

AN EMPIRICAL INVESTIGATION INTO THE RELATIVE
INFLUENCE OF BUYING CENTRE MEMBERS IN
NAIROBI'S MANUFACTURING FIRMS

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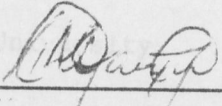
A MANAGEMENT PROJECT SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF MASTER IN BUSINESS
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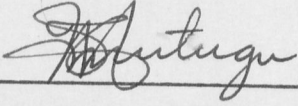
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DECLARATION

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My sincere thanks to my supervisor, Mr. T. M. Mutugu, for his continued guidance and advice without which this work would not be complete. I especially wish to thank him for all the reading materials he put at my disposal, his unlimited devotion in making this study a success and for always being available for consultations.

Sincere thanks to my fellow MBA students for their encouragement and contributions in terms of suggestions which helped make this report a success.

I also wish to thank all the instructors in the Faculty of Commerce for their guidance and recommendations. I am also very grateful to the University of Nairobi for all the financial and material support which enabled me to carry out this study successfully. I also wish to thank Mrs. Mutugu for typing this report.

Finally, I cannot fail to thank all the members of my family for their continued and unstinting support and encouragement throughout the MBA course.

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The purchasing managers for each firm or any other person of whatever title but performing the purchasing duties in the firm were asked to rate the influence of buying center members (as they perceive them) in the purchase decision of different classes of industrial products.

After data was collected, mean scores were computed in order to get the relative influence of different buying center members. Further statistical analysis was carried out using the t-test to investigate whether the scores for different product categories were statistically different or not.

The findings from these analyses led the researcher to make the following conclusions:-

- (1) That top management, finance/accounting, purchasing, manufacturing, marketing and engineering departments are all represented in the buying center when making purchase decisions for industrial products.
- (2) Since the target audience of marketing efforts

ABSTRACT

The study contained in this report investigated the relative influence of buying center members in Nairobi's manufacturing firms.

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- (1) That top management, finance/accounting, purchasing, manufacturing, marketing and engineering departments are all represented in the buying center when making purchase decisions for industrial products.
- (2) Since the target audience of marketing efforts

will depend upon who the more influential members of the buying center are, purchasing managers should be called upon irrespective of the product type the marketer is selling, but that top management, engineering and finance/accounting departments may also be important target audiences when selling capital items and component parts.

- (3) Since various members of the buying center have different relative levels of influence, product development should perhaps incorporate features that will enhance the attractiveness of the product to the more influential buying center members.

CHAPTER ONE

INTRODUCTION

Industrial purchasing decisions are usually influenced by several organizational members who comprise the buying center. Several studies support the existence of multiple buying influences into the industrial buying process. Thus according to Webster and Wind¹, the key question in industrial marketing is the relative power of participants in the purchase decision.

The concept of the buying center refers to all those organizational members who become involved in the buying process for a particular purchase decision². However, the influence structure of the buying participants is likely to vary across a number of factors, such as the buy class, and the type of product.

A study cited by Webster³ identified three types of buy classes - new buy, modified rebuy and straight rebuy - all assumed to explain some of the variation in the purchase process, including the influence structure of the buying center. This assumption is supported by the findings of Spekman and Stern⁴, who found out that purchasing agents were perceived as more influential when the level of environmental uncertainty was high than when it was low. Significant

differences in the relative influence of buying center members across different product types were also present in a study carried out by Bellizi⁵.

Generally, since the purchasing of goods and services affects virtually every other function of the organization and because other departments use or are affected by what is being bought, it is only logical that the using department may in some way influence what is being purchased. One department may exert more influence than others at a certain stage of the purchase process.

Though the above review suggests that the relative influence of buying center members vary across product types or classifications, no research has been conducted in the Kenyan market to determine how this relative influence change across different product types. Yet the relative influence is of particular importance to industrial marketers, as they must target communications and other marketing efforts to the appropriate person(s).

1.1 STATEMENT OF THE PROBLEM

Due to their complex nature⁶, industrial markets present great problems to marketers. The industrial purchase decision involves joint decision making and this calls for some form of agreement among the buying center members before a purchase

is made as the purchase affects all organizational members in one way or another.

The buying center, however, is made up of individuals different in personality, interests and motivations, yet those individuals have to converge at one time or another to form one consumer. The product purchased is agreed upon by the buying centre members. In other words, the buying center is a part of coordination structure of the organization which relies on the cooperative interaction of its members who are participants in the decision making process for a given item at a given time.

The marketer is then faced with a dilemma: he or she has to market his or her products in such a way that it appeals to all the center members who may view the product differently and who may be influenced by different sets of characteristics.

How then should a marketer dress his or her product so that it appeals to all the buying center members? Can the marketer tackle this problem by concentrating his or her marketing efforts on certain key members? If this is adopted, the marketer has to further figure out who in the center exerts the greater influence in the purchase decision.

The organization itself is too big a target for marketing effort. The marketer needs to identify those individuals

within the organization who have either formal or informal responsibility and authority for buying decisions and who must be persuaded as part of the selling task. Essentially, this is the problem the researcher hoped to investigate. The problem therefore was to investigate the buying center members' influence in the purchase decisions making process among the Nairobi's manufacturing firms. At the same time it was the intention of the researcher to get an insight into the factors leading to certain parties (buying center members) being more influential than others.

1.2 OBJECTIVES OF THE STUDY

The primary objective of this study was to investigate the relative influence of buying center members in selected Nairobi's manufacturing firms.

Specific objectives of this study were:

- (a) To determine the relative influence of the parties involved in the purchase decisions across different industrial product classes.
- (b) To determine the factors that lead to different parties being more influential than others in making the industrial product purchase decisions.

1.3 RATIONALE FOR THE STUDY OBJECTIVES

Although the purchasing process found in the buying practices of industrial corporations and other organizations may be relatively standardized, each probably will differ in regard to which people and positions are involved in the process. Two firms may be in the same industry and need the same equipment, sometimes even buying from the same supplier. Both may be following the same basic buying process, yet, the people who influence the purchase and their respective positions can differ in each firm. Understanding who is involved in each customer firm is therefore a vital consideration in industrial marketing. It is also a difficult task, for rarely does a single person decide what will be purchased and from whom. Usually many individuals influence the decision, and according to Haas⁷, this means that the industrial marketing manager and the field salesperson must discover who in each organization influences the decision to buy or not to buy their goods or services. This is the concept of buying influence - those personnel within the purchasing company who in one way or the other actually have an influence on what is or is not purchased. Once these people are known, marketing approaches can be directed specifically toward them through personal selling, distribution, advertising and other marketing activities. If these people are not known, it is virtually impossible to communicate with them,

although they will continue to make decisions and buy those products they know and prefer.

Complicating the multiple buying influence phenomenon is the key buying influence concept. According to Haas⁸, all this term means is that all customer buying influences are not equal in the power they exert. Some have more power than others, even though they all have some influence on the particular product being purchased. The key buying influences are those who for some reason are able to sway other influences to their way of thinking, sometimes by design, and sometimes without realizing it. For example, ten buying influences may be involved in the purchase of a piece of equipment, but perhaps only two or three are able to influence the others. Obviously, the ability to pick out the key buying influences and sell the product in question to them is an integral part of industrial marketing. As Jackson, Keith and Burdick⁸ put it,

"marketing efforts will depend upon which individuals of the buying center are more influential for a given decision".

1.4 THE RESEARCH SETTING

The study was carried out in Kenya and the particular areas of study was mainly Nairobi's Industrial Area.

Nairobi is the capital city of Kenya and is the leading industrial center of the country. This suggests that it has more industries than any other center, and furthermore, they are diverse in terms of activities. As such the industries that were investigated can be assumed to be a fair representation of all the manufacturing industries in the country. The fact that more industries are located at one area (Nairobi's Industrial Area) made it more suited for such a study.

1.5 IMPORTANCE OF THE STUDY

This study is expected to be of benefit to various groups:

- (a) The Kenyan Marketers: marketers have the job of marketing their products effectively and efficiently to their customers amidst competition. By knowing the relative influence of the various buying center members in the purchasing process across different product types, marketers will be able to arrange and direct their marketing efforts and activities towards those who have more influence (depending on the product they are selling). If the key buying influences are many (more than one), marketers will again be guided in developing marketing approaches that will appeal to all of them.

- (b) The study is again expected to benefit marketing instructors and students who have had to contend with making generalizations about situations based on studies carried outside, especially in developed countries. They will thus be able to cite local examples with confidence.
- (c) To scholars and academics, the study should serve as a guide for further research in the area of industrial buying decision making process.

1.6 PLAN OF MATERIAL IN THE REPORT

This research report is divided into five chapters. The first chapter, already covered, is the introduction of the study. It gives some background information on the subject matter of the study, statement of the problem, objectives of the study, and the importance of the study.

Chapter two gives a review of the literature pertinent to the study area. The third chapter deals with the research design for the study. That is, the relevant population, sampling procedures and the data collection methods are discussed in this chapter.

The fourth chapter gives a discussion of data analysis and interpretation of the results. The final chapter contains

the summary, conclusions, limitations of the study and the suggested directions for further research.

LITERATURE REVIEW

2.0 INTRODUCTION

Business organizations not only sell; they also buy vast quantities of raw materials, capital goods, manufactured parts, installations, supplies and business services. Business organizations, therefore, need to understand the business buyer's needs, resources, policies, and buying procedures.

Organizational buying has been defined as "the decision making process by which formal organizations establish the need for purchased products and services, and identify, evaluate and choose among alternative brands and suppliers".

No two companies buy in the same way, yet the seller hopes to identify enough uniformities in organizational buying behaviour to improve the task of marketing strategy planning.

Since the concern is on industrial markets the literature that follows is on industrial buying in particular. Included in this review are issues like classifications of industrial products, the buying center and the buying influences in industrial buying.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

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Understanding who is involved in the purchasing process for each customer firm is a vital consideration in industrial marketing. This is even a complex task since many individuals influence the purchase decision process. The industrial marketer therefore must identify these persons and their relative influence if he has to target his marketing communications and other forms of marketing strategies to the most influential member of the buying center.

