-6	
7-9	
10-15	
16-17	
>17	

e) What is the period between need recognition and delivery in days from your supplier?

1	
2 -3	
4-6	
7-9	
10-15	
16-18	
>18	

f) Please, indicate your opinion on the following statements (f1) and (g) below:
f1) The cost of switching supplier is high.

(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree

g) My supplier has a sufficient range of products to cater for my requirements.

(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree

h) What are the main forms of contact with your suppliers?

Phone	
Fax	
Post mail	
Direct	
Internet	
Other	

4. PRODUCT

a) What level of stock do you maintain for fabrication products? (Express in days)

1 -5	
6-10	
11-15	
16-20	
>20	

b) "Rank your key decision criteria when purchasing fabrication products in your order of preference." Place the number 1 next to the most preferred, 2 for your second choice and 3 for third choice.

Quality	
Price	
Other	

c) Do you have to comply with industry quality standards in your business (i.e. welding procedures, SANS etc?)

Yes	
No	
Not Sure	

5. Buying Centre

a) Tick in the "involvement" section of the table according to the people involved in the general purchasing process and their level of involvement.

People involved	**Involvement**			
	None	**Low**	**Medium**	**High**
General Manager				
Plant Manager				
Technical Staff				
Production Manager				
Logistics Manager				
End User				
Other				

b) Many factors affect the selection of a supplier in many ways. In the table please tick their importance:

Factors	**Importance**				
	None	**Low**	**Medium**	**High**	**Absolute**
Price					
Service Support					
Quality(Product, service)					
Technical capability					
Already supplies other products					
Aid and advice					
Delivery					
Attitude to buyer					
Geographical location					
Other					

c) Please, indicate whether the following environmental factors influence negatively or positively on your buying process? (Tick box provided)

	Negatively	**Positively**
Technological change		
The economic outlook		
Interest Rates		
Exchange Rates		
Regulations		
Competitors		
Cultural values		
Social responsibility		
Other		

The end. Thank you very much for your co-operation.

