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AN EMPIRICAL INVESTIGATION OF THE RELATIONSHIP BETWEEN PERCEIVED RISK AND THE VARYING PATTERNS OF BRAND PORTRAYAL

BY

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C O N T E N T S

C H A P T E R   T H R E E

THE RESEARCH HYPOTHESES

C H A P T E R   F O U R

EXPLORATORY RESEARCH

C H A P T E R   S E V E N

TEST OF THE HYPOTHESES

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D E C L A R A T I O N

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ABSTRACT

Today, branding is recognised as a key marketing tool and brands, in turn, are recognised as key components of business capital. By adding to recognition, it is claimed that branding reduces the buyer's perception of risk and makes products easier to accept. This alone justifies research that seeks to integrate thinking between branding and buyer risk perception. Where this research strives to move forward, however, is through the recognition that different buyers may perceive different profiles of risk - especially along a 'hard - soft' continuum - and, therefore look for different cues in brand portrayal. This has important implications for brand management.

The research concentrated on organisational buying in the broad sector of IT equipment purchases. It set out to investigate empirically the reactions of organisational buyers to different brand cues, according to their varying risk perspectives. It was carried out through an intensive mail survey of all firms in the six largest States of the Brazilian Federation operating in two key business sectors - Pharmaceuicals and Clothing. This survey - which achieved a high response rate - was preceded by extensive semi-structured interviewing to identify key variables and to develop a questionnaire instrument.

Within a cognitive psychology paradigm, seven hypotheses were advanced. Summarising these, the study first shows that buyers perceiving high risk tend to show closer self-congruence in relation to their preferred brand than do buyers perceiving low risk. This seems to justify arguments for branding as a marketing strategy. More importantly, buyers who perceived high levels of psychosocial ('soft') risk tended to place higher value on emotional (equally 'soft') brand images than did those who perceived lower psychosocial risk. On the other hand, buyers perceiving high economic ('hard') risk tended to value higher functional brand-images. What may be less obvious is that buyers across the whole risk spectrum show a clear tendency to value emotional brand image while only buyers who perceive high levels of economic risk are especially responsive to functional brand image.

When testing for demographic differences, psychosocial risk perception was found to be influenced by the amount of experience the buyer has but the same can not be said about economic risk perception. The company's size was found to influence psychosocial risk perception and not economic risk perception.

Conclusions and recommendations are discussed. They include: as self-congruence seems to influence the final choice decision, marketers should try to understand their target market in terms of level and type of risk perception and demographics. Different buyers, with varying perceptions of risk, do seem to react differently to varying brand portrayal. This could be a valuable planning tool. The key question remaining is how these different segments of risk perceivers can be recognised efficiently in a marketing or sales.

CHAPTER ONE

Overview of the Research

Brand is not the producer's, but the buyer's idea of a product.

A.E. PITCHER

It is inconceivable that the consumer can consider more than a few of the possible consequences of his actions, and it is seldom that he can anticipate even these few consequences with a high degree of certainty.

RAYMOND A. BAUER

1.1. - Introduction

Over the last decade organisations have become much more aware of the importance of brands. This enthusiasm for brands is not only the privilege of managers directly involved in marketing activity. In recent years, many financial managers have developed a fervent interest in brands, having seen the advantage (*e.g.*, enhanced share prices for power brand companies) of their inclusion in the balance sheet of the organisation (Ambler, 1997;

Mather and Peasnell, 1991). This is sure to quite dramatically change the attention that has been given to the branding and the brand management process.

Until late 1980's, managers generally failed to recognise that brands were potentially valuable assets. This was probably due to misunderstanding of the brand concept and the incapacity of managers to recognise brands as the invisible assets of corporations (Murphy, 1992). Managers are now awakening to the importance of brands, and beginning to question the branding and brand management process. They aim to verify that resources are being effectively employed to achieve maximum performance from their brands. However, broad issues remain to be studied (*i.e.*, factors affecting purchase), and without a clear appreciation of these factors the whole branding and brand management process could be left functioning in a less than effective manner.

Pitcher (1985) postulates that if the process by which buyers choose brands for consideration can be understood, then brand managers' chances of success may be increased. It is known that the purchasing process is complex, especially at the business level, and that many factors affect it. One of these is the risk perceived by buyers selecting a brand. According to de Chernatony and McDonald, (1992) successful brand managers should demonstrate an understanding of the buyer's risk perception. This understanding should be followed by the development and presentation of a brand in such a way that minimises this perceived risk. There is further evidence that confusion exists amongst managers concerning brand assets (Aaker, 1991) and especially with regards to how

these can be strategically manipulated to reduce risk perception.

This study links work on branding and risk perception to an organisational buying context. The literature review conducted in the initial stages of the study offered evidence that brands play a major role in the purchase of industrial products. From the literature, it was also possible to identify a list of factors which affect buyers' perception of risk. A conceptual framework for this study was developed based on the literature review and qualitative interviews which were conducted with buyers. This framework was then used to identify buyers' risk perception at the brand level. The IT market was targeted because it consists of brands that have high risks attached.

This chapter sets out to briefly explain the research background in terms of the theories being used to generate the hypotheses. It also presents the objectives of the research, identifies the research questions, explains the context of the research, justifies the reason for undertaking such a study, discusses the contributions this study brings to knowledge, and describes how the thesis is organised.

1.2. - Background of the research

This study is grounded in two well-researched areas of buyer behaviour. These are:

<u>Perceived risk</u> – Risk-taking theory suggests that most buyers make the decision to buy while experiencing some degree of uncertainty about the consequences of a given choice (Bauer, 1960; Cox, 1967a). Generally, the buyer cannot change the consequences of a wrong decision. He or she can, however, avoid an alternative considered risky.

Since the concept of perceived risk was introduced into consumer research by Bauer (1960), many marketing researchers (*e.g.,* Hawes and Barnhouse, 1987; Henthorne *et al.,* 1993; Perry and Hamm, 1969) have grappled with the concept that decision-making in buying should be regarded as a process where buyers seek to minimise their purchase risk. The rationale behind this idea is that buyers feel more comfortable with choices they perceive to be less risk prone.

In order to reduce buying uncertainty buyers commonly employ methods such as: searching for information and buying in small quantities. However, as evidenced by some research (*e.g.,* Ambler, 1997; Roselius, 1971), one of the most popular methods employed by buyers to reduce their perception of risk is to put their <u>trust in respected brands</u>.

Within this overall pattern, research indicates that individuals show varying patterns of risk perception. Some, for example, focus on 'hard' risk factors – task performance, financial or time risks. Others are more inclined to focus on 'soft' risk factors, such as peer acceptance or their own comfort level with the decision they have made. Suggestions have been made (Mitchell, 1991) that these patterns vary with individual and

corporate characteristics and with the level of perceived risk attached to the decision (Newall, 1977).

Branding - Ambler (1997) recognises that brands provide insurance satisfaction to buyers in that they can rely on the brand's consistency and quality assurance standards. His assertion is based on the rationale that buyers are prepared to pay premium prices to avoid uncertain outcomes. There is substantial literature in support of this idea (*e.g.*, Beatty and Smith, 1987; Cox, 1967a; Derbaix, 1983; Dowling and Staelin, 1994; Locander and Hermann, 1979; Shimp and Bearden, 1982; Taylor, 1974). Faulty or inappropriate equipment not only fails to provide satisfaction but also involves a series of embarrassing consequences such as time-consuming visits to the original retailer to rectify the situation.

In short, according to Ambler (1997), brand owners invest in brand recognition and reputation in order to maximise security in purchasing. Experience and familiarity with a brand result in lower information costs for each buying transaction, and lower perceived risk. Thus, brand owners should seek to maintain ongoing brand-buyer relationships in order to emphasise security and lower information costs.

Self-concept theory suggests that brand-buyer relationships are based on a congruence of value systems (Sirgy, 1979; 1982). Marketers can establish congruence between the values demanded by the buyer and those transmitted by the brand (Aaker, 1996) by accentuating different features of their brands - these can be

described in broad terms as 'functional' or 'emotional' features (de Chernatony, 1993; Kapferer, 1992; Lannon and Cooper, 1983). Because buyers tend to favour brands most closely associated with their own set of values, the potential benefit of establishing a close relationship between brand portrayal and buyer values is large.