2.1 ORGANIZATIONAL BUYING: DIFFERENCES WITH CONSUMER BUYING

Organizational buyer behaviour has certain similarities to consumer buying behaviour, but the needs, decision processes, and the behaviour of organizational buyers are quite sufficiently different from consumer buying. Indeed Assael has observed that "Recognition of these differences and the consequent differences in marketing strategies have resulted in the development of a body of literature in marketing, particularly since 1970, devoted to the study of organizational buyer behaviour"².

Organizational buyer behaviour is different from consumer buying in several ways³. Most importantly, organizational buyer behaviour is generally a group decision process. Several people playing different roles may be involved - the purchasing agent, the engineer, the production manager. These individuals represent a decision making unit in the organization referred

to as the buying center. In consumer behaviour, concepts and applications have focused on the individual as the unit of analysis. In organizational buying behaviour, the group is most frequently the unit of analysis.

A second difference is the technical complexity frequently involved in organizational buying. Webster⁴ states, "Even when the unit of analysis in consumer marketing is the household rather than the individual consumer, buying behaviour never reaches the complexity of industrial buying..."

Third, the interdependence between buyer and seller is likely to be greater in organizational buying. The buyer may have fewer alternatives for a given item, while the seller may be seriously affected by a large industrial account.

Fourth, the post-purchase process is likely to be more important in the organizational buying than in consumer buying because of the necessity for installation, service calls and warranty.

Fifth, because of the greater need for interaction between buyer and seller, a negotiation process is more likely to take place. As a result, personal selling assumes more importance in organizational buying.

A sixth difference is that organizational buyers are much more likely to have individual needs requiring sellers

to design products to meet specifications. As a result, organizational buyers are less likely to be presold based on advertising compared to consumers. The needs to meet particular demands increases the length of the organizational buying process. Another outcome of producing to specification is that segmentation of industrial markets becomes less relevant. Some segments may be represented by one or two companies.

Other differences have been noted by different authors. According to Hutt and Speh⁵, there are differences between consumer and industrial marketing in the nature of markets, market demand, buyer behaviour, buyer-seller relationships, environmental influences, and market strategy. Yet the potential payoffs are high for the firm that can successfully penetrate the industrial market.

While contrasting industrial marketing to consumer marketing, Haas⁶ colassified the differences in terms of such criteria as those related to (1) market characteristics, (2) characteristics of industrial buyers, (3) characteristics of the products involved, (4) characteristics of the channels of distribution involved, (5) promotional characteristics, and (6) pricing characteristics.

In addition to the already mentioned differences, Haas⁷ generally identifies the following:

1. The industrial market is characterised by derived demand, which means that demand of industrial customers for goods and services is derived from the products that they produce: if the demand for their products falls off, they, in turn, require fewer industrial goods and services.
2. The industrial market is characterised by joint demand, which means that industrial customers often purchase products that they combine with other purchased or manufactured products to form their final products, which are in turn, sold into their markets. When this happens, industrial goods are demanded jointly with other goods or they are not demanded at all.
3. The buying motives of industrial buyers are usually more rational than those found in consumer markets - their buying decisions are heavily influenced by such factors as specifications, vendor analysis, and cost effectiveness as opposed to emotional or impulse purchasing motives.
4. The use of committee buying is often found in the industrial market, where a committee in various positions in the purchasing firm have the responsibility of making the buying decisions and choosing the vendor.

5. The industrial market is characterised by situations of reciprocity whereby buyers buy only from their own customers when the opportunity presents itself - two companies are both buyer and seller to each other.
6. Tremendous importance is placed in the industrial market on presale servicing and technical assistance in setting up and operating products in the customer's plant.
7. Emphasis is also placed in the industrial market on promptness and certainty of delivery of products because of the effects of delays on production line operations.
8. Salespeople in the industrial market possess more technical backgrounds and are more likely to fall into the classifications of sales engineers than those found in the consumer markets.
9. Advertising in industrial market often plays a different role than advertising in the consumer market - it is often used to lay a foundation for the industrial salesperson's sales call.
10. Price is of a less determining factor in industrial purchasing. It is often much less important than quality and uniformity of the products purchased, certainty of delivery of the products purchased, service and technical assistance.

Comprising the organizational markets are industrial markets, reseller markets, and government markets. Industrial buyers buy goods and services to aid them in producing other goods and services. Resellers buy goods and services to resell at a profit. Government agencies buy goods and services to carry out mandated governmental needs. The focus of this project is industrial markets.

2.1.1 CHARACTERISTICS OF INDUSTRIAL MARKETS

The industrial market (also called producer or business market) consists of all the individuals and organizations that acquire goods and services that enter into the production of other products or services that are sold, rented, or supplied to others⁸.

Industrial markets have certain characteristics that contrast sharply with consumer markets⁹. Some of these characteristics are described below¹⁰.

- (a) Fewer buyers: The industrial marketer normally deals with far fewer buyers than does the consumer marketer.
- (b) Larger buyers: Many industrial markets are characterised by a high buyer concentration ratio; that is, a few large buyers account for most of the purchasing.

- (c) Close supplier-customer relationship: Because of the smaller customer base and power of the larger customers over the suppliers, a close relationship between customers and sellers is observed in industrial markets. Suppliers are frequently expected to customize their offerings to individual customer needs. Sales go to those suppliers who closely cooperate with the buyer on technical specifications and delivery requirements, such as just-in-time production.
- (d) Geographically concentrated buyers: This has some implications for the formulation of marketing strategy¹¹.
- (i) Firms can concentrate their marketing efforts in areas of high market potential and make effective use of full time personal salesforce in these markets.
 - (ii) Distribution centers in large-volume areas can insure rapid delivery to a large proportion of customers.
- (e) Derived demand: The demand for industrial goods is ultimately derived from the demand for consumer goods. Thus animal hides are purchased because consumers buy shoes, purses and other leather products. If demand for these consumer goods

slackens, so will be the demand for all the industrial goods entering into their production.

- (f) Inelastic demand: The total demand for many industrial goods and services is not much affected by price changes. Shoe manufacturers are not going to buy much more leather if the price of leather falls. Nor are they going to buy much more less if the price of leather rises unless they can find satisfactory leather substitutes. Demand is especially inelastic in the short run because producers cannot make many changes in their production methods. Demand is also inelastic for industrial goods that represent a small percentage of the item's total cost. For example, an increase in the price of metal eyelets for shoes will barely affect the total demand metal eyelets. At the same time, producers may switch their sources of eyelets in response to price differences.

- (g) Several buying influences: More people typically influence business buying decisions. Buying committees consisting of technical experts and even senior management are common in the purchase of major goods. Consequently, industrial marketers have to hire well-trained sales representatives

and often use sales teams to deal with well-trained buyers. Although advertising, sales promotion, and publicity play an important role in the industrial promotional mix, personal selling serves as the main selling tool.

2.1.2 CLASSIFICATION OF INDUSTRIAL PRODUCTS

Various researchers and authors have come up with different classifications. However, most of these classifications tend to emphasize the same basic things.

According to Rewold, et al¹², goods sold in the consumer market are often classified in terms of how buyers behave when they seek out these goods. Thus the commonly used classifications such as convenience goods, shopping goods and specialty goods refer to the amount of time and effort the average potential buyer will expend in order to find, investigate and finally purchase a specific item. Such an approach of classification has only a limited application in the industrial market. Producer units do not shop in the usual sense. In most cases vendors seek them.

It is difficult to classify organizational (industrial) goods definitively; there are bound to be borderline cases so that mutually exclusive groupings are virtually impossible. According to Chisnall¹³, one approach would be to start

at the fundamental point of basic raw materials and then to proceed through semi-processed products, components and eventually to completely finished equipment.

Other researchers have adopted various criteria for classifying industrial products. For example, Kotler¹⁴, who refers to the producer market (also called industrial market) as 'the market consisting of individuals and organizations who acquire goods and services to be used in the production of further products and services for sale or rental to others', has three main methods of classifying industrial goods:

I Goods entering the product completely - materials and parts.

A. Raw Materials

1. farm products (wheat, etc)
2. natural products (crude petroleum, iron ore.)

B. Manufactured material parts

1. component materials and parts (steel, cement, etc)
2. component parts (small motors, tyres, castings).

III Goods entering product partly - capital items

A. Installations

1. Building and land rights (factories, offices)
2. Fixed equipment (generators, computers, elevators).

B. Accessory equipment

1. Portable or light factory equipment and tools (hand tools, lift trucks)
2. Office equipment (typewriters, desks).

III Goods not entering the product - supplies and services

A. Supplies

1. Operating supplies (lubricants, typing paper)
2. Maintenance and repair items (paints, nails, brooms).

B. Business Services

1. Maintenance and repair services (window cleaning, typewriter repairs)
2. Business advisory services (legal, management consulting, advertising).

Stanton¹⁵ states that industrial goods are differentiated from consumer goods because of their ultimate use.

"Industrial goods are those intended for use in making other products for rendering

3. Install a service in the operation of a business

the low "or institutional enterprise" (Stanton). Industrial

user, e.g. large generators, factory building; jet

He classifies industrial products as follows:

airplanes for airlines. The differentiating characteristic

1. raw materials that they set the scale of operation

2. fabricating materials and parts

3. installations

4. Accessory equipment; used to aid production operations

4. accessory equipment

by an industrial user, but it does not have a significant

5. operating supplies.

influence on the scale of operations in a firm; does

These five categories are based on the broad uses of products in contrast to the classification of consumer products on the basis of buying habits. equipment, small power tools,

forklift trucks.

1. Raw materials: Industrial goods which will become part of another physical product and which have received no processing at all, other than that necessary for economy or protection in physical handling, for example, minerals, land, wheat, cotton, tobacco, fruit and vegetables etc¹⁶. lubricating oils, stationary, heating fuel, etc.

2. Fabricating materials and parts: become actual parts of finished products. Fabricating materials, e.g. pig iron, will undergo further processing. Fabricating parts will be assembled with no further change in form e.g. spark plugs, fan belts, buttons.

3. Installations: Manufactured industrial products - the long lived expensive major equipment of an industrial user, e.g. large generators, factory building; jet aeroplanes for airline. 'The differentiating characteristic of installations is that they set the scale of operation in a firm'¹⁶.
 4. Accessory equipment: used to aid production operations of an industrial user, but it does not have a significant influence on the scale of operations in a firm; does not become actual part of finished product. Life is shorter than installations and longer than operating supplies, e.g. office equipment, small power tools, forklift trucks.
 5. Operating supplies: 'Convenience goods' of industrial field. Short-lived, low-priced items usually purchased with minimum of effort. They help firm's operations but do not become part of finished product. Examples include lubricating oils, stationary, heating fuel, etc.
- Webster¹⁷ points out that industrial goods and services can be categorized in a variety of ways. To him, a typical scheme involves: construction; heavy equipment; light equipment; component and sub-assemblies; maintenance, repair and operating supplies; and services.