Appendix Three

Comparison of Industrial Buying Processes

APPENDIX 3 - Comparison of Industrial Buying Processes

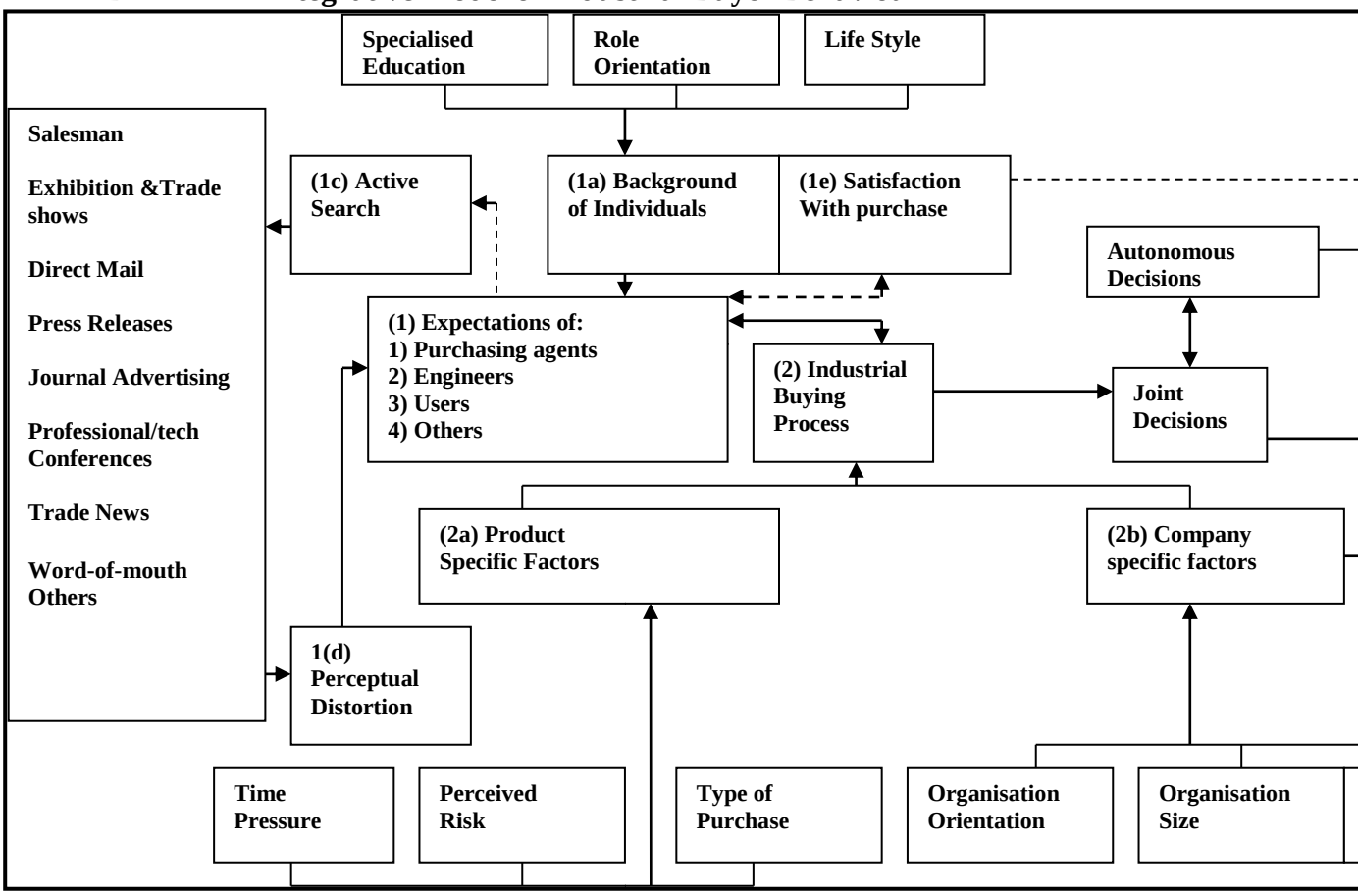
Robinson & Faris (1967)	Ozanne & Churchill(1971)	Webster & Wind (1972)	Kelly(1974)	Bradley(1977)	Wind(1978)
(1)Problem need recognition	(1) Awareness	(1) Identify Needs	(1)Recognise need	(1)Purchase initiation	(1)Identification of needs
(2)Determine characteristics		(2)Establish Specifications			(2)Establish Specifications
(3)Describe characteristics					
(4) Search for sources	(2)Interest	(3)Identify Alternatives	(2)Information Search	(2)Survey of alternatives	(3)Search for alternatives
(5)Acquire proposals					(4)Establish contact
(6)Evaluate Proposals	(3)Evaluation	(4)Evaluate alternatives	(3)Evaluate alternatives	(3) Supplier short listing	(5)Set usage &purchase criteria
					(6) Evaluate alternatives
	4)Trial		(4)Approval of funds		(7)Budget availability
					(8)Evaluate specific alternatives
					(9)Negotiate
7)Select order routine		5)Select supplier	5)Decision	4)Award contract	10)Buy
	5)Adoption				(11)Use
8)Performance feedback					(12)Post purchase evaluation

Source: Wind & Thomas (1980:243)