1.2.1. - Scope of the study

According to literature, there are many relevant factors which can help explain the variations in risk perception. The identification and understanding of factors operating in the organisational buying process are especially important to those marketers who wish to succeed with their brands. The handling of such information can allow them to develop brand strategies which emphasise their brand's capabilities. Such strategies should be compatible with the risk component(s) most valued by their customers. The objective of such action is to use the assets underpinning a brand in such a way as to reduce the organisational buyer's risk perception.

Given that many factors contribute to risk perception, the initial aim of this study was to narrow the scope of the research. This was necessary in order to give adequate depth to this study. With this in mind, this research was undertaken with the following objectives in mind:

Main Objective - **Identify organisational buyers' response to different brand cues when faced with various risk perspectives.**

Other Objectives:

1. Examine and adjust to the context perceived risk construct and measurement.

2. Examine and adjust to the context brand concept and measurement.

3. Verify associations between perceived risk and brand preference.

4. Verify associations between perceived risk and brand value proposition.

5. Verify the possibility of using demographic variables for the purpose of risk segmentation.

The present study was conceptualised from the standpoint of buyer experience (*i.e.*, age, level of education, number of years in the same job and in a similar position) and company size (*i.e.*, number of employees and turnover), and addressed how these variables influence perceived risk. We expected to elucidate the relationship between the manner in which brand elements can be presented in order to decrease the buyer risk perception, and therefore encourage buying of particular brands.

This study seeks to integrate these two research areas by investigating the possibility that:

A vendor might use different branding 'cues' to appeal to buyers with varying patterns of perceived risk.

Obviously, individuals exhibit unique profiles of perceived risk, and are thus responsive to different brand cues.

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Principal research question:

The central research question underlying this research is as follows:

Are buyers with varying patterns of risk perception (especially 'hard' vs. 'soft' risks) **affected differentially by varying patterns of brand portrayal** (especially functional vs. emotional characteristics)**?**

Other questions for which answers were sought by this research were:

1. **Do organisational buyers vary in terms of the patterns of risk they perceive when making a purchase decision?**

2. **Can such variations be predicted from the level of risk perceived by the individual?**

3. **Are such variations predictable from characteristics of the individuals involved and/or the companies for which they work?**

4. **Can suppliers, by accentuating different facets of a brand, appeal differentially to purchasers with different patterns of perceived risk?**

This research is essentially exploratory - adding to understanding - rather than prescriptive. This study is more likely to open up new avenues of exploration than to

provide definitive answers. Nevertheless, by increasing knowledge about buyers' varying patterns of risk perception and consequently the varying patterns of brand portrayal, marketers should be able to consider how resources could best be used to support their brands. Consequently, this could represent a powerful brand-planning tool.

1.2.2. - Context of the research

The revolution of information technology (IT) has been both quick and brutal. For example, from a standing start in the early 1980s, according to a survey published by The Economist (1994), the sales of new personal computers or simply PCs has reached the mark of around 50 million a year world-wide. This is a market that is now worth £50 billion annually. These numbers compare with the sales of 35 million passenger cars last year, and of 100 million colour TV sets world-wide, show how impressive and fast growing is this market. If the market for IT equipment continues to grow at the current rate, by the end of the decade its global market potential could be of 700 million.

IT brands have become central to the working of the majority of organisations. The importance of IT equipment as productivity tools has led many businesses to consider the acquisition and use of its services (Acton, 1983). Nevertheless, the need for IT products must be carefully balanced due to the risks associated with its purchase (Senn and Gibson, 1981; Wilson, 1983). Risk is present in

any buying situation, particularly when there is choice available between alternative market offerings, and uncertainty exists regarding the consequences of a given selection (*i.e.,* brands). Buyers commonly use different courses of action in order to reduce buying uncertainty (Newall, 1977; Mitchell, 1990; Roselius, 1971; Wind, 1970).

In competitive markets, it is expected that most businesses face the IT acquisition question on a regular basis (Raddon, 1982). This perspective is increasingly real and enhances the market potential for IT sales (Archbold, 1984). In order to compete effectively in such a dynamic and growing market, it is essential to understand not only how organisational buyers' proceed when facing the acquisition question, but also what are the risks they perceive.

1.3. - Justification of the study

The review of the literature revealed a vast amount of published material on consumer perceived risk but little on perceived risk in organisational buying. Similarly, it found countless papers focused on the consumer branding area but again, very few interested in industrial branding. This research is justified in academic terms in that it seeks to take forward existing research in the separate fields of risk perception and branding and moves them into a new integrative field. The addition of this type of study to perceived risk

literature is alone a significant reason for interest in this area of research.

Another justification for this research is on the theoretical level. The empirical testing of perceived risk as a moderator of the relationship between self-concept and brand-image (*i.e.*, self-congruity) and as a predictor of brand preference is innovative. Sirgy (1982) has suggested that perceived risk modifies self-congruity in a situation-specific manner. However, in his extensive and critical review of self-concept in consumer behaviour, he could find no empirical evidence which support his idea.

In addition to the theoretical justifications for the research, there is a practical reason for it as well. One of the most difficult marketing activities is the identification of market segments (McDonald and Dunbar, 1995). These research findings should, therefore, be of interest to manufacturers since it provides information which should enable brand managers to develop more effective brand strategies, while helping to identify unique market segments.

Besides these major reasons for undertaking this research, three more minor considerations influenced the researcher to pursue this project. The first is that it is a well accepted fact that perceived risk theory is a good predictor of consumer behaviour when the buying decision involves risk. In the case of this research, the buying of IT brands is considered to be a high-risk decision for reasons which will be discussed in detail in the next chapter (Senn and Gibson, 1981; Wilson, 1983). This discussion will explain why perceived risk theory

contributes with an adequate theoretical framework for an analysis of IT brand buying.

Second, international markets demand internationally valid behavioural concepts. Perceived risk theory has been validated many times. However, after an extensive review of the available literature, it was possible to verify that most of the published material on perceived risk originates in the United States of America. Very few non-American based studies were conducted until the late 1980s when mainly one British researcher (_i.e.,_ Vincent-Wayne Mitchell) and his associates revived the topic in this country. Moreover, until the present date no study of this sort has been conducted with Latin America, and more specifically Brazil, as a research setting. Hence, it can be argued that there is a need for perceived risk research focuses on non-American settings.

A final justification for undertaking this research lies in the personal interest of the researcher. While this is not an essential reason for undertaking such extensive research; personal interest serves as a motivational factor.

1.4. - Contributions of the study

The research findings will make contributions in academic and managerial areas. The main contribution will be to the knowledge of organisational buying behaviour, by providing empirical evidence strengthening the acceptance of perceived risk as a model which explains buyer

behaviour. Other areas of benefit are self-concept and branding. Hypothesis 1 sets out to test the relationship between self-congruence and risk perception in a novel manner. Hypotheses 2 and 3 explore the major dimensions of risk and brand identity in an integrated fashion, once again, this is a subject which has not been investigated previously.

Another contribution offered by this study is that it tests both perceived risk and brand-image scales for reliability and validity. Perceived risk is a topic that has not received the attention it deserves. Some studies (_e.g.,_ Lumpkin and Massy, 1983; Mitchell, 1991) have presented versions of reliability and validity tests for perceived risk scales. However, these involved different audiences to this one. In the brand-image area, other researchers (_e.g.,_ Malhotra, 1981; Sirgy, 1979) have reported reliability and validity tests for brand-image scales. While this is the case, since most brand-image study derives its variables from qualitative interviews, each result in different patterns.

Such a new field can offer no absolute guarantee that immediate managerial benefit will result from the information accumulated. Benefit is evident in terms of the guidance this study offers in terms of approaches to brand differentiation in audiences with varying perceived risk profiles. A clearer understanding of the patterns of risk perception and customer perception of brands should allow marketing managers to better evaluate buyer behaviour and ensure sound branding decisions.

The final element of contribution of this study comes in the form of a critical review of previous work, and through suggestions of possible areas for further research.

1.5. - Limitations of the study

Every study, by nature of the research process, has certain limitations. The present study is no exception. The application of the research findings should be considered keeping certain limitations in mind. They are:

1. The results of this research should not be generalised beyond the two industries in question without further thought. Despite the efforts taken in selecting these industries only after a thorough analysis of their performance, questions arise as to how applicable the results are to other industries. The two industries selected suggest the results they generated can be generalised because they are essentially different from each other from a technological standpoint. Nevertheless, in an industrial park as diverse as the Brazilian, the selection of even ten industries would still be a constraint to the issue of generalisability. Thus, due to the impossibility of assessing all industries or even a majority of them, a selection criterion had to be employed. Some critics might suggest the selection of only two industries to be a limitation of the study however, it was felt this decision was justifiable because of the time, cost, and management constraints which would have resulted from broadening the coverage.