Haas¹⁸ argues that, "Although many types of products can be sold into industrial markets they generally fit into one of six classifications: (1) heavy equipment, (2) light equipment, (3) consumable supplies, (4) component parts, (5) raw materials, and (6) processed materials. In addition, many marketing companies market services to their organizational customers".

A pilot study¹⁹ carried out in the Kenyan Industrial market indicated the existence of a classification of industrial products. This study was based on the classification used by Jackson, Keith and Burdick²⁰. Their classification was as follows:

1. Major capital items
2. Minor capital items
3. Materials
4. Component parts
5. Supplies.

Their description of each of the products type is given below:

Major capital items: are goods that have a useful life of more than one year, do not become part of the firm's final product, and cost more than \$10,000 per unit. Capital items such as typewriters or small machinery would not be included in this category.

- . Minor capital items: have a useful life of more than one year, do not become part of the final product, and cost between \$1,000 and \$10,000 per unit. Minor capital items are not the most expensive capital equipment, nor do they have the longest life. Items such as typewriters and small machinery would be minor capital items. Major capital items such as large computers or forklift trucks would not be included in this category.
- . Materials: are items which become part of the final product. They have previously undergone some processing but need further processing before they enter the final product. Examples include wire, glass, steel, and sand for glass.
- . Component parts: are goods which become part of the final product but need no further processing before that state. Examples include an electric motor for a refrigerator or transistors for a radio.
- . Supplies: are goods which do not become part of the final product but rather are used for maintenance, repairs, or operations. Examples include light bulbs, oil and paper clips.

Though the pilot study¹⁹ identified a classification similar to this one of Jackson, Keith and Burdick,²⁰ it was

not clear as to the real demarcation of major capital items and minor capital items. The respondents could not give the monetary value limits of the two classifications.

As can be noted from the above review, these various systems of industrial products classification have much in common. Products are viewed in different ways according to their function in diverse industries. The use to which a product is put biases it towards a particular classification.

While the researcher in the present study has adopted the classification of the pilot study referred above, the major capital items and the minor capital items are treated under one class of products, capital items, because the pilot study referred to could not come up with a demarcation line.

2.2 COMPLEXITY OF ORGANIZATIONAL (INDUSTRIAL) BUYING

Industrial buying involves the determination of the need to purchase products or services, communications among the members of the organization who are involved in the purchase or will use the product or service, information seeking activities, the evaluation of alternative purchasing actions, and working out of the necessary arrangements with supplying organizations. Industrial buying is therefore a complex process of decision making and communication, which take place over time, involving several organizational members and relationships with other firms and institutions.

The complexities in industrial buying can be seen in the following²¹:

1. Industrial buying decisions are made complex by the fact that more people are usually involved in them and different people are likely to play different buying roles. The roles of users, influencers, deciders, and buyers can be identified in most buying situations, and there are likely to be many people occupying each role. Furthermore, the persons occupying each role in a given organization are likely to change from one purchase situation to another.
2. Industrial buying decisions often involve major technical complexities relating to the product or service being purchased. Technical evaluation of new equipment requires a great deal of factual information about the equipment as well as carefully studied opinions by those who can best predict the important new directions the technology is likely to make.
3. Industrial buying decisions typically take a long time to make. Because of the technical complexity involved in organizational buying, decisions require more information, undergo longer evaluations, and involve more uncertainty about performance; evaluations are likely to be more complete because of the large amount of money involved

and the complexity of the formal organization. Purchased products and services are expected to contribute dependably to the industry's performance over long periods of time. As a result, the original decision is likely to be made in cautious and thorough manner.

4. The great time required for industrial buying decisions means that there are significant lags between the application of marketing effort and obtaining a buying response. It is difficult to tell whether a particular sales call or a specific service rendered for a potential industrial customer has produced any results. Not only does this contribute to the complexity of the marketing manager's task, but it also makes the study of industrial buying behaviour a more difficult assignment.
5. Each buying industry is likely to be significantly different from every other buying industry in the potential market in ways that may require viewing each industry as a separate market segment. Industries are likely to vary in the nature of the buying problems they face because their objectives, resources, people and abilities are different. These differences must be taken into account when developing the marketing strategy to be used with each account.
6. The members participating in the buying function are neither purely "economic men" nor are their motives

purely emotional and irrational. Rather they are human beings whose decisions and behaviour are being influenced by both task - and non-task related variables.

Organizational (industrial) buying process is even more complex than the process that leads to many other organizational decisions. This added complexity is primarily due to four factors:²²

- (a) The purchasing work flow is almost entirely crosswise (i.e. diagonal) in the organization rather than along the chain of command - i.e., most of the buyer's reactions are horizontal relations with the users which are of about the same formal rank in the organizational hierarchy.
- (b) Formal authority over buyers can be in the hands of either a purchasing manager or an operating division manager (in the case of decentralization).
- (c) A major part of the buyer's work is with people outside the organization (vendors, salesmen, etc).
- (d) Purchasing is a service function (auxiliary) and, especially in engineering-oriented organizations, the buyers have substantially lower status than engineers in the using departments. Yet, despite these status differences, no superior-subordinate relations exist

between them, and thus according to Sayles, "There are not clear-cut established different patterns in which one of the parties is prepared to accept unequivocally the initiations for action of the others".²³

2.2.1 INDUSTRIAL BUYING BEHAVIOUR

Industrial marketing is the counterpart of industrial buying, hence there is need to develop a sound understanding of what is involved in industrial buying behaviour. Industrial buying behaviour has been defined as:

"An explicit or implicit transactional decision-making interaction through which formal or informal profit centres represented by authorized delegates: (1) establish the need for product and services; (2) search among and identify suppliers; (3) evaluate the marketing mix, product, price, promotion and distribution of potential suppliers; (4) negotiate for and enter agreement about purchase terms; (5) complete a purchase; and (6) evaluate the purchase's utility in facilitating organizational goals".²⁴

This definition points out that industrial buying is the outcome of interaction between users, buyers, influencers, suppliers and others. Buying is a transaction that is part of a total decision-making process and as such is rarely an action in and of itself.

2.2.2 BUYING DECISION PHASES

Like any other decision process, the purchasing decision process has got phases or stages. The number of phases vary from organization to organization. Webster cites one important study of the purchasing decision process in industrial organizations which defined eight phases in the process²⁵.

1. Need recognition.
2. Definition of the characteristics and quantity of the items needed.
3. Development of the specifications to guide the procurement.
4. Search for and qualification of potential sources.
5. Acquisition and analysis of proposals.
6. Evaluation of proposals and selection of suppliers.
7. Selection of order routine.
8. Performance feedback and evaluation.

2.2.3 MARKETING IMPLICATIONS IN THE BUYING PROCESS

The real importance of the buying process to the industrial marketing manager is that it shows how customers make a purchasing decision and what must be done if the company's product or service is to be considered and ultimately purchased. The following two considerations are therefore vital:

- (1) The manager must recognize that such a process does exist

for every organizational customer.

- (2) The manager must involve the company's marketing efforts in the process as early as possible if it is to be considered as a supplier of the required product or service.

The marketing firm has a better chance of getting the order if its salespeople are involved in the first step of the process than if they were to get involved later in the process. If the marketing manager or the company salespeople get involved in the first step, they could solve the purchasing organization's problem around the specifications of their product. Their specifications then become the basis for the product to be purchased and go right through the entire process. As such, there is an edge to be gained from getting involved early in the process at the point where specifications are established.

2.2.4 TYPES OF BUYING SITUATIONS

The buying decision process will be more or less complex depending on the importance and scope of the purchase being considered. As complexity increases, the amount of time required for the purchase decision and the number of persons involved tend to increase, as do the buying criteria of the buying organization and the amount of information required by the decision maker.

A study cited by Webster²⁶ found it useful to think of three distinct types of buying situations: the Straight Rebuy, the Modified Rebuy, and the New Task. Straight Rebuys are purchases that are mostly routine, i.e., purchases of something purchased before, from the same vendor as before. Modified Rebuys are purchases of goods purchased before but includes the search for information about alternative sources of supply and terms, e.g. raw materials. The New Task involves the purchase of something not purchased before, and will involve all stages of the buying decision process. It is a much more complex decision than the other two. As a result, the earlier stages of the buying process take on a relatively greater importance whereas the latter stages receive more emphasis on Straight and Modified Rebuy situations.

2.2.5 WHO IS INVOLVED IN INDUSTRIAL BUYING PROCESS?

Although the purchase process found in the buying practices of industrial corporations and other organizations may be relatively standardized, each will probably differ in regard to which people and positions are involved in the process. Two firms may be in the same industry, need the same equipment and may even buy from the same supplier. Both may be following the same basic buying processes, yet, the people who influence the purchase and their respective positions can differ in each firm²⁷.

Understanding who is involved in each customer firm is a vital consideration in industrial marketing. It is also a difficult undertaking for rarely does a single person decide what will be purchased and from whom. Usually many individuals influence the decision, which means that the industrial marketing manager and the field salesperson must discover who in each organization influences the decision to buy or not to buy their goods and services.

Once these people are known, marketing approaches can be directed specifically toward them through personal selling, distribution, and advertising. If these people are not known, it is virtually impossible to communicate with them, although they will continue to make decisions and buy those products they know and prefer. Hence effective marketing requires a knowledge of who in each customer organization has an effect on products and services that are purchased.

2.3 THE BUYING CENTER

Webster and Wind have defined the "buying center" concept as all those individuals who participate in some way in the purchasing decision process and who share some common goals and risks arising from the decisions²⁸. The objective of the buying center is therefore joint decision making in which the goal is the acquisition and processing of relevant information culminating in a purchase decision. While a purchasing agent

or a one-person buying center is appropriate for a straight rebuy, a multi-person buying centre is appropriate for the purchasing of differentiated or complex products.