Appendix Four & Five

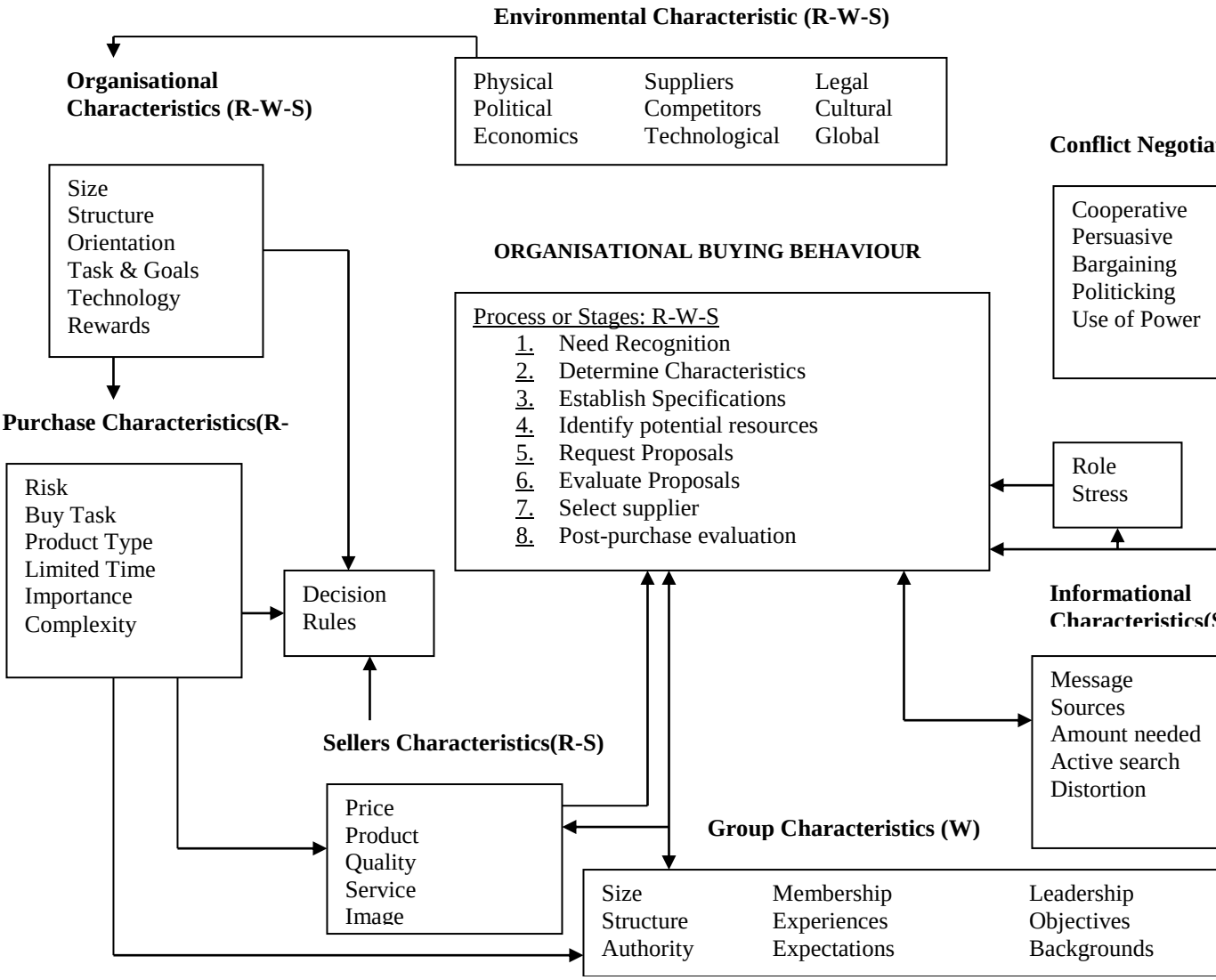
Integrative models of buyer behaviour

APPENDIX 4 – An Integrative Model of Industrial Buyer Behaviour



Source: Sheth (1973:51)

APPENDIX 5 - An integrated Model of Industrial Buying Behaviour



Note: R - Indicates constructs contained in the Robinson, Faris, &Wind (1967) model.
W- Indicates constructs contained in the Webster & Wind (1972) Model
S -Indicates constructs contained in the Sheth (1973) model.

Source: Johnston &

APPENDIX 6

t – Test and ANOVA statistical results

APPENDIX 6

Kruskal-Wallis Analysis of variance Test

Test Statistics[a,b]

	Chi-Square	df	p
Volume	7.235	6	.300
Value	5.630	6	.466
Searching of suppliers.	7.860	6	.249
Searching of products and services.	3.745	6	.711
Search for technical info.	22.257	6	.001
Purchase ordering.	25.294	6	.000
Purchase deliveries follow up.	29.793	6	.000
Technical support or claims.	39.257	6	.000

a. Kruskal Wallis Test

b. Grouping Variable: Type of industry

The results of the Kruskal-Wallis test shows that there is a statistically significant difference in the percentage of time spent in the search for technical info, Purchase ordering, purchase deliveries, Technical support or claims between the types of industry at the 95% level ($p<0.05$).

The table of descriptive stats below shows that the Agriculture and Shipping industry spent 20% of the time searching for technical info while the Engineering and Health are less than 10%. The other industries range between 11% and 20%.

There are no statistical differences between the industries with regards to average Volume, average Value , percentage time spent on searching for suppliers, searching for products and services at the 95% level ($p>0.05$).

Descriptives

		N	Mean	Std. Deviation
Search for technical info.	Fabrication	29	16.10	7.925
	Agriculture	4	20.00	20.000
	Shipping	3	20.00	8.660
	Automotive	9	15.00	7.071
	Engineering	8	8.13	2.588
	Other	99	11.72	4.583
	Health	8	9.38	6.781
	Total	160	12.76	6.655
Purchase ordering.	Fabrication	27	12.41	7.767
	Agriculture	4	16.25	7.500
	Shipping	3	26.67	5.774
	Automotive	9	20.00	8.292
	Engineering	7	19.29	8.864
	Other	100	19.11	8.843
	Health	8	8.75	6.944
	Total	158	17.57	9.034
Purchase deliveries follow up.	Fabrication	27	11.67	6.504
	Agriculture	4	11.25	6.292
	Shipping	3	15.00	8.660
	Automotive	9	17.78	7.949
	Engineering	7	17.86	9.063
	Other	98	18.93	6.821
	Health	8	12.50	4.629
	Total	156	16.96	7.396
Technical support or claims.	Fabrication	29	15.86	6.953
	Agriculture	4	17.50	5.000
	Shipping	3	15.00	8.660
	Automotive	9	17.22	5.652
	Engineering	8	6.25	2.315
	Other	96	19.06	3.188
	Health	8	17.50	4.629
	Total	157	17.52	5.269