2. The sizes of the organisations being consulted (*i.e.*, only medium and large enterprises) may represent a bias. The reason behind such a selection was the fact that small and micro firms might not have been able to provide appropriate informants. We were looking for people already involved in IT buying. Many smaller firms have not yet faced the IT revolution or if they have, employ only primitive organisational structures to handle this issue.

3. The selection of one informant per firm might be criticised as a limitation to any business-to-business study which involves buying activities. However there were two main reasons resulting in this situation. First, according to Moriarty and Bateson (1982), buying groups (*i.e.*, D.M.U.) can vary from one person to twenty or more. However, these authors also report findings from a study employing an extensive snowballing technique, that only 49.84% of the population returned more than <u>one</u> questionnaire per firm. Thus, with no guarantee of full DMU participation, it seemed better to approach and follow up only one person per DMU. There where also purely statistical reasons for this decision. To make a determination as to which individuals should be considered relevant and approached, an extensive snowballing procedure aimed at scanning all possible decision-makers was undertaken. After identifying the entire population, a random selection of one individual was made. This was done in order to satisfy statistical strictness regarding the characteristics of the data required to test the proposed hypotheses in this study, that are couched in terms of co-variances.

4. Another limitation of the study is that it is not longitudinal in form. The survey data was collected over a period of four months. In other words, the survey was essentially carried out at 'one-point-in-time'. Thus, the research findings can only be considered to be valid among the survey respondents at the time of the survey (*i.e.*, the year of 1996). There is no way to tell how the amount and types of risk perceived and brand-images perception will change over time unless additional research is conducted at a later point in time.

5. A final limitation that should be recognised is that even though the usable response rate in this study was of 44.8% what is a reasonably good response considering the nature of the research, there is no way of knowing if a major player did not reply. Numbering the questionnaires was designed to overcome this difficulty and identify all the respondents, but some did not wish to be known and damaged the numbering sequence in their questionnaire. There is no way of knowing if that reply came from a major or a minor participant. Fortunately this was the exception rather than the rule. However, we feel that it is important to report this occurrence anyway.

1.6. - Organisation of the thesis

The organisation of this thesis follows traditional guidelines beginning with a review of relevant literature. This is followed by the research hypotheses, and then the exploratory research and methodological issues follow. The

results of all preliminary tests and the test of the hypotheses are next presented. Finally, conclusions of the overall research study are presented including managerial implications, and further research is recommended.

Chapter Two is dedicated to presenting a comprehensive literature review of the topic under consideration. A careful cognitive consumer structure is used. The literature review begins with a description of perceptual processes and moves on to a discussion of perception and consumer behaviour. Buyers' self-perception is then presented, followed by perceived risk. Next in sequence comes product and brand perception where brand-images and brand identity are discussed. The chapter closes with a description of the IT buying process.

Chapter Three is dedicated to the development of the conceptual framework. Seven hypotheses are developed and discussed. This discussion begins by proposing that a relationship exists between perceived risk level and brand preference. The tiers in this relationship are strengthened by working towards a more intimate association between brand value proposition and perception of risk, and are finalised by suggesting several demographic associations with perceived risk as means of segmentation.

Chapter Four concentrates upon the exploratory research: it's procedure and results. The chapter is divided into two sections dealing respectively with the literature search and interviews with experts. The first section discusses the methodology used in the literature

search. In the latter section, the methodology employed and results of the interviews with experts are discussed.

Chapter Five outlines the methodology used in this research. It states how the study was done, providing enough information to permit replication. This chapter begins by discussing the research design, moves on to describe the subjects under investigation, explains how the constructs were measured and details data analysis procedures. Conclusions are drawn at the end of the chapter.

Chapter Six aims to present the results and discus the pertinence of the findings antecedent to the test of the hypotheses. This chapter begins with a presentation of responses received from the mailed questionnaire. This is followed by an explanation of the tests employed to verify reliability and validity of perceived risk and brand concepts. The description of demographic characteristics of respondent firms and individuals are presented and discussed.

A conceptual framework which would result in a better understanding of risk perception and the varying patterns of brand portrayal is proposed in Chapter Three. Chapter Seven considers the experimental results for each of the seven research hypotheses.

Chapter Eight presents the conclusions of the empirical study and introduces potential managerial implications. Having learned how the audience perceives the various brands and the risks associated with their acquisition, we speculate on what differentiates different

brand concepts and how they can be refined to come closer to buyers with varying patterns of perceived risk. Recommendations for further research are also proposed in this chapter.

C H A P T E R   T W O

Review of
The Literature

A brand that captures your mind gains behaviour.
A brand that captures your heart gains commitment.

SCOTT TALGO

2.1. - Introduction

This chapter is concerned with understanding the organisational buyer's brand perceptions and how it relates with perception of risk. In order to do so, we must understand the buyer's perceptual process and how it may influence buying decision-making. This chapter elaborates on some procedures involved as means by which buyers receive and process the information with which they are daily bombarded, and form judgements by way of attitudes and behaviours that may manifest later in the marketplace.

This chapter explores how perception is considered as a mental impression of any given stimulus. In marketing perspective, stimuli are any physical, visual, or verbal communication that can influence an individual's response. A brand and its components are primary stimuli. Communications designed to influence buyer behaviour are secondary stimuli that represent the brand either through words, pictures, and symbolism or trough other stimuli associated with the brand (*e.g.,* price, store in which purchased). According to Assael (1992), the key requirement in communicating secondary stimuli is the development of an efficient brand concept. The brand concept being the bundle of benefits (Davidson, 1987; Levitt, 1983) that can be directed by the needs of a defined group of buyers through messages, symbolism, and imagery.

Brands are not usually purchased simply for their functional values but also, sometimes primarily, for the psychosocial meanings they convey (Foxall, 1980; Randall, 1997). For example, cars are seldom chosen for transportation purposes value alone but because they confer certain images on their owners. These images reflect the buyer's self-image and attitudes, as well as his or her more obvious characteristics (*i.e.,* demographic characteristics). Thus, the marketer needs to be aware of the perceptions of his or her customers and even potential customers have of themselves, their social worlds and the brands available to them.

The perception that a purchase might be risky is actually an outcome of information processing that could lead the buyer to acquire additional information (Locander

and Hermann, 1979). When a product category is still relatively new for many buyers, as is the case of network servers, they have little experience with alternatives. Moreover, the product is technologically complex, making evaluation more difficult. As a result, buyer confidence in selecting one brand over another is low. Furthermore, substantial variations between brands and incompatible systems heighten risk perception (Assael, 1992).

In an attempt to understand the organisational buyer's brand perceptions and how it relates with perception of risk, a review of the literature was done. The review begins investigating what is perception and how it relates to buying decision-making. The review continues with a discussion on self-perception and perceived risk. Another point covered is product and brand perceptions. The review is finalised with an explanation of the organisational brand buying process, more specifically the process of acquisition of IT brands.

2.2. - The concept of perception

As with so many of the terms encountered in the behavioural sciences, perception is used rather vaguely in every day discourse but must be understood more precisely if it is to be useful in explaining aspects of human behaviour. The individual's response to a product stimulus is, in the most basic sense, affected by the way he or she perceives the stimulus object. Robertson (1970) views perception as what the individual sees within a perceptual field - his or her mental impression of a stimulus object.

Engel *et al.* (1990) understands perception to mean the process whereby stimuli are received and interpreted by the individual and translated into a response.

Walters (1974) refers to perception as the entire process by which an individual becomes aware of his environment and interprets it so that it will fit into his own frame of reference. A more comprehensive statement about perception was made by Bruner (1957) that described perception as the construction of a set of organised categories in terms of which stimulus inputs may be sorted, given identity, and given more elaborated, connotative meaning. Harrell (1986) understands perception to mean the process of recognising, selecting, organising, and interpreting stimuli in order to make sense of the world around us. Harrell's exposition benefits in comparison to the others because it stresses the selective and the organisational nature of perception. These statements are all helpful when one is trying to appreciate the importance of perception for marketing management.