Webster and Wind²⁸ have further established that generally the buying centre consists of the following buying roles: users, deciders, influencers, buyers, and gatekeepers. The gatekeepers control the flow of information into the buying centre, a role usually occupied by the purchasing agent. Influencers add information or decision criteria to the decision process. Users actually use the product. Deciders select the vendor or brand of product. Buyers execute the contractual arrangements.

Bonoma²⁹ has expanded the Webster and Wind description of the buying centre by adding a sixth buying role, that of initiator of the purchase process, the person who is responsible for the definition of the buying situation. Hence buying influences may be described by the roles they play in the buying process as follows:

1. Initiators

These are buying influences who first recognize or anticipate a problem that may be solved by buying a good or service.

The other five roles are explained by Webster and Wind³⁰ as follows:

2. Users

Users may exert their influence either individually or collectively. In many cases the potential users are those who initiate the buying process or even formulate specific purchase requirements, but the influence of users is not limited to these particular roles. The performance of purchased goods and services is often the subject for labour grievances and union members may band together to influence the specifications for purchased goods and services.

Users can therefore influence the buying decision in either a positive way - by suggesting the need for purchased materials and by defining standards of product quality - or in a negative way, by refusing to work with the materials of certain suppliers for any of several reasons.

3. Influencers

Influencers are organizational members who directly or indirectly influence buying or usage decisions. Typically, they exert their influence either by defining criteria which constrain the choices that can be considered in the purchase decision or by providing information with which to evaluate alternative buying actions.

In manufacturing organizations, technical personnel are known to be significant influencers of the purchasing decision,

especially in situations involving the development of new products to be manufactured by the buying organization and in the production process, especially where new technologies are involved. Likewise, production scheduling may become an important influence at the purchase scheduling stage. Research and development personnel, design engineering, and manufacturing management may all exert significant influence and may emphasize different factors to be considered in the buying decision. Their principal influence may be to define what will be purchased and the technical (and perhaps economic) criteria must be met by purchased parts.

4. Buyers

Buyers are those organizational members with formal authority for selecting the supplier and arranging the terms of purchase. Depending upon the nature of the formal organization and its sizes, buyers may have such titles as Purchasing Manager, Purchasing Agent, or Buyer, or this responsibility and authority may reside with people other than those designated specifically as buyers, a Vice-president - manufacturing, an office manager, or some other official, for example.

Although the buyer may have formal authority for negotiating with suppliers and for committing the organization to supply contracts, the choices available to him may be significantly limited by the formal and informal influence of others. For example, technical personnel may have authority

for establishing specifications and may do so in a manner which forces the buyer to deal with a particular supplier.

The influence of the buyer comes at various stages of the buying decision process but is especially apparent in determining the set of feasible suppliers and in selecting the suppliers. The buyer's influence depends, of course, on the nature of the buying task. It can be a relatively routine decision process of applying previously established criteria to a limited set of acceptable alternatives, a function that is essentially clerical in nature; or it may be somewhat more complex if there is the need to negotiate prices and other conditions of sale as part of the process of arranging the purchase contract. It is most complex when it involves simultaneously defining specifications and evaluating available alternatives to determine the most economical way of solving the problem.

5. Deciders

Deciders are those members of the organization who have either formal or informal power to determine the final selection of suppliers. The buyer may be the decider, but it is also possible that the buying decision actually will be made by somebody else and left to the buyer for implementation.

In actual practice it is not always easy to determine when the decision is actually made and who actually makes it.

A de facto buying decision may be made by the development engineer who, knowingly or unknowingly, develops a specification that can be met by only one supplier. Thus, although the purchasing agent may be the only person with formal authority to sign a buying contract, he may not be the true decider.

Many purchasing agent's job descriptions actually place an upper limit on the financial commitments that they can make, reserving larger decisions for other members of the organization, such as the board of directors.

6. Gatekeepers

Gatekeepers are group members who control the flow of information into the group. Perhaps the best example of a gatekeeper in a formal organization is the purchasing agent or buyer who has formal responsibility and authority for managing the relationships of the firm with vendors and potential vendors. In such a situation the buyer may have formal authority for allowing salesmen to call upon the engineering department or may be responsible for maintaining a library of catalogues.

Purchasing agents are not the only gatekeepers in the organization, however. Salesmen employed by the buying organization can be a significant source of information about the availability of products and services in the market. General management also may be exposed to important sources of information, and technical personnel especially are likely to be exposed to

information about new products and new technology of interest to the firm.

Gatekeepers exert their influence primarily at the stage of identifying buying alternatives. Because they actively influence the definition of the feasible set of buying alternatives, they significantly determine the outcome of the purchase decision.

It is important to note that in a multi-person buying centre, one individual may fill the same roles, or several individuals may fill the role. As such, the buying centre is not a part of normal hierarchy but instead is a part of the coordination structure of the organization. It relies on the cooperative interaction of its members who are participants in the decision making process for a given item at a given time.

2.4 FACTOR INFLUENCING BUYING DECISIONS

Buying decisions are influenced by four interacting sets of factors³¹: environmental, organizational; interpersonal, and individual factors. The variables can further be dichotomized as either "task" (those that are directly related to the organizational buying problem as defined by the organizational objectives) or "non-task" (those that are not directly related to the buying problem).

Following is a brief description of each set of factors as discussed by Webster and Wind³³.

2.4.1 ENVIRONMENTAL FACTORS

The organization itself, its members, and the patterns of interaction among them are all subject to certain environmental influences. The task versus non-task distinction is relevant for understanding these influences. Task-related environmental forces are primarily those derived from inter-organizational relations. Of utmost importance among these relationships are the marketing stimuli presented by prospective suppliers. The task-related environmental influences are not limited, however, to institutions, but also to embrace the specific technical, political, and economic characteristics of the society within which the buying organization operates insofar as they affect the buying task.

Non-task related environmental factors include both the influence of other organizations and the general social-cultural-political environment. Among the institutions that have no direct task relations with the focal organization are various social institutions, the government, and facilitating business organizations such as banks, transportation companies, and the like, which are an integral part of the environment within which any organizational buying decisions take place. In addition to these non-task related institutions, the values of any given

society exert significant influence on the organizational buying process. Since organizational buying is basically the result of the actions and decisions of individuals, the values of these individuals consciously or unconsciously affect their buying decisions.

2.4.2 ORGANIZATIONAL FACTORS

The formal organization itself has many task and non-task dimensions which significantly influence the buying decision making process. Objectives, policies, procedures, structure, and systems of rewards, authority, status and communication define the formal organization as an entity and significantly influence the buying process at all stages.

It is the objectives of the formal organizations which, in the first instance, define the existence of a buying situation. Products and services are purchased to facilitate goal accomplishment. A "buying" problem is defined by a discrepancy between the level of goal attainment perceived to be desirable and the level expected to exist if no action is taken. Alternative courses of action can be evaluated according to their ability to contribute to the accomplishment of the organization's goals.

The distinction between task and non-task related factors is relevant. In a given buying situation, the organizational factors that are directly related to the buying task include

organizational policies providing specific criteria as to the kind of material to be purchased and the specifications for product quality that must be met. Other task- related organizational factors include the technical requirements created by the nature of the organization's operations (such as production equipment constraints) and time related variables such as delivery requirements and the number of day's worth of inventories that must be maintained.

2.4.3 INTERPERSONAL FACTORS

The buying process in a formal organization usually involves several persons. These persons interact on the basis of their particular roles in the buying process - as influencers, users, deciders, buyers, and gatekeepers (who control the flow of information into the buying group) - as well as on the basis of the history of the group's previous interactions and social experiences. The buying group is characterized by both a pattern of communication (interaction) and a set of shared values (norms) which direct and constrain the behaviour of the individual within it.

The notion of the "buying centre" is of major significance in the study of buying behaviour in formal organizations. The buying centre is defined as consisting of those individuals who interact for the specific purpose of accomplishing the buying task. As already indicated, the buying centre may consist

of individuals occupying any of the following roles - deciders, influencers, users, and gatekeepers.

The buying centre is thus defined in part by social activity relating to task performance. Similarly, roles in the buying centre are defined in terms of the buying task. It must be recognized, however, that interaction among members of the buying centre is also significantly influenced by other roles and social factors which extend beyond the buying task.

The outcome of the interactions among members of the buying group is determined by the interaction of task and non-task variables and reflects the simultaneous performance of several roles by the members. One individual may occupy the roles of user and decider, or of buyer and gatekeeper, or of influencer and buyer, as well as other, non-task roles that influence behaviour, such as the roles of professional manager and a father. Promotional effort by potential suppliers can be directed at each of these roles.

2.4.4 INDIVIDUAL FACTORS

Although organizational buying is the result of organizational decision making, individual behaviour defines this decision making system. Each person involved in the buying process brings to it a set of needs, goals, habits, past experience, information, attitudes, and so on which he applies in each specific situation. Some of these factors can be classified

as task variables. Others, such as a company's director favouring a friend's firm as a supplier, may be non-task variables. The task versus non-task distinction does not necessarily imply goal conflict.

The behaviour of individuals in formal organizations is a complex interaction of personal, group, and organizational goal-seeking behaviours. Although all behaviour is motivated by the needs of individuals and their search for individual satisfactions, organization members also accept and strive for the accomplishment of the goals of their groups and their organization. When an individual occupies a position in a formal organization, he implicitly accepts the notion that he and the organization can work together to achieve their distinct objectives. Thus the individual accepts the objectives of the organization as his own while also deciding that the organization represents the best opportunity to pursue his own objectives and satisfy his own needs.

Individual factors of importance in organizational buying include the individual's age, income, education, professional identification, personality, and other psycho-socioeconomic characteristics. Another set of individual factors, probably more important, is represented by the individual's predisposition, including awareness, attitudes and preferences, towards specific suppliers and their brands. Other variables of significance related to the individual's characteristic methods of searching

for information and of processing the information available to him concerning alternative sources of supply. Related to information processing are such individual characteristics as self-confidence and ability to tolerate uncertainty and risk.

2.5 BUYING INFLUENTIALS AND THE PURCHASING TASK

Industrial purchasing decisions are typically influenced by several organizational members referred to as the buying centre. Thus, the relevant unit of analysis for the industrial marketer is the group decision making unit (the buying centre).

Several studies support the existence of multiple buying influences in the industrial buying process³³. Thus, a key question in industrial marketing is the relative power of participants in the purchase decision. Chisnall³⁴ puts it that, "research should aim to identify members of the buying centre and also to evaluate their relative contributions to buy particular types of products and services. The more insight which can be obtained into buying procedures of an organization, the more effectively can marketing strategies be developed".