Descriptives

		N	Mean	Std. Deviation
Volume	Fabrication	46	20017.80	106678.055
	Agriculture	8	3840.00	7466.192
	Shipping	2	80.00	42.426
	Automotive	19	689.47	689.569
	Engineering	10	7303.50	12541.746
	Other	122	2704.23	10908.877
	Health	7	1562.86	2524.980
	Total	214	6442.48	50326.713
Value	Fabrication	48	68489.38	167852.399
	Agriculture	8	30951.25	31900.198
	Shipping	3	7190.00	11095.869
	Automotive	18	9248.33	13552.679
	Engineering	10	75327.00	111836.919
	Other	122	29174.13	104381.260
	Health	8	20327.50	23508.491
	Total	217	37780.06	115031.109
Searching of suppliers.	Fabrication	30	10.17	6.363
	Agriculture	4	6.25	2.500
	Shipping	3	13.33	2.887
	Automotive	9	8.56	5.247
	Engineering	8	8.38	5.951
	Other	96	7.95	4.095
	Health	8	6.88	2.588
	Total	158	8.43	4.749
Searching of products and services.	Fabrication	30	12.83	7.391
	Agriculture	4	12.50	5.000
	Shipping	3	13.33	2.887
	Automotive	9	12.22	5.069
	Engineering	8	12.75	6.902
	Other	99	10.71	4.574
	Health	8	11.88	5.303
	Total	161	11.44	5.368

Appendix 7

One sample Chi-square

Q3a Does the buying department use the Internet?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	161	70.9	70.9	70.9
	No	59	26.0	26.0	96.9
	Not sure	5	2.2	2.2	99.1
	Not answered	2	.9	.9	100.0
	Total	**227**	**100.0**	**100.0**	

Test Statistics

	Chi-Square	df	p
Q3a Does the buying department use the Internet?	291.608	3	.000
Q3f The cost of switching supplier is high.	264.921	5	.000

Test Statistics

	Chi-Square	df	p
Q4a What level of stock do you maintain for fabrication products	229.714	5	.000

Test Statistics

	Chi-Square	df	p
Q4b.1 Quality	297.634	3	.000
Q4b.2 Price	169.753	2	.000
Q4b.3 Other	430.317	2	.000

Test Statistics

	Chi-Square	df	p
Q4c Do you have to comply with industry quality standards in your business (i.e. welding procedures, SANS etc?)	308.837	2	.000

Test Statistics

	Chi-Square	df	p
Q5a.1 General Manager	115.841	4	.000
Q5a.2 Plant Manager	98.088	4	.000
Q5a.3 Technical Staff	117.383	4	.000
Q5a.4 Production Manager	83.551	4	.000
Q5a.5 Logistics Manager	57.207	4	.000
Q5a.6 End User	428.793	4	.000
Q5a.7 Other	307.634	5	.000

Test Statistics

	Chi-Square	df	p
Q5b.1 Price	140.863	2	.000
Q5b.2 Service Support	205.335	3	.000
Q5b.3 Quality Product, service)	203.749	3	.000
Q5b.4 Technical capability	147.780	4	.000
Q5b.5 Already supplies other products	87.352	5	.000
Q5b.6 Aid and advice	130.797	3	.000
Q5b.7 Delivery	304.608	4	.000
Q5b.8 Attitude to buyer	214.674	3	.000
Q5b.9 Geographical location	168.815	5	.000
Q5b.10 Other	320.700	7	.000

Test Statistics

	Chi-Square[a]	df	p
Q5c.1 Technological change	461.405	3	.000
Q5c.2 Level of demand	350.075	3	.000
Q5c.3 The economic outlook	204.207	3	.000
Q5c.4 Interest Rates	248.189	3	.000
Q5c.5 Exchange Rates	206.956	3	.000
Q5c.6 Regulations	258.762	3	.000
Q5c.7 Competitors	214.004	3	.000
Q5c.8 Cultural values	279.062	3	.000
Q5c.9 Environmental issues	167.837	3	.000
Q5c.10 Social responsibility	380.242	3	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 56.8.