A traditional approach towards an understanding of perception is based on four principles (Bettman and Park, 1980; Hoch and Deighton, 1989; Robertson, 1970; Wackman, 1973; Warr and Knapper, 1968). First, perception is selective. An individual cannot possibly perceive all stimulus objects within his or her perceptual field; therefore he or she perceives selectively. Second, perception is organised. Perceptions have meaning for the individual; they do not represent an anarchic confusion. Third, perception depends upon stimulus factors. The stimulus is the object to be perceived and the factors

that encourage perception include contrast, intensity, frequency, and movement. Fourth, perception depends upon personal factors. What the individual brings to the situation governs perception - his or her ability to see or hear the message, his or her needs, moods, memory, experiences, and values - all these can affect perception. Personal factors that encourage perception include the individual's self-concept, needs, span of apprehension, mental set, and past experiences.

To investigate how a buyer interprets objects (*i.e.*, brands) it is necessary to examine the perceptual process (Onkvisit and Shaw, 1994). This social-psychological process involves cue selection and interpretation, and the combination of such cues to form a total impression. Warr and Knapper (1968) developed a comprehensive model of perception where the whole perceptual process basically involves six components. They are 1) stimulus, 2) input selector, 3) processing centre, 4) buyer's current state, 5) buyer's stable characteristics, and 6) response.

Stages 1, 2, 4, and 5 of Warr and Knapper's (1968) model resembles much of the traditional approach previously commented. Stage 3 represents the processing centre that is understood as a psychological process in which a perceiver combines the meanings of selected cues to form a total impression (Hoch and Deighton, 1989). According to Neisser (1976), the perceptual process is a cyclical model built around the idea of an individual's schema directing the search for information. Experience is said by him to modify the schema that in turn redirects information search. The other part of the model needing further discussion is that of response. According to

Onkvisit and Shaw (1994), a response is an external and overt behaviour (*e.g.,* a purchase). But in the context of perception, a response is considered to be internal and non-behavioural. The perceptual response consists of attribution, expectancy, and affection.

The attributive response is the kind of response that is concerned with the attribution of a certain personality characteristic or emotional state to a given stimulus. The expectancy response is the type of perceptual output that is related to the expectancies of a particular behaviour that should accompany certain demographic characteristics or emotional states. And last, the affective response is the type of response that focuses on the emotional responses to the stimulus object. Such affective responses include liking, sympathy, fear (*i.e.,* a consequence of risk perception), respect, disapproval, etc.

To overcome the problem of being bombarded by vast quantities of information and having limited mental capabilities to process it all, buyers adopt efficient processing rules. A classical paper by Miller (1956) exposes how buyers use high information value clues when choosing between brands, and aggregate small pieces of information into larger chunks. Nevertheless, this is an unconscious process. Buyers also rely upon their perceptual processes. According to de Chernatony and McDonald (1992), these processing rules help brand decision-making by filtering information and categorising competing brands.

It is clearly very important that marketers appreciate the role of perceptual processes when

developing a brand and it's communication strategies. Fundamental to understanding the role of buyer's perceptual processes in their purchase and consumption behaviours is the question of how buyers perceive themselves. Another important feature of buyer perceptions and their impact on decisions involves the amount of risk that consumers perceive to be present in the product purchase decision (Foxall and Goldsmith, 1994). After discussing these two subjects, we turn our attention to buyer's product and brand perceptions.

2.3. - Buyers' self-perceptions

Personality and purchase behaviour - An individual's personality can be represented as a set of hypothetical constructs relating to certain persistent qualities of his or her behaviour. This set of constructs can be used to describe buyer segments due to its capacity of identifying variables that reflect consistent and enduring patterns of behaviour (Gunter and Furnham, 1992; Kassarjian, 1971). Moreover, brands are assumed to have personality images, just as people do (Aaker, 1997; Alt and Griggs, 1988; Gordon and Restall, 1992; Plummer, 1985). Thus, in the context of buyer segmentation, it can be assumed that personality variables can be related to buying behaviour. Nevertheless, as will be shown further in this text, while many researchers produced evidence suggesting there is a relationship between an individual's personality and his or her brand preference, others continue to publish conflicting findings refuting this hypothesis.

When researchers' first began to study buyer behaviour, they turned to existing personality theories to explain buying motivations. The first of these theories to be used was Freud's psychoanalytic. However, these theories were actually developed to explain more personal and social disorders than buyer behaviour (Assael, 1992; Kassarjian, 1971). Moreover, much of the seminal work that helped create the impression that there is actually a positive relationship between personality and brand preference used clinical psychology personality inventories to provide operational measurements of behavioural dispositions. Other common limitation to some of these studies was the development and use of personality tests in academic contexts using student populations. According to Gunter and Furnham (1992), in neither circumstance there has been enough effort to merge personality measures with buyer behaviour and even less testing their effectiveness as predictor variables.

There are many different schools of thought relating personality to purchase behaviour, but only a few which have had the strongest impact on the study of buyer segmentation strategy. These are psychoanalytic theory (including motivational research), social-psychological theory, trait-factor theory, and self-concept theory. These four theories vary greatly in their approach to personality measurement. The measures used to describe markets depend mostly on the researchers' belief and feeling regarding the personality theory.

The psychoanalytical and social-psychological theories tend to be more qualitative in nature when evaluating personality variables. Trait-factor theory is

the most empirical of them all and self-concept theory has a balanced orientation between a qualitative and quantitative approach. It is not the intent of this text to provoke a discussion on which is the most adequate personality theory or which predicts best buying behaviour. What is here proposed is a close look at one of these theories; self-concept theory and how it relates to brand preference. This theory was chosen to be studied because, of all the personality concepts above mentioned this one has probably provided the most consistent results (Foxall, 1980), and consequently the greatest promise of application in marketing research.

2.3.1. - Self-concept theory and buying behaviour

Self-concept refers to the attitude individuals hold towards themselves (Solomon, 1996). Self-concept theory has been employed by several researchers to explain buyer behaviour (*e.g.*, Birdwell, 1968; Dolich, 1969; Leigh and Gabel, 1992; Malhotra, 1988; Onkvisit and Shaw, 1987; Sirgy *et al.*, 1991). This is based on the proposition that brands are more likely to be bought if they reflect, or enhance, the perception that buyers have of their self.

The richness of self-concept theory is that it reflects the way that a buyer's conception of their self is context dependent. For example, when buyers are deliberating between brands in a product field, they may consider the extent to which the brand matches the way they actually see themselves (actual self-concept), or the way they aspire to be (ideal self-concept), or even the

way they believe others think of and perceive them (social self-concept).

Besides these self-perspectives, Sirgy (1979) suggests that a combination of the ideal and social perspectives may exist, and if it does, it is most likely to plays an important role in human behaviour. Ideal-social self-concept might be referred to as how the individual would like to appear or be perceived by others (and particularly significant others). There is another perspective that was put forward by Schenk and Holman (1980), based on the symbolic interactionism school of thought, named situational self-concept and defined as the perception of others in a specific situation.

Despite the recognition of multiple constructs, self-concept has been conceptualised and treated by much of the investigators as having two major components – the actual and ideal self-concepts (*e.g.*, Dolich, 1969; Hong and Zinkhan, 1995; Landon, 1974; Ross, 1971; Schewe and Dillon, 1978). The main argument of several researchers to use the duo self-construct of actual and ideal self-concepts as representative of self-concept is the fact that all concepts have a close description what could lead to confusion and also to reduce the tedium of answering to five sets of scales as far as the respondents are concerned.

Self-concept theory posits that individuals have concepts of themselves based on who they think they are (actual self) and based on whom they would like to be (ideal self). The idea behind this theory is sustained firstly by the individuals desire to maintain self-

consistency (Leckey, 1969; Markus and Wurf, 1987; Sirgy, 1982). That is acting in accordance to his or her actual self-concept. Secondly he or she would be driven by the desire to enhance his or her self-esteem (Maslow, 1970). That would be to act more closely to his or her ideal self-concept.

The bigger the gap between actual and ideal self-concept; the smaller would be one's self-esteem. Marketers are interested in self-concept theory since it provides insight to some of the factors that influence consumers brand selection; it being argued that brands are bought when their images interact to the consumer's self-image generating a so-called self-image/brand-image congruity. Congruity between actual self-image and brand image has been referred to as actual congruity or simply self-congruity and between ideal self-image and brand image as ideal congruity.