The concept of the buying centre, as already mentioned, refers to all those organizational members who become involved in the decision making process for a particular purchase decision. A number of studies have verified the concept of the buying centre and variations in the purchase decision process

(Bellizi 1981, Duncan 1965, Wind 1978)³⁵. However, the influence structure of the buying centre is likely to vary across a number of factors that characterize the purchase situation, such as buy class, type of product, and type of decision.

A study cited by Webster³⁶ identified three types of buy classes - new task, modified rebuy, and straight rebuy - which were assumed to explain some of the variations in the purchase process, including the influence structure of the buying centre. Support for this assumption was shown in a few studies. Spekman and Stern³⁷ found that purchasing agents were perceived as more influential when the level of uncertainty was high than when environmental uncertainty was low. The results of two other studies indicated that the relative influence of buying centre members varied across buy class. Pingry³⁸ and Naumann³⁹ (1981) found out that purchasing agents were more influential in modified rebuy and straight rebuy situations while other members of the buying centre were relied upon more heavily in new task decisions.

Another study by Weigand⁴⁰ recognized the importance of buyclass on the influence of buying centre members in the purchase decision, but focused on modified rebuy situations. On the other hand, the influence of members of the buying centre has been found to be related to product type under consideration. Significant differences in the relative influence of buying centre members across different product types were present in a study carried out by Bellizi⁴¹ (1979).

Generally, since the purchasing of goods and services affect virtually every other function of the organization and because other departments use or are affected by what is being bought, it is only logical that the using department may in some way influence what is being purchased. One department may exert more influence than others at a certain stage of the purchase process.

The above literature suggests that the relative influence of buying centre members varies with individual factors that characterize the purchase situation. In the past however, no research has been conducted in the Kenyan industrial market to determine how this relative influence change across different product classifications or types. Yet relative influence is of particular importance to industrial marketers, as they must target communications to the appropriate person(s).

2.5.2 DECISION CRITERIA IN INDUSTRIAL BUYING

2.5.1 THE NUMBER OF BUYING INFLUENCES

The actual number of buying influences for any particular product or service differs among purchasing organizations and is determined by factors such as the following:⁴²

1. The size of the organization in terms of the number of departments and employees.
2. The breadth of use of the product or service-the more departments using the product, the larger the number of potential buying influences.

3. The dollar value of the product being purchased - higher unit value products typically involve more buying influences.
4. The technical sophistication of the organization's purchasing personnel - the less sophistication that exists, the more likely it is that personnel in other departments will be involved.
5. The technical background of the product or service - the more technical the product involved, the fewer people may understand it, with the result that fewer buying influences may be involved.

The number of buying influences can range from one person to over twenty influences depending on factors such as the above.

2.5.2 DECISION CRITERIA IN INDUSTRIAL BUYING

One approach toward understanding the motivations of buying influences is to look at decision criteria used. Industrial buying decisions often reflect five types of criteria that are likely to operate in every buying situation except for the most minor purchases.⁴³

1. Performance criteria - How will the product or service do the job?
2. Economic criteria - What costs will be associated with buying and using the product or service?

3. Integrative criteria - Will the supplier go beyond minimal actions in meeting the customer's expectations?
4. Adaptive criteria - How certain is the buying influence that the supplier will produce and deliver to specifications?
5. Legalistic criteria - What legal or policy considerations must be kept in mind when buying the product or service?

One study⁴⁴ of industrial purchasing professionals found that, although buyers profess to use all five criteria, the economic and performance criteria have most weight depending on the product sophistication and application. As products decrease in importance and performance criteria become more important. Adaptative criteria were found to be important for all types of products, while integrative criteria were generally less important.

CHAPTER THREE

RESEARCH DESIGN

3.1 THE POPULATION OF THE STUDY

The population of interest comprised of the manufacturing firms with more than fifty employees within Nairobi¹. These are generally the medium and large manufacturing firms in Kenyan standards².

3.2 SAMPLING AND SAMPLE SIZE

The sampling method that was used was the systematic sampling. The manufacturing firms within Nairobi are quite numerous and the researcher felt that it would be difficult to carry out a census of the whole population. Hence sampling was ^{resorted} resulted to.

3.4 THE RESPONDENTS

From a list of manufacturing industries having more than fifty employees within Nairobi area, a sample size of sixty eight was originally selected. First, these industries were arranged alphabetically and then starting with the first one, every other third was selected.

The sample size of sixty eight units wasn't arrived at statistically, but the researcher had felt that with a population of about two hundred firms, a sample of sixty eight would have been adequate.

¹Source: Central Bureau of Statistics.

²C. Ngahu; MBA Project, 1987.

However, it proved very difficult to get all the questionnaires completed within reasonable time and only thirty six were analysed.

3.3 RESEARCH INSTRUMENT

The information sought in this study was collected using a structured questionnaire (see Appendix A2). The questionnaire, accompanied by a note to the respondent (see Appendix A1), consisted of structured questions and Likert-type scale where the respondent was expected to rate the influence of different buying centre members in making the purchase decision.

The drop and pick later method was used in situations where the respondents were not available at the time the researcher visited the firms. Otherwise the researcher administered the questionnaire personally.

3.4 THE RESPONDENTS

The respondents were purchasing managers for each firm or any other person of whatever title but performing the purchasing duties in the company. The buyer (or purchasing agent/manager) is the person in the organization with formal authority for the selection of sources of supply. The purchasing manager was selected to be the respondent since he is the one who plays the "buying" role after all the other buying centre members have reached an agreement as to what will be bought.

Since he is also involved in the decision making as to what should be bought and finally he executes the buying, the researcher felt that the purchasing manager would be the most appropriate respondent.

While investigating the purchasing agents' perception of industrial buying centre, Jackson, et al¹ selected four buying centre members to be rated by their respondents. These were purchasing, manufacturing, engineering, and top management. "Previous research has indicated that these are appropriate functional areas to include as members of the buying centre (Cooley, Jackson, and Ostron 1977: Erickson and Gross 1980: Nauman 1981: Wind 1978)². Areas not contained in this group but thought to have some influence in the decision making were included in a fifth category (other) in which respondents were instructed to fill in the appropriate members.

In an attempt to rank factors motivating buying influences in various departments in selecting suppliers, Haas³ identified seven departments. These are: accounting, production control, purchasing, manufacturing engineering, quality control, special machinery engineering, and tool design department. He argues that these buying influences have different buying motivations, and unless the industrial marketing manager address himself to these differences, he may not communicate at all with these buying influences. Of course, the marketing manager must address the motivations of the key buying influence if he is to sell

the company's products or services.

Chisnall⁴ identifies six departments that put vital managerial inputs to corporate performance (and therefore to buying decision making). These are: finance, personnel, research and development including design, purchasing, marketing, and production departments. To him, "These six principal areas of management expertise make distinctive contributions to corporate performance".

Hutt and Speh⁵ on their part identify the following as the probable buying centre for capital equipment purchases:

1. Board/owner
2. Accounting and Finance
3. Purchasing
4. Top Manager
5. Manufacturing/Production
6. Sales/marketing
7. Engineering
8. Shipping and receiving.

From the above literature, it is easy to note that there is almost a consensus as to the people who comprise the buying centre for industrial products. It is with this view that the researcher generally picked the following departments to be rated by the respondents as per the influence they bear in the purchase decision making as they (the respondents) perceive them:

1. Top management
2. Finance/Accounting
3. Personnel
4. Manufacturing/Production
5. Purchasing
6. Sales/marketing
7. Engineering

The respondents were expected to relatively rate the influence of the above buying centre members on the purchase decision making of the following product classes:

1. Capital items
2. Component parts
3. Materials
4. Supplies.

This is the classification that was identified by the pilot study⁶. However, in the present study, major interest was placed on capital items and component parts. Materials and supplies were also investigated though there was the feeling that these are routine purchase in nature and do not require a lot of time in deciding to purchase them. Again, it may not be necessary for many or all buying centre members to meet in order to make the purchase decision.

Finally, the respondents were expected to rank factors that they perceive as the criteria used in determining the influence each department has in making the purchase decision.

3.5 MEASUREMENT OF INFLUENCE

Influence was measured on a seven point semantic differential scaling with two opposing adjectives, most/least. Each segment of the scale was assumed to represent one step in moving from one end to the others.

The respondents were expected to tick the segment that best described the influence each member of the buying centre in the purchase decision of the products in each class. Then the scores were summed up in order to get the mean scores for each department for different product classes.

3.6 DATA ANALYSIS

Data was summarized and presented using tables showing the mean scores for each department for the four product categories. The t-test was used to establish whether or not the mean scores for the different product categories were statistically different.

3.7 OPERATIONAL DEFINITIONS

INFLUENCE: Haas⁷ has used the concept of buying influence to mean "those personnel within the purchasing company who in one way or the other actually have an influence on what is or is not purchased". However, in this study, relative influence is used to mean one's ability to sway other buying centre members to agree to his/her suggestion or views.

Capital items: Are goods that have a useful life of more than one year and do not become part of the firm's final product. Examples include production machinery, computers, etc.

Component Parts: are goods which become part of the firm's final product but need no further processing before that stage. Examples include an electric motor for a refrigerator or transistors for a radio.

Materials: are items which become part of the final product. They have previously undergone some processing but they need further processing before they enter the final product. An example here is steel.

Supplies: are goods which do not become part of the final product but rather are used for maintenance, repairs, or operations. Examples include light bulbs, oil, paper clips, etc.

The definitions of capital items, component parts, materials and supplies are the ones given by Jackson, Keith and Burdick⁸ in their study. However the definition for capital items was modified for the purposes of this study.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.0 INTRODUCTION

This chapter contains summaries of the data, presentation of the data and analyses of the findings of the study. The data is summarised in terms of mean scores and proportions. Further analysis was carried out using the t-test. The analysis is presented in three stages. The first stage deals with the departments represented in the buying centre, the second presents data on the influence structure of buying centre members when making the purchase decisions and the third stage deal with data relating to factors determining the influence each member of the buying centre will have in making the purchase decision.