When actual and ideal self-constructs are operationalised to be measured, questions are asked that describe the respondent against a set of personality attributes (*e.g.,* sociable - reclusive; fast - slow; masculine - feminine). This type of operationalisation is common to both constructs (*i.e.,* actual self and ideal self) and to brand image. What must be emphasised is that these dimensions must be questioned in terms of the same attributes. The discrepancy between actual self and ideal self can be understood as a measure of dissatisfaction (Gough *et al.,* 1983; Gunter and Furnham, 1992; Higgins, 1987). This measure can become a very rich piece of information for the marketer because it reveals not only the level of dissatisfaction but also on which attributes

this dissatisfaction was greater.

Self-concept is an important aspect of buyer research. As Malhotra (1988) has noted, self-concept has been used in consumer research mainly to examine consumer's product/brand/store perception; to explain product/brand/store preference; purchase intention and usage in terms of congruence of the product/brand/store's image and consumer's self-image. Many studies have generally supported the hypothesis that consumers prefer brands whose images are more congruent with their self-images (*e.g.*, Birdwell, 1968; Dolich, 1969; Grubb and Hupp, 1968; Ross, 1971).

Birdwell (1968) was one of the first researchers to empirically assess the self-congruence hypothesis. He tested the congruence between actual self and brand-images for different brands of automobiles and concluded that self-concept was significantly more congruent for the brand of automobile owned by the consumer. He also reported a stronger congruence between actual self and brand-image for luxury than for economy cars.

Dolich (1969) broadened Birdwell's (1968) study. He used a two-dimensional model of (*i.e.*, actual and ideal) self-congruity and four product fields, two of which he defined as being publicly consumed (beer and cigarettes) and two privately consumed (bar soap and toothpaste). Along with the self-congruence hypothesis, he compared congruence for an individual's most and least preferred brands as well as its consumption conspicuousness. He concluded that the congruity between the consumers' self-images and most preferred brands' image tended to be

greater than the congruity between consumers' self-concept and least preferred brands' image regardless of whether the brand is or is not conspicuously consumed across all product fields.

Ross (1971) examined another aspect of the actual and ideal self-congruity hypothesis and its relation with the conspicuousness of the product. Along with the self-congruence hypothesis, he also postulated that an individual's ideal self-concept would be more related to the brand-image for a conspicuously consumed item and that actual self-concept would be more related to the brand-image for an inconspicuously consumed item. In his study he focused on two product fields with six brands in each. Automobiles were considered to be conspicuously consumed and magazines inconspicuously consumed. He concluded that actual self-concept is more congruent with brand-image than ideal self-concept. However, he failed to find support for his second hypothesis that ideal self-concept should be more congruent with more conspicuously consumed brands.

On the other hand, some research found little support for the proposition that greater congruence between self-image and brand image is related to brand preference (*e.g.,* de Chernatony and de Mello, 1995; Green *et al.*, 1969; Hughes and Guerrero, 1971; Hughes and Neart, 1970; Malhotra, 1988; Schewe and Dillon, 1978; Shuptrine and Rumpel, 1981) as we will now consider some.

A recent study on self-congruence and brand preference was conducted by de Chernatony and de Mello (1995) seeking to replicate Ross's (1971) seminal work.

They designed a slightly different methodology in an attempt to correct some methodological weaknesses which were addressed by Ross. In this study the authors decided to broaden the conspicuousness scale, having cars to represent very conspicuously consumed, magazines as moderately conspicuously consumed and salt as a very inconspicuously consumed products.

The hypothesis that consumers prefer a brand whose image is more congruent with their self-concept was tested by the above mentioned authors for three product fields simultaneously and little support was found. In common with Ross, they found the second hypothesis to be partly confirmed. Actual self-concept was a better predictor of brand preference than ideal self-concept for conspicuously consumed products and for inconspicuously consumed product neither of the self-congruities functioned as predictors of brand preference.

Green *et al.* (1969) using the same argument to study self-concept and brand preference obtained results that conflicted with some previous mentioned researchers (*i.e.*, Birdwell, 1968; Dolich, 1969; Ross, 1971). The stimuli consisted of the names of eleven automobile models. Data was collected using questionnaires with a list of twelve semantic differential adjective pairs among graduate business students. Using multidimensional scaling techniques they concluded that brand preference is not positively related to image closeness (*i.e.*, self-image and brand image). They believe that even identifying considerable inter-subject differences in self-image, the presence of a dominant point of view insofar as automobile models are concerned may have influenced the results.

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Hughes and Guerrero (1971) subjecting to further analysis data from Hughes and Neart (1970) questioned whether self-congruity applies to automobile buying. Using a factor analytic procedure they concluded that in brand choices for products used publicly such as an automobile, the congruity model may be more influenced by a social rather than an actual self-image. They emphasised that the application of the congruity model to buying behaviour requires firstly the identification of the goals of congruity. These goals can be social when the product is conspicuously consumed. Secondly, the congruity model does not explain innovative, creative, or curious behaviour which seems to be a search for incongruity. According to them, this search may be the result of boredom with equilibrium, a desire to be different, or the adoption of new aspirations. For example, those early adopters of a new brand may find incongruity a challenge, while late adopters may find it a threat to their psychological equilibrium.

There are a variety of reasons for these differences. A weak conceptualisation of self-concept theory, poor methodology or even specific product factors is some of these reasons. As the work of Malhotra (1988) indicates, not all products are considered as being descriptive of self. Consequently, the strength of the relationship between preference and congruence with self may vary across product categories. Thus, the classification of products for which this relationship is likely to happen is paramount to avoid misapplication of the self-concept theory.

Green *et al.* (1969) have listed what they consider to be weakening the operationalisation of the congruity model and consequently leading researchers to several different results. They have pointed out four major problems that require special attention. These are *i)* equal weighting of semantic scales in computing Euclidean distances from stimuli to myself; *ii)* alternative preference formulations, including vector models; *iii)* relationship of image congruity (or lack of it) to respondent personality characteristics; and *iv)* relationships of alternative formulations of self (actual, ideal, and so on). The review of the literature suggested conflicting finding about consumers having perceptions of their self-concepts from which predictions about brand preferences could be made.

2.3.2. - Self-image/product-image congruity theory

In many moments Sirgy (1982; 1983; 1984) introduced a self-image/product-image congruity theory. This theory is based on social cognition theory and advances the notion that every self-image has a value association that determines the degree on positive or negative affect felt when the particular self-image is activated. This value component associated with a particular self-image replaces the traditional constructs of ideal self, ideal-social self, etc. Correspondingly, every product image also has a value component reflective of the affective intensity associated with the attribute.

Sirgy's (1982; 1983; 1984) theory asserts that a

specific value-laden self-image interacts with a corresponding value-laden product-image and the result occurs in the form of:

- Positive self-congruity - comparison between a positive product-image perception and a positive self-image belief;

- Positive self-incongruity - comparison between a positive product-image perception and a negative self-image belief;

- Negative self-congruity - comparison between a negative product-image perception and a negative self-image belief;

- Negative self-incongruity - comparison between a negative product-image perception and a positive self-image belief.

Based on self-esteem need dynamics, Sirgy's (1982; 1983; 1984) theory predicts that an individual would experience more approach motivation towards a particular product given a positive self-congruity than a positive self-incongruity condition. In contrast more avoidance motivation would be felt towards the product under negative self-incongruity than negative self-congruity conditions. (see Figure 2.1).

Self-Image	Product -Image	Self-image/ product-image congruity	Approach/ avoidance self-esteem motivation	Approach/ avoidance self-consistency motivation	Approach/ avoidance purchase motivation
Positive	Positive	Positive self-congruity	Approach self-esteem motivation	Approach self-consistency motivation	Approach purchase motivation
Negative	Positive	Positive self-incongruity	Approach self-esteem motivation	Avoidance self-consistency motivation	conflict
Negative	Negative	Negative self-congruity	Avoidance self-esteem motivation	Approach self-consistency motivation	conflict
Positive	Negative	Negative self-incongruity	Avoidance self-esteem motivation	Avoidance self-consistency motivation	Avoidance purchase motivation

Figure 2.1. - The Effects of Self-Esteem and Self-Consistency on Purchase Motivation. (Source: Sirgy, 1983, p.166).

According to Sirgy (1985) the constructs of actual self-congruity and ideal congruity interact affecting preference. The interrelationship between these two constructs can result in four different conditions. They are: high actual self-congruity (HAC)/high ideal congruity (HIC), high actual self-congruity (HAC)/low ideal congruity (LIC), low actual self-congruity (LAC)/ high ideal congruity (HIC), and low actual self-congruity (LAC)/low ideal congruity (LIC).