4.1 DEPARTMENTS REPRESENTED IN THE BUYING CENTRE OF INDUSTRIAL PRODUCTS

From the literature review the researcher had identified seven departments that are usually represented in the buying centre when making the purchase decisions for different industrial product classes. These are top management, finance/accounting, personnel, purchasing, manufacturing/production, marketing/sales and engineering.

In testing whether these departments are represented

in Nairobi's manufacturing firms, the results show that some departments are not represented when making purchase decisions related to some product classes.

For the capital items, all the seven departments were found to be represented in the purchase decision making. Differences were noted in all other product classes. For component parts, both the personnel and marketing/sales departments were generally not represented in the buying centre. For materials, the personnel department is again almost excluded (see Appendix C3). A possible explanation for this would be the fact that for component parts the decision to buy them is usually taken after the capital items have already been bought and hence only those departments directly involved in the production work will be involved in their purchase decision. The assumption in this case is that component parts are only needed for the production oriented capital items.

However, though all the departments were represented in the purchase decision for supplies, only the purchasing department was of major importance. This could be explained by the fact that when the need for supplies arises in other departments, they just inform the purchasing department for placement of orders for these supplies. Again, supplies are routine purchases and hence do not require a lot of formalities when deciding to purchase them.

4.2 INFLUENCE STRUCTURE OF BUYING CENTRE MEMBERS

4.2.1 MEAN SCORES OF BUYING CENTRE MEMBERS' INFLUENCE IN THE PURCHASE DECISION FOR CAPITAL ITEMS (See Appendix C1)

Table 1

Department	Mean Score
Top management	6.6
Finance/Accounting	6.0
Personnel	1.2
Purchasing	4.0
Manufacturing/Production	5.3
Marketing/Sales	1.6
Engineering	6.3

From the table above, it is quite clear that members of the buying centre do not have the same levels of influence in making the purchase decision for capital items. Top management had the most influence while the personnel department possessed least influence.

Generally, top management, engineering, finance/accounting, manufacturing/production and purchasing departments (in that order) had the major influence in making the purchase decision for capital items.

Top management's high influence could be as a result of the fact that they provide the ultimate approval for some

purchases especially the ones related to the purchase of expensive major capital items. Engineering and production were also important because they must make sure that whatever is to be produced is of high quality and would be at fault if the product does not meet the required qualifications. On the other hand, the personnel department's low level influence could be because the department becomes involved only when the item being purchased affects the personnel set-up in the organization.

4.2.2 MEAN SCORES OF BUYING CENTRE MEMBERS' INFLUENCE IN
THE PURCHASE DECISION FOR COMPONENT PARTS (See Appendix C2)

Table 2

Department	Mean Score
Top management	6.4
Finance/Accounting	6.0
Personnel	0.2
Purchasing	4.3
Manufacturing/Production	5.2
Marketing/Sales	0.25
Engineering	6.6

In the purchase decision of component parts, the engineering department becomes the most important. However, top management, finance/accounting, manufacturing/production and purchasing departments are also important.

Engineering department is the one usually charged with the maintenance of the machinery being used by the firm and hence it is not surprising to find it having the most influence in making the purchase decision for component parts.

Again the personnel and marketing/sales departments were perceived to have the least influence in the purchase decision making for the component parts.

4.2.3 MEAN SCORES OF BUYING CENTRE MEMBERS' INFLUENCE IN THE PURCHASE DECISION FOR MATERIALS (Appendix C3)

Table 3

Department	Mean Score
Top management	3.5
Finance/Accounting	4.3
Personnel	0.4
Purchasing	6.0
Manufacturing/Production	5.3
Marketing/Sales	4.7
Engineering	2.5

From the above table, purchasing department followed by manufacturing, marketing and finance/accounting departments are the major influentials in the purchase decision for materials.

The engineering department does not seem to play a major

role in the decision making. This could probably be explained by the fact that when a firm enters a certain line of production, the materials required will be more or less the same and the intervention of the engineering department may be crucial only when the firm is making the purchase for the first few times. After the engineering department has approved of the materials, the rest becomes a routine work and hence it becomes less involved.

When the decision being made is one of purchasing supplies, the purchasing department has the most influence as can be noted from the table below.

4.2.4 MEAN SCORES OF BUYING CENTRE MEMBERS' INFLUENCE IN THE PURCHASE DECISION FOR SUPPLIES (See Appendix C4)

Table 4

Department	Mean score
Top management	0.75
Finance/Accounting	1.5
Personnel	1.0
Purchasing	5.9
Manufacturing/Production	1.1
Marketing/Sales	1.0
Engineering	1.05

The table above shows clearly the high level of influence possessed by the purchasing department in the case of supplies decision. This could again be explained by the fact that supplies are routine purchases and when a need arises for the supplies in any department, all that is done is to inform the purchasing department which will prepare and place orders for these supplies. Thus the purchasing department possesses the most influence while the influence of all the other departments is of less significance.

4.3 THE T-TEST FOR THE DIFFERENCES OF MEAN SCORES BETWEEN DIFFERENT PRODUCT CLASSES

This test was used to test whether the means for different product classes were significantly different. The procedure used was to obtain the mean of the differences in scores for the product classes being tested and then test whether the average ($\bar{d}$) differs significantly from zero.

The standard error of estimate denoted as $s\bar{d}$ is given

by $s\bar{d} = \frac{sd}{\sqrt{n}}$ where

$$sd = \sqrt{\frac{(d - \bar{d})^2}{n - 1}}$$

X_1 and X_2 were assumed to represent the means for the two product classes being tested while n was formed by the number of buying centre members.

Assuming a confidence level of 95%, the null hypothesis that the two sets of means were not different and the alternative that the two means were different was tested. A six column table was drawn with the first column showing the buying centre members, the second and the third column showing the two sets of means (X_1 and X_2), column four showing $X_1 - X_2 = d$, column five showing $(d - \bar{d})$ and column six $(d - \bar{d})^2$.

Assuming the differences (d - values) are normally distributed the ratio $(\bar{d} - 0)/s\bar{d}$ is distributed according to the t-distribution and the t-statistic is given by:

$$t = \frac{\bar{d} - 0}{s\bar{d}}$$

The number of degrees of freedom is $(n - 1)$, where n is the number of d values. The test is two tailed because only a $\bar{d}$ value that is either positive or negative and significantly different from zero could result in the acceptance of the alternative hypothesis $X_2 - X_1 \neq 0$.

This hypothesis testing using the t-statistic was repeated for three times i.e. to test the difference between mean scores for capital items and component parts, capital items and materials, and component parts and materials.

4.3.1 T-TEST FOR THE DIFFERENCE OF MEAN SCORES FOR CAPITAL
ITEMS AND COMPONENT PARTS

All the information for the calculation of the t-statistic is contained in the six column table below.

The hypothesis to be tested was whether the two sets of mean scores were statistically different or not. The statement of hypothesis was as follows:

$$H_0: X_2 - X_1 = 0$$

$$H_1: X_2 - X_1 \neq 0$$

Where X_2 and X_1 are the population means for the capital items and component parts respectively.

Table 5

Buying Centre Members (N)	Mean Scores for Capital Items X_2	Mean Scores for compon- ent Parts X_1	$d = X_2 - X_1$	$d - \bar{d}$	$(d - \bar{d})^2$
Top management	6.61	6.47	0.14	-0.215	0.046
Finance/					
Accounting	6.02	6.0	0.02	-0.335	0.112
Personnel	1.19	0.19	1.0	0.645	0.416
Purchasing	4.0	4.33	-0.33	0.685	0.469
Mfg/Production	5.27	5.25	0.02	-0.335	0.112
Maktg/Sales	1.61	0.25	1.36	0.965	0.931
Engineering	6.33	6.61	0.28	-0.075	0.005
			2.49		2.09

$$\bar{d} = \frac{\sum d}{n} = \frac{2.49}{7} = 0.355$$

$$s_d = \sqrt{\frac{(d - \bar{d})^2}{n - 1}} = \sqrt{\frac{2.09}{6}} = 0.59$$

$$s_{\bar{d}} = \frac{s_d}{\sqrt{n}} = \frac{0.59}{\sqrt{7}} = 0.223$$

Test Statistic

$$t = \frac{\bar{d} - 0}{s_{\bar{d}}} = \frac{0.355}{0.223} = \pm 1.595$$

It was assumed that the differences are normally distributed and therefore the ratio $(\bar{d} - 0)/s_{\bar{d}}$ is distributed according to the t-distribution.

Level of Significance

A confidence level of 95% was assumed, therefore $\alpha = 0.05$. The test is two tailed.

The critical value at n-1 degrees of freedom is read directly from the table in Appendix B and is found to be ± 2.447 .

The observed t lies in the acceptance region. This then means that we fail to reject the null hypothesis that the two sets of means are not different. Hence the observed t is not significantly different from zero and therefore the mean scores for capital items and component parts are not significantly different.

The t-statistic then implied that we cannot conclude with confidence that different members of the buying centre have more or less influence in the purchase decision for either component parts or capital items.

Therefore if the mean scores are used, the conclusions made would be totally different from the conclusions drawn using the statistical test. While the scores show the existence of differences on the influence each member has in making the purchase decision for capital items and component parts, the statistical test shows that the scores are not statistically different.

4.3.2 T-TEST FOR THE DIFFERENCE OF MEAN SCORES FOR CAPITAL ITEMS AND MATERIALS

The information for the calculation of the t-statistic is contained in the six column table below.

The hypothesis to be tested was that the two sets of means were statistically different. The statement of hypothesis was:

$$H_0: X_2 - X_1 = 0$$

$$H_1: X_2 - X_1 \neq 0$$

Where X_2 and X_1 are the population means for capital items and materials, respectively.

Table 6: Calculation of the t-Statistic

Buying Centre Members (N)	Mean Scores for Capital Items (X_2)	Mean Scores for materials (X_1)	$d = X_2 - X_1$	$d - \bar{d}$	$(d - \bar{d})^2$
Top Management	6.61	3.52	2.09	2.485	6.175
Finance/Accounting	6.02	4.33	1.69	1.085	1.177
Personnel	1.19	0.42	0.77	0.169	0.028
Purchasing	4.0	6.02	-2.02	-2.624	6.889
Mnf/Production	5.27	5.30	-0.03	-0.634	0.403
Mkg/Sales	1.61	4.69	-3.08	-3.684	13.578
Engineering	6.33	2.52	3.81	3.205	10.272
			4.23		38.526

$$\bar{d} = \frac{\sum d}{n} = \frac{4.234}{7} = 0.604$$

$$Sd = \sqrt{\frac{(d - \bar{d})^2}{n-1}} = \sqrt{\frac{38.526}{6}} = 2.534$$

$$S\bar{d} = \frac{sd}{\sqrt{n}} = \frac{2.534}{\sqrt{7}} = 0.958$$

Test statistic

$$t = \frac{\bar{d} - 0}{S\bar{d}} = \frac{0.604}{0.958} = \pm 0.631$$

Level of significance.