As previously stated, the idea behind self-concept theory is sustained on two premises. First, those individuals desire and act to maintain self-consistency (Leckey, 1969; Markus and Wurf, 1987; Sirgy, 1982); that

is they act in accordance to their actual self-concept. Second, that individuals are driven by the desire to enhance their self-esteem (Maslow, 1970); that is they would act in accordance to their ideal self-concept. The discrepancy between actual self and ideal self can be understood as a measure of dissatisfaction (Gough *et al.*, 1983; Gunter and Furnham, 1992; Higgins, 1987).

As one can appreciate from the discussion above, the HAC/HIC condition is the only to satisfy the maintenance of self-consistency and self-esteem enhancement what would lead the consumer to an approach purchase motivation. Both HAC/LIC and LAC/HIC conditions would only satisfy one of the two premises what would lead the buyer to a conflict purchase motivation. Finally, the LAC/LIC condition would not satisfy any of the premises provoking an avoidance purchase motivation.

The literature witness contradictory conclusions about actual and/or ideal self-concepts being predictors of brand preference. Nevertheless, the challenge to integrate both self-constructs in a single and coherent body appears to be well grounded.

2.4. - Perceived risk

The concept of risky decision-making has been a topic of concern for economists, mathematicians and psychologists for long before Alderson's (1957) remarks about consumers as problem solvers in the face of uncertainty. Since early days, most of research models

involving risk and decision-making are based on two premises. Regarding these premises, Arrow (1974) has noted that since Bernoulli's (1738) early essays on the subject, it has been common to assume, first, that people tend to display aversion to risk taking and, second, that risk avoidance provides an explanation for many observed economic phenomena. Although, in the opinion of several researchers (*e.g.,* Edwards, 1961; Stone and Grønhaug, 1993), this literature may be of interest, a complete review of the thoughts of economists, mathematicians and psychologists concerning decision-making is not needed to understand the marketing implications of perceived risk. Following this recommendation, this section will concentrate on reviewing the marketing literature concerning perceived risk.

In the classical approach to choice in risky situations, choice is dependent upon a number of possible outcomes, their likelihood and their values (Greatorex and Mitchell, 1991). Usually risks and values are preferred in an inverse proportional form. That is: smaller risks and larger expected values (Lindley, 1973). Certain factors are expected to affect the decision-maker's level of perceived risk. As a consequence, his preferred course of action may be to select the option that most successfully reduces his level of perceived risk (Newall, 1977).

2.4.1. - The concept of perceived risk

Raymond Bauer introduced the concept of perceived risk in consumer behaviour studies in 1960. The concept is

based on the idea that any buying activity involves risk. In this sense, any action of the buyer is likely to produce consequences that he or she cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant (Bauer, 1960). The two primary dimensions of risk are - one related to uncertainty or probability of loss notion and the other related to consequence or importance of loss notion. Bauer also argued that the buyer is forced to deal with uncertainty and in this way selects a course of actions to reduce perceived risk.

In Bauer's (1960) preliminary work, he also pointed out the difference between **'risk'** and **'perceived risk.'** Risk may exist, yet if the individual does not perceive it they can not be influenced by it. Conversely, risk can be perceived, but be non-existent. Individuals respond to and deal with risk, as they perceive it subjectively. He strongly emphasised that he was only concerned with subjective (perceived) risk instead of _"realworld"_ (objective) risk.

Blaylock (1985) has proposed that studies of risk decision-making fall into three groups. They are first, one group that estimates the level of risk (_e.g._, asks, "how much risk is there?"). Second, another group that investigates risk attitudes (_e.g._, inquires "what is the decision maker's attitude toward risk?"). Finally, a last group that explores risk perception (_e.g._, queries "how much risk does the decision maker perceive?").

According to some authors (_e.g._, Blaylock, 1985; Jacoby _et al._, 1977; Lantos, 1983; Ring _et al._, 1980), perception of risk comes from traditional risk information processing,

the decision environment, and the decision-maker's cognitive style. Most situations contain an objective amount of risk. A quantity that is enhanced or abated in the decision-maker's perception through other cues contained in the decision environment. Consequently, the perception of risk should be distinguished from either an objective amount of risk or even risk propensity.

Stone and Winter (1985) has been arguing that there is no such thing as realworld (objective) risk, but, in the opinion of others (Foxall and Goldsmith, 1994; Mitchell, 1991) objective risk must exist at least in theory. He makes the point that what is missing is the ability to measure it, especially the psychological aspects of it. Despite psychometric techniques, the objective risk is so complex and potentially changeable, that it is extremely difficult to measure it accurately. The semi-reliable memory, reduced number of trials and a limited information load makes the regular buyer not a good estimator of objective risks (Jacoby _et al._, 1974a; 1974b).

In many occasions, the buyer is faced with a completely new buying situation that he or she has no experience to rely on. This makes correct assessment of risk almost an impossible task. Even if he or she could calculate with precision the risk involved, it is not the objective risk that motivates behaviour, but the buyer's subjective impressions of it. Accepting these limitations, this study will be mainly concerned with the subjective approach of the risk phenomena in buying decisions.

2.4.2. - Pre- and post-purchase risk perceptions

Returning to Bauer (1960) and his ideas, it should be recognised that he clearly observed perceived risk as being not only related to consumers' pre-purchase information acquisition and processing activity, but also to post-purchase decision processes. Therefore, he describes dissonance theory as concerned with:

> *"...ways in which people reduce perceived risk after decisions are made. People will seek out information that confirms the wisdom of their decisions." (p.32).*

Several researchers (*e.g.,* Cox and Rich, 1964; Schiffman, 1972) failed to understand this point, about dissonance, and as a result, drew equivocal conclusions from their work. In these studies perceived risk measures were taken after the product was bought (post-purchase). In this situation it is sensible to believe that dissonance processes had already begun, and most certainly have corrupted the appreciation of risk. Besides Bauer's alert, many have failed to distinguish between pre- and post-purchase risk perception.

Recently, Mitchell and Boustani (1994) investigated pre- and post-purchase risk perception. They reported to have found some differences in the pre- and post-purchase risk perceptions. In their opinion, the two stages of risk perception are equally important. For example, in mature markets, it is important to attract customers to new products as well as to keep existing customers happy and loyal to the brand. It seems clear that, to attract customers to new products, one may be more concerned with

the reduction of pre-purchase risk perception. On the other hand, if one wants to keep existing customers brand-loyal, he or she should be more concerned with reducing post-purchase risk perception. Thus, researchers should be aware of Bauer's point on cognitive dissonance but the use of either stage should depend exclusively on the research problem.

2.4.3. - Perceived risk dimensions

Cox (1967b) postulated that the amount of perceived risk involved in the behavioural act of buying is a function of:

- The amount that would be lost (*i.e.*, that which is at stake) if the consequences of the act were not favourable; and
- the individual's subjective feeling or degree of certainty that the consequences would be unfavourable (p.37).

For him, the amount at stake is a function of the importance or magnitude of the goals to be attained, the seriousness of the penalties that might be imposed for non-attainment, and the amount of means committed to achieving the goals. Following this two dimensional conceptualisation of the perceived risk phenomena, he added by affirming that risk will always be present in buying situations, but it can be reduced to a tolerable level in which the buyer feels comfort. His logical explanation for risk reduction to a tolerable level has also two major paths:

- the buyer can reduce his expectations (*i.e.*, reducing the amount at stake) and

- increasing the degree of certainty about the outcome of his or her decision.

Subsequent to Cox's (1967b) conceptualisation, some researchers begun by their own will to rephrase what Bauer and later Cox had already promoted. Cunningham (1967a), still in its early days, interpreted the two primary structural dimensions of perceived risk as being uncertainty and consequences. This is, till now, one of the most popular conceptualisations of the of perceived risk's dimensions. Ardnt (1968) and Schiffman (1972) decided to consider the two dimensions of perceived risk as uncertainty and importance. Bettman (1973) understood these dimensions as being uncertainty and consequences/dangers. This fad persisted for quite a while.

Before entering the details about each of the perceived risk dimensions, it is important to distinguish between, what Bettman (1973) called, inherent and handled risk. He defined inherent risk as the inherited or latent degree of conflict that a product class is able to arouse in the buyer. This must happen under conditions in which he or she is completely ignorant of brand attributes for the product class. Therefore, inherent risk exists where the buyer lacks information on brand alternatives. On the other hand, handled risk is the amount of conflict that the product class causes the buyer in his or her usual buying situation. For this to happen, he or she already has experience with the product class and with its brand alternatives. He has also reported that both inherent and

handled risks are related, since handled risk increases as a function of inherent risk. Handled risk declines over time as the buyer acquires information on the product class. It is usually smaller than inherent risk.