A confidence level of 95% was assumed and therefore $\alpha = 0.05$. The test is two tailed.

The critical value at $n-1$ degrees of freedom are read directly from the table in Appendix B and is found to be ± 2.447 .

The observed t lies in the acceptance region. This means that we fail to reject the null hypothesis that the two sets of means are not different. Hence the observed t is not significantly different from zero and therefore the mean scores for capital items and materials are not significantly different.

The t statistic then implies that we cannot conclude with confidence that different members of the buying centre have more or less influence in the purchase decision for either capital items or materials. However, this is an overall view of all the buying centre members combined together.

When the same test was carried for the difference of the mean scores for component parts and materials, the results were similar to the other two tests. While the critical value of t was ± 2.447 , the observed t value was ± 0.301 . Hence the null hypothesis that the two sets of means are not different could not be rejected. Therefore the results of the previous two tests also prevail in this case.

4.4 FREQUENCIES OF FACTORS CONSIDERED IN DETERMINING THE
INFLUENCE EACH DEPARTMENT (MEMBER) WILL HAVE IN MAKING
THE PURCHASE DECISION

	Av.	D.	Mv.	Am.	Tc.	Fn.	Fr.
Capital Items	36	36	34	36	36	33	28
Component parts	36	36	33	18	36	30	27
Materials	34	24	30	36	10	15	10
Supplies	10	5	26	24	2	5	12
	116	101	123	114	84	83	77

Where Av = Availability

D = Durability

Mv = Monetary Value

Am = Amount/Quantity

Tc = Technical Complexity

Fn = Functions of item

Fr = Frequency of purchase

In general, the findings suggest that monetary value, availability and amount of product purchased are a major criteria used in determining the influence each department (member) will have in making the purchase decision for industrial product classes.

Specifically, for:

- (a) Capital items, all the criteria suggested by the researcher appear to have been very important in determining the influence that each department (member) will have, and especially so in the case of availability, durability, amount and technical complexity.
- (b) Component parts, all the criteria suggested by the researcher were important. However the amount of product purchased was not as important a criterion as is capital items.
- (c) Materials, four criteria are the major determinants. These are amount/quantity, availability, monetary value and durability in order of importance.
- (d) Supplies, only the amount/quantity and the monetary value seemed to be significant criteria in determining the influence each department (member) will have in making the purchase decision.

CHAPTER FIVE

5. 1 DISCUSSION AND IMPLICATIONS OF RESEARCH FINDINGS

The major objective of the study was to establish the relative influence of buying centre members across industrial product classifications. The researcher feels that this objective was achieved as it was possible to identify the most influential members of the buying centre in the purchase decision making of some product categories.

The study also confirms the complex nature of buying centre influence. The results of the study indicated that the purchasing managers' perception of the influence structure change depending on the product being purchased. However the results show that purchasing managers (departments) perceived themselves as one of the most influential members of the buying centre regardless of the product class purchase decision.

The findings have significant managerial implications for industrial marketers. In particular, the results suggest that:

- (i) The target audience of marketing efforts will depend upon who the more influential members of the buying centre are. Results suggest that purchasing managers should be called upon irrespective of the product type, but that top management, engineering and finance/Accounting

departments may also be important target audiences when selling capital items and component parts.

- (ii) Since various members of the buying centre have different relative levels of influence, product development should enhance the attractiveness of the product to the more influential buying centre members. The engineering personnel may provide significant insights into product features most desired in capital items and component parts.

5.2 LIMITATIONS OF THE STUDY

The study was constrained by a number of factors. Firstly, time was a limiting factor and this limited the scope and depth of the study. Owing to the short time during which the study had to be completed, it was not possible to collect information from as many firms as the researcher had expected. The results given are based on thirty-six manufacturing firms and the researcher feels that this sample should have been larger had there been enough time to carry out the research.

Another limitation was on the part of the respondents who in many cases failed to fill the questionnaire properly, while others refused to respond at all. This had the effect of reducing the response rate and hence the analysis was based on information gathered from few firms.

Finally, another major limitation was that of social desirability. This is where the study focused on the purchasing managers' perceptions of relative influence. This could suggest a biased reporting especially when considering that the purchasing manager is a member of the buying centre. He is bound to portray himself as an important buying centre member in the purchase decision of all product types. However, the researcher feels that this problem is very hard to avoid in a study of this nature since it would be very difficult to interview each member of the buying centre on his influence and even if this was done, there would be no proof that he/she is not biased by portraying his/her role as a very important one.

Therefore, these limitations should be kept in mind when considering the results and the implications of the findings.

5.3 RECOMMENDATIONS AND DIRECTION FOR FUTURE RESEARCH

Marketers must be aware of differences in relative influence of buying members when developing communications strategies. The results indicate that relative influence of buying centre members changes depending on the product being purchased. Bearing in mind that the study was carried in Nairobi, any generalization should only be made in reference to Nairobi's manufacturing firms. The researcher therefore suggests that future research should incorporate firms from other parts of the country.

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Again, the purchase decision making is a process involving various stages. The present study did not consider the stages of the decision and the researcher feels that they should be considered in future studies.

The area of industrial purchase decision making is quite wide and future research could deal with other decisions. The researcher has in mind decisions such as the selection of the supplier. However industrial marketing is an extensive field and the directions suggested above are not exhaustive by any means.

FOOTNOTES

CHPATER ONE

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MARTIN M. KINYANJUI

(M.B.A. Student)

APPENDIX A1

QUESTIONNAIRE
LETTER TO THE RESPONDENT

Dear Respondent,

This questionnaire has been designed to gather information regarding the relative influence of buying centre members in your organization. This study is being carried for a management Project report as a requirement in partial fulfilment of the degree of Masters in Business and Administration, University of Nairobi.

Your responses will be treated in strict confidence and in no instance will your name or that of your organization be mentioned in the report. Your co-operation will be highly appreciated.

Yours sincerely,

MARTIN M. KINYANJUI

(M.B.A. Student)

involved in making the purchase decision)?

APPENDIX A2

YES NO (Tick as appropriate)

QUESTIONNAIRE

1. Of the goods that your firm purchases, what goods do you consider to be:

(a) Capital items

_____	_____
_____	_____
_____	_____

(b) Component Parts

_____	_____
_____	_____
_____	_____

(c) Materials

_____	_____
_____	_____
_____	_____

(d) Supplies

_____	_____
_____	_____
_____	_____

- 2.(a) For the capital items, does your firm have a single-person or a multi-person buying centre (i.e. those personnel

involved in making the purchase decision)?

	YES	NO	(Tick as appropriate)
Single-person	[]	[]	
Multi-person	[]	[]	

(If a single-person buying centre exists, go to Q. 6(a), otherwise proceed with Q. 2(b).

(b) Are the following departments represented in the existing multi-person centre?

	YES	NO	(Tick as appropriate)
Top Management	[]	[]	
Finance/Accounting	[]	[]	
Personnel	[]	[]	
Purchasing	[]	[]	
Manufacturing/			
Production	[]	[]	
Marketing/Sales	[]	[]	
Engineering	[]	[]	

Specify any other department that is represented in the buying centre and is not mentioned above.

3. For the departments mentioned above in Q. 2(b), can you rank them in terms of their relative influence that each has in making the purchase decision by ticking the most appropriate (score) below.

	Most Influence				Least Influence			
	7	6	5	4	3	2	1	
Top Management	[]	[]	[]	[]	[]	[]	[]	
Finance/Accounting	[]	[]	[]	[]	[]	[]	[]	
Personnel	[]	[]	[]	[]	[]	[]	[]	
Purchasing	[]	[]	[]	[]	[]	[]	[]	
Manufacturing/ Production	[]	[]	[]	[]	[]	[]	[]	
Marketing/Sales	[]	[]	[]	[]	[]	[]	[]	
Engineering	[]	[]	[]	[]	[]	[]	[]	

4. Are the following criterial used in determining the influence each department will have in making the purchase decision for the capital items?

	YES	NO	(Tick as appropriate)
Availability	[]	[]	
Durability (life-span)	[]	[]	
Monetary value (cost)	[]	[]	
Amount/quantity (size)	[]	[]	
Technical complexity	[]	[]	

Function of the item [] []

Frequency of purchase [] []

Specify any other criteria used.

Marketing/Sales 1. _____
2. _____
3. _____

5. For each department below, please indicate the criteria (in order of importance) they consider in influencing the purchase decision for capital items.

Top Management 1. _____
2. _____
3. _____

Finance/Accounting 1. _____
2. _____
3. _____

Personnel 1. _____
2. _____
3. _____

Purchasing 1. _____
2. _____
3. _____

Manufacturing	1.	YES	NO	_____
Manufacturing/Production	2.	[]	[]	_____
Marketing/Sales	3.	[]	[]	_____
Marketing/Sales	1.			_____
Specify any other department that is represented in the	2.			_____
buying centre not mentioned above,	3.			_____
Engineering	1.			_____
	2.			_____
	3.			_____

6. For the component parts, does your firm have a single person or a multi-person buying centre?

	YES	NO	(Tick as appropriate)
Single-person	[]	[]	
Multi-person	[]	[]	

(If a single-person buying centre exists, go to Q. 10(a), otherwise proceed with Q. 6(b).)

(b) Are the following departments represented in the existing multi-person buying centre?

	YES	NO	(Tick as appropriate)
Top management	[]	[]	
Finance/Accounting	[]	[]	
Personnel	[]	[]	
Purchasing	[]	[]	

YES NO

Manufacturing/Production [] []

Marketing/Sales [] []

Engineering [] []

Specify any other department that is represented in the buying centre not mentioned above.

7. From the departments mentioned above in Q. 6(b), can you please rank them in terms of their relative influence that each has in making the purchasing decision by ticking the most appropriate position (score) below.

	Most influence				Least influence			
	7	6	5	4	3	2	1	
Top management	[]	[]	[]	[]	[]	[]	[]	
Finance/Accounting	[]	[]	[]	[]	[]	[]	[]	
Personnel	[]	[]	[]	[]	[]	[]	[]	
Purchasing	[]	[]	[]	[]	[]	[]	[]	
Manufacturing/ production	[]	[]	[]	[]	[]	[]	[]	
Marketing/Sales	[]	[]	[]	[]	[]	[]	[]	
Engineering	[]	[]	[]	[]	[]	[]	[]	

8. Are the following criteria used in determining the influence each department will have in making the purchase decision for the component parts?

	YES	NO	(Tick as appropriate)
Availability	[]	[]	
Durability (life-span)	[]	[]	
Monetary value (cost)	[]	[]	
Amount/quantity (size)	[]	[]	
Technical complexity	[]	[]	
Functions of the items	[]	[]	
Frequency of purchase	[]	[]	

Specify any other criterial used.

9. For each department below, please indicate the criteria (in order of importance) they consider in influencing the purchase decision for component parts.

Top management	1.	
	2.	
	3.	
Finance/Accounting	1.	
	2.	
	3.	

(b) Following departments represented in the existing multi-person buying centre?

Personnel 1. _____
2. _____
3. YES NO (Tick as appropriate)

Top management [] []
Purchasing 1. _____
2. _____
3. _____

Manufacturing/
Production 1. _____
2. _____
3. _____

Marketing/Sales 1. _____
2. _____
3. _____

Engineering 1. _____
2. _____
3. _____

10.(a) For material, does your firm have a single-person or a multi-person buying centre?

YES NO (Tick as appropriate)

Single-person [] []

Multi-person [] []

(If a single-person buying centre exists, go to Q. 14(a), otherwise proceed with Q 10(b).

- (b) Are the following departments represented in the existing multi-person buying centre?

	YES	NO	(Tick as appropriate)
Top management	[]	[]	
Finance/Accounting	[]	[]	
Personnel	[]	[]	
Purchasing	[]	[]	
Manufacturing/			
production	[]	[]	
Marketing/Sales	[]	[]	
Engineering	[]	[]	

Specify any other department that is represented in the buying centre not mentioned above.

11. For the departments mentioned in Q. 2(b), can you rank them in terms of their relative influence that each has in making the purchase decision by ticking the most appropriate position (score) below.

	Most influence			Least influence		
	7	6	5	4	3	2 1
To management	[]	[]	[]	[]	[]	[]

13. Finance/Accounting [] [] [] [] [] [] [] [] [] [] [] []
 Personnel [] [] [] [] [] [] [] [] [] [] [] []
 Purchasing [] [] [] [] [] [] [] [] [] [] [] []
 Manufacturing/
 Production [] [] [] [] [] [] [] [] [] [] [] []
 Marketing/Sales [] [] [] [] [] [] [] [] [] [] [] []
 Engineering [] [] [] [] [] [] [] [] [] [] [] []

12. Are the following criteria used in determining the influence each department will have in making the purchase decision or for materials?

	YES	NO	(Tick as appropriate)
Availability	[]	[]	
Durability (life-span)	[]	[]	
Monetary value (cost)	[]	[]	
Amount/quantity (size)	[]	[]	
Technical complexity	[]	[]	
Function of the item	[]	[]	
Frequency of purchase	[]	[]	

Specify any other criteria used.

13. For each department below, please indicate the criteria (in order of importance) they consider in influencing the purchase decision.

YES NO (Tick as appropriate)

Top management

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Finance/Accounting

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Personnel

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Purchasing

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Manufacturing/

Production

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Marketing/Sales

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

Engineering

1. ☐ ☐
2. ☐ ☐
3. ☐ ☐

14.(a) For supplies, does your firm have a single-person or a multi-person buying centre?

	YES	NO	(Tick as appropriate)
Single-person	[]	[]	
Multi-person	[]	[]	

(If a single-person buying centre exists, go to Q. 18, otherwise proceed with Q. 14(b).

(b) Are the following departments represented in the existing multi-person buying centre?

	YES	NO	(Tick as appropriate)
Top management	[]	[]	
Finance/Accounting	[]	[]	
Personnel	[]	[]	
Purchasing	[]	[]	
Manufacturing/			
Production	[]	[]	
Marketing/Sales	[]	[]	
Engineering	[]	[]	

Specify any other department that is represented in the buying centre not mentioned above.

15. For the departments mentioned above in Q. 14(b), can you rank them in terms of their relative influence that each has in making the purchase decision by ticking the most appropriate position (score) below.

	Most influence				Least influence			
	7	6	5	4	3	2	1	
Top management	[]	[]	[]	[]	[]	[]	[]	
Durability (life-span)	[]	[]	[]	[]	[]	[]	[]	
Monetary value (cost)	[]	[]	[]	[]	[]	[]	[]	
Amount/Quantity (size)	[]	[]	[]	[]	[]	[]	[]	
Technical complexity	[]	[]	[]	[]	[]	[]	[]	
Function of the item	[]	[]	[]	[]	[]	[]	[]	
Frequency of purchase	[]	[]	[]	[]	[]	[]	[]	

16. Are the following criteria used in determining the influence each department will have in making the purchase decision for supplies?

	YES	NO	(Tick as appropriate)
Availability	[]	[]	
Durability (life-span)	[]	[]	
Monetary value (cost)	[]	[]	
Amount/quantity (size)	[]	[]	
Technical complexity	[]	[]	
Function of the item	[]	[]	
Frequency of purchase	[]	[]	

Specify any other criteria used.

17. For each department below, please indicate the criteria (in order of importance) they consider in influencing the purchase decision for supplies.

Top management

1.

2.

3.

Finance/Accounting

1.

2.

3.

Personnel

1.

2.

3.

Purchasing

1.

2.

3.

Manufacturing/
Production

1.

2.

3.

Marketing/Sales

1. _____

2. _____

3. _____

Engineering

1. _____

2. _____

3. _____

18. Please fill in the following details about your company.

Total assets (Shillings)-----

Number of employees-----

Number of branches in Kenya-----

Percentage of local ownership-----

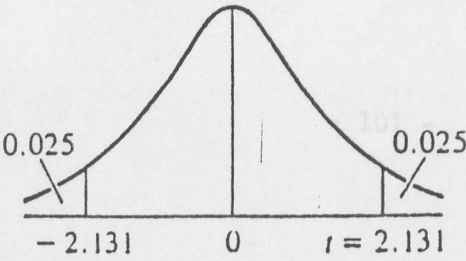
Percentage of foreign ownership-----

Industry in which your firm is in-----

Title/position of respondent-----

THANK YOU VERY MUCH FOR YOUR COOPERATION

TABLE A-6
Student's *t* Distribution



Example For 15 degrees of freedom, the *t* value that corresponds to an area of 0.05 in both tails combined is 2.131.

Degrees of Freedom	Area in Both Tails Combined			
	0.10	0.05	0.02	0.01
1	6.314	12.706	31.821	63.657
2	2.920	4.303	6.965	9.925
3	2.353	3.182	4.541	5.841
4	2.132	2.776	3.747	4.604
5	2.015	2.571	3.365	4.032
6	1.943	2.447	3.143	3.707
7	1.895	2.365	2.998	3.499
8	1.860	2.306	2.896	3.355
9	1.833	2.262	2.821	3.250
10	1.812	2.228	2.764	3.169
11	1.796	2.201	2.718	3.106
12	1.782	2.179	2.681	3.055
13	1.771	2.160	2.650	3.012
14	1.761	2.145	2.624	2.977
15	1.753	2.131	2.602	2.947
16	1.746	2.120	2.583	2.921
17	1.740	2.110	2.567	2.898
18	1.734	2.101	2.552	2.878
19	1.729	2.093	2.539	2.861
20	1.725	2.086	2.528	2.845
21	1.721	2.080	2.518	2.831
22	1.717	2.074	2.508	2.819
23	1.714	2.069	2.500	2.807
24	1.711	2.064	2.493	2.797
25	1.708	2.060	2.485	2.787
26	1.706	2.056	2.479	2.779
27	1.703	2.052	2.473	2.771
28	1.701	2.048	2.467	2.763
29	1.699	2.045	2.462	2.756
30	1.697	2.042	2.457	2.750
40	1.684	2.021	2.423	2.704
60	1.671	2.000	2.390	2.660
120	1.658	1.980	2.358	2.617
Normal Distribution	1.645	1.960	2.326	2.576

Source: From Table III of Fisher and Yates: *Statistical Tables for Biological, Agricultural and Medical Research*, published by Longman Group, Ltd., London (previously published by Oliver and Boyd, Ltd., Edinburgh), and by permission of the authors and publishers.

NOTES ON APPENDIX C1, 2, 3, 4.

The total scores given in these tables were arrived at by summing up the scores given by the respondents for each department in all the firms included in the sample. Since the sample consisted of 36 firms, then the mean score was arrived at by dividing the total score by 36.

APPENDIX C1

SCORES ON INFLUENCE FOR CAPITAL ITEMS

	Total Scores	Mean Score
Top Management	238	6.61
Finance/Accounting	217	6.02
Personnel	43	1.19
Purchasing	144	4.0
Manufacturing/Production	190	5.27
Marketing/Sales	58	1.61
Engineering	228	6.33

APPENDIX C2

SCORES ON INFLUENCE FOR COMPONENT PARTS

	Total Scores	Mean Score
Top management	233	6.47
Finance/Accounting	216	6.0
Personnel	7	0.19
Purchasing	156	4.33
Manufacturing/Production	189	5.25
Marketing/Sales	9	0.25
Engineering	238	6.61

APPENDIX C3

SCORES ON INFLUENCE FOR MATERIALS

	Total Scores	Mean Score
Top Management	127	3.52
Finance/Accounting	156	4.33
Personnel	15	0.416
Purchasing	217	6.02
Manufacturing/Production	191	5.30
Marketing/Sales	169	4.69
Engineering	91	2.52

APPENDIX C4

SCORES ON INFLUENCE FOR SUPPLIES

	Total scores	Mean Score
Top management	27	0.75
Finance/Accounting	54	1.5
Personnel	36	1.0
Purchasing	214	5.95
Manufacturing/Production	39	1.08
Marketing/Sales	37	1.02
Engineering	38	1.05