Bettman (1973) calls attention to the fact that many researchers have confused these two different types of risk. Only few (*e.g.*, Lutz and Reilly, 1973; Lantos, 1983) have explicitly noted the type of risk they were measuring in the sense of inherent and handled risks. This distinction is important as demonstrated by Bettman (1972) when he found different rankings for risk perception on both constructs (inherent and handled) for the same products.

Additionally, another view about differences on the typology about a buyer's risk and type of risky product has been reported. This typology was presented by Derbaix (1983) and makes a distinction between search goods and experience goods. He sees search goods, for example dinner plates, as things that uncertainties about their acquisition can be resolved by simply inspecting the product while for experience goods, like for example a shampoo, the uncertainties about the product are most likely to demand a trial.

While most of the conceptualizations of perceived risk previously mentioned were in the context of consumer behaviour, the great majority of organisational researchers (*e.g.*, Festervand, 1980; Mitchell, 1991) view the perceived risk construct in the same way consumer researchers do. It is appropriate to aknowledge that the discussions on risk here presented contain consumer as

well as organisational studies and that the two are distinct. Most of the differences regard consumer and organisational buying peculiarities that will be further discussed in section 2.6.1. of this chapter.

2.4.4. - Uncertainty and subjective probability

Cunningham (1967a) has pointed out that either dimensions of perceived risk may involve a (known or unknown) probability. He suggests that it makes no difference whether the buyer knows or thinks that he or she has a chance of making a bad choice. Intuitively, known probabilities are extremely rare in buying behaviour, and even when they are available, the buyer is unlikely to think in terms of them (Kunreuther, 1976). Consequently, when buyers are making decisions, they neither know properly the consequences of alternatives nor their probabilities of materialisation.

There are many additional complications with theoretical concepts of risk when they are taken as descriptions of the actual process underlying choice behaviour (Mitchell, 1991). There is evidence that buyers consider only a few possibilities (outcomes) rather than the whole distribution (Alderfer and Bierman, 1970; Brand and Cronin, 1997; Dowling and Staelin, 1994) and that they are more comfortable with verbal characterisations of risk than with numerical ones. There are suggestions that the probability of outcomes and their values enter into calculations of risk independently, rather than as their linked product (Slovic *et al.*, 1977). According to Kahneman

and Tversky (1982), different individuals may see the same risk situation in quite different ways. So, one can understand from these points that such ideas seem to indicate that the ways in which buyers perceive risk may differ significantly from the definitions of perceived risk in the theoretical literature.

Cox (1967b) expanded the perceived risk conceptualisation when he viewed every buying decision to be goal oriented. He offered a clarification of his view, as follows:

> *"In every buying decision, a consumer attempts to identify buying goals and match these goals with product or brand offerings" (p.5).*

He added saying that the buyer may often perceive risk as the result of one or more of the following factors:

- the buyer may be uncertain as to what are his or her buying goals;
- the buyer may be uncertain as to which buy (product, brand, model, size, style, etc.) will best match or satisfy acceptance levels of buying goals; and
- the buyer may perceive possible adverse consequences if the purchase is made (or is not made) and the result is a failure to satisfy his or her buying goals.

About goal uncertainty, Cox (1967b) suggested that it could include uncertainty about:

- the nature of the goals;
- the goal acceptance level (*i.e.*, levels of aspiration);
- the relative importance of achieving the goal; and
- the current degree of goal fulfilment.

Concluding his point of view, the uncertainty dimension can be regarded as an identification of buying goals (*i.e.*, nature, acceptance levels, relative importance, and fulfilment) or accompanying matching goals with purchases (*i.e.*, buying the correct brand). Decision evaluations can take place at two levels. First, for individual brands (handled-risk), and second, for the product class (inherent-risk). Thus, perceived risk orbits uncertainties in setting buying goals as well as in evaluating products or brands.

As previously discussed, uncertainties about the outcome of a purchase are understood, primarily in two different ways (Cox, 1967a). The first way is in association with buying goals (*i.e.*, what are the salient attributes?). The second way is in association with the evaluation of products or brands (*i.e.*, how conceivable is a brand to meet attributes' requirements?). Decision evaluations can take place at two levels. First, for individual brands, and second, for the product class. Thus, perceived risk orbits uncertainties in setting buying goals as well as in evaluating products or brands.

Pras and Summers (1979) were one of the first to study the multi-attribute brand choice process in perceived risk. This subject is still being investigated (Greatorex and Mitchell, 1993; Hardie *et al.*, 1993). Zikmund and Scott (1977) have also taken a multi-attribute approach and reported that product or brand characteristics are closely connected to multi-dimensional risk components.

Inherent to their idea is the thought that buyers

implicitly evaluate each product or brand on relevant attributes. The buyer is thought to use a compensatory procedure where the brand's overall evaluation is a weighted sum of his or her evaluation of each attribute that composes that specific brand. The brand with the highest overall evaluation is prone to be the preferred brand (Greatorex and Mitchell, 1993). Pras and Summers (1978) add to this issue saying that buyers may tend to focus only on one or two attributes that they consider most important. This only happens, obviously, after eliminating all alternatives considered unacceptable.

2.4.5. - Consequences

Every interpretation of risk requires the assumption that there must be uncertainty about the outcomes of prospective actions. Even when it is recognised that potential losses can occur, there is still uncertainty about whether those losses will really materialise (Yates and Stone, 1992). A large number of researchers have been proposing a variety of models to represent decision-making under uncertainty; nevertheless the most widely used of these models are those that follow from subjective expected utility theory (see for example, Bonoma and Johnston, 1979; Chaudhuri, 1997; Currim and Sarin, 1983; 1984; Stone and Winter, 1987). The concepts of uncertainty and subjective probability are closely related. In fact, Cunningham (1967b) defines uncertainty as the subjective probability that an event will occur. In this approach, risk is modelled by reflecting the decision-maker's response to uncertain outcomes defined in terms of

specific probabilities of risk.

Perceived risk, as mentioned earlier, is seen as having a consequence dimension, that is, the consequences of failing to meet the buying goals (Cunningham, 1967a). While potential consequences may be infinite, Cox (1967c) has suggested that buyers normally face three basic aspects of consequences, they are:

- not gaining that which he or she is trying to gain;
- having to pay the penalty for trying to make the gain; and/or
- losing the means by which he or she hopes to make the gain.

This point directly relates the consequence dimension related to the buyer's buying goals. Buying goal affects attribute consideration, their importance and required levels. They also affect the type and amount of losses consequent upon failure of the brand to meet the buying goals.

Originally, Cox (1967c) divided the consequence/loss dimension into two constituents, performance and psychosocial. The performance constituent relates to how well the purchased brand fulfils its required technical functions (for example, will the product work well?). Psychosocial refers to the psychological and social effects felt by individuals or groups of individuals as result of a purchasing decision, and the ability to anticipate whether such consequences will follow (for example, how will it affect what others think of me?).

Cox (1967c) has been alerting that while it makes sense to distinguish between performance and psychosocial goals, it is not always possible to make sharp distinctions between these two types of goals. Thus, one should not always view the two types of goals as being independent. Both perceived risk dimensions deal with a subjective phenomenon rather than objectively defined elements. The seriousness of a loss is a function of the buyer's perception of the importance of achieving the buying goal and the means (*e.g.,* money, effort, etc.) invested in attempting to attain the goal.

Advancing on Cox's proposition, Cunningham (1967a) has proposed that risk may involve possible social consequences, financial loss, physical danger, loss of time (inconvenience) or simply a product that *"does not work"* (p.83). Since then, other investigators (Jacoby and Kaplan, 1972; Kaplan *et al.*, 1974; Perry and Hamm, 1969; Roselius; 1971) have sharpened these ideas to a more popular model of six different types of risks perceived (*i.e.,* performance, financial, physical, social, psychological, and time). Some individual consequences may be associated with more than one type of risk and may even form a hierarchy. These subdivisions of perceived risk can be better understood turning to Figure 2.2.

From a review on the literature Jacoby and Kaplan (1972) came across to five types of perceived risk (*i.e.,* performance, financial, physical, social, and psychological) which they empirically tested and validated. They empirically investigated the interrelationships among the five types (performance, financial, physical, social, and psychological) of

consequences. Kaplan *et al.* (1974) replicated the same study and presented similar results. In general, the results indicate that the five types of consequences explain an average of 74% of the variance in the overall perceived risk measures.

1. Performance risk	is associated with the possibility of the product not working as expected.
2. Financial risk	is a function of the cost of a product relative to the buying budget.
3. Physical risk	is the risk that the use of the product will result in health hazard to the user.
4. Social risk	is the risk that the selected product may not meet the standards of approval of a respected group.
5. Psychological risk	is the risk that the selected product may not fit with his or her self-image.
6. Time risk	is the risk of having to waste time, convenience or effort in buying or fixing a product because it did not meet satisfaction.

Figure 2.2. - Different Types of Risks Perceived by Buyers.

In Jacoby and Kaplan (1972) and Kaplan *et al.'s* (1974) studies, performance risk was the type of risk that correlated positively highest, but all other risk types also presented a good positive correlation with the overall perceived risk. The consideration of what type of risk is the most important will depend very much on the type of product or brand being bought and what goals are behind the acquisition. A stimulating result arising from these researches is the fact that they found psychological and social risks to be the highest correlation between risk components. This finding corroborates with Cox's

(1967b) proposal of a psychosocial loss. Performance and financial risk had also a good positive correlation. This indicates that in some situations these two losses may form a common factor (Gemunden, 1985).

Since Jacoby and Kaplan's (1972) study, that was actually conducted on the Spring of 1970, Roselius (1971) empirically identified a sixth variety of risk (*i.e.,* time) and pushed forward what is now accepted to be the most popular subdivisions of perceived risk in buying behaviour. Later Zikmund and Scott (1973) reported a new risk factor that they called *"future opportunity cost."* This factor is supposed to be associated with the fear of being hasty. Consumers may feel that an improved or lower cost product may be available soon. A relatively recent conceptualisation of risk type was presented by McCorkle (1990) when he proposed a perceived source risk. This risk refers to concerns over whether or not the prospective customer can trust the source (*i.e.,* supplier, retailer) and feel comfortable in doing business with them.

Mitchell and Greatorex (1990a) have advanced in this discussion by arguing that the correlations encountered by Jacoby and Kaplan (1972) and Kaplan *et al.* (1974) are not unexpected, since performance risk is a possible substitute to overall risk. Their argument is based on the logic that before any adverse consequence occurring; the brand must first fail to perform. In this way, consequences can only exist after performance failure. Their point is that pre-decision performance risk is a predecessor of loss.

Recently a research (Bunn and Liu, 1996) was

published exploring the situational characteristic or perceived risk in organisational buying. They anticipate that risk varies widely depending on the particular buying situation facing the customer. This article defines two dimensions of risk (*i.e.*, task uncertainty and purchase importance) and presents a two-by-two categorisation of customer situations based both on the level and type of risk. The four categories of customer situations are laid out in Figure 2.3.

The results from Bunn and Liu's (1996) study show that there are significant variations in the customer buying decisions made under different levels of risk and different types of risk. In part, their results explain why no single approach could possibly work for a wide spectrum of products. Another point is that the customer needs are different in each situation.

In category 1 - purchase support situation, few suppliers need to be contacted, the decision seldom requires other's involvement, and not much information is needed. In category 2 - frustrating situation, the decision seems to have little importance and yet, the customer faces much uncertainty. Category 3 - efficiency optimising situation is similar to category 2 in many aspects with the difference that there is the potential for a more thorough investigation because in this situation the decision is important to the customer. Of all customer situations, the most activity takes place for category 4 - strategic challenge situation. Not only the purchase is important to the organisation, but also there

is much uncertainty surrounding the decision. The usefulness of this framework, however, comes from its capacity for understanding market segments (Bunn and Liu, 1996).

TASK UNCERTAINTY

		LOW	HIGH
P U R C H A S E	**LOW**	Category 1 - Low-risk Purchase Support	Category 2 - Moderate-risk Frustrating Situation
I M P O R T A N C E	**HIGH**	Category 3 - Moderate-risk Efficiency Optimising	Category 4 - High-risk Strategic Challenge

Figure 2.3. - Four Categories of Customer Situations.
(Source: Bunn and Liu, 1996)

According to Stem *et al.* (1977), there has been plenty of support in the consumer reality of these risk dimensions interacting and representing an overall perceived risk, but very little has been made to try to understand to what extent each of these risks contribute to the overall perceived risk. Studies investigating how these risk dimensions contribute to the overall perceived risk in the organisational reality are even scarcer (Mitchell, 1995b). What must not be forgotten is that all types of risk may eventually represent a subjective loss, nevertheless some are obviously insignificant depending on the specific equipment and/or buying situation. In this case, they have their own special influence in the buyer's

overall evaluation of a brand.

2.4.6. - Information and risk handling

It has been discussed that the nature and amount of perceived risk will influence information handling. Cox (1967f) has been arguing that the amount and nature of perceived risk will define the buyers' information needs. He also mentioned that buyers would seek out sources, types, and amounts of information that seems most likely to satisfy their particular information needs. Particularly Bauer (1960) and Cox (1967d) have viewed the buyer as an active member of the communication process rather than a passive member. According to Howard and Sheth (1969), information is used by the buyer to meet two specific needs: first, to solve buying problems and second, to maintain a satisfactory level of stimulation. Solving purchasing problems means dealing with uncertainty and from this perspective this means handling information to reduce perceived risk.

Information about brands may be obtained from a variety of sources and for a variety of reasons (Jacoby *et al.*, 1994). Information search is not a simple phenomenon because personal communication is a social as well as a risk reducing phenomena. When the buyer faces too much uncertainty, he or she is motivated to seek information. Still on the early days, Bauer (1960) hypothesised that buyers develop *"decision rules"* to reduce perceived risk. As perceived risk is a function of two components (*i.e.,*

uncertainty and consequences) it is logical to say that it is possible to change either element to reduce the amount of risk.

According to Bettman (1972) the two dimensions of perceived risk are not independent and in this way the risk reduction process may well happen on both dimensions. Cox (1967c) has noted that reducing uncertainty was far more common than reducing unfavourable consequences as a risk reducing strategy. He also mentioned that goal postponement or goal reduction only has recourse after uncertainty manipulation has failed. Sheth and Venkatesan (1968) have added by stating that generally the buyer can not change the consequences of using a brand nevertheless, he or she can change his uncertainty about these consequences.

Before the Harvard studies on perceived risk in buying behaviour some works in psychology were developed. These studies were based on the assumption that people tend to evaluate information only on one dimension (_e.g._, Bruner _et al._, 1956; Postman and Tolman, 1959). Later Cox (1967e) called this dimension the predictive value of a cue. Predictive value is a measure of the probability with which a cue seems associated with (_i.e._, predicts) a specific product attribute. Besides its logical and theoretical explanations, he asserts that buyers do not always behave in this way.

A number of studies have shown Cox (1967e) that buyers may base their evaluation of a product on low predictive value information. He was unhappy with this apparently non-logical characteristic of the buyer's

evaluation process. Thus, he hypothesised that buyers may use high value information, but they measure information on some other dimension besides predictive value. From this point, he hit upon another dimension suggesting that buyers have differing confidence in cues and decided to call it _"the confidence value of a cue"_ (p.331). Confidence value is a measure of how certain the consumer is that the cue is what he or she thinks it is.

Buyers tend to base their judgements on one or more cues that they consider of high information value. So, if the risk variance is financial, the buyer tends to look towards financial information to handle this risk. Within the set of relevant information (_e.g._, financial, performance, etc.), the buyer tends to evaluate and use the ones that he or she perceives that will best reduce the amount o perceived risk. According to Mitchell (1991), it is important to look carefully to the confidence value of a cue. He seems to have some evidence that memory loss in the information storage process occurs primarily regarding predictive value of a cue. If this is true, the buyer's evaluation of the brand may dynamically change as the memory starts to lose information.

The concept of perceived risk operates under two basic assumptions. First, the buyer's decision making is assumed to be goal directed problem solving behaviour. They are motivated because a gap exists between their present state and an identified buying goal. Second, it is assumed that the buyer acquires, processes and sometimes transmits information to reduce the uncertainty of the decision-making. The amount of uncertainty depends on how the buyer perceives the problem. As stated by Popielarz

(1967), buyers may be uncertain due to the newness of the item (*e.g.*, product, brand) or due to their lack of experience with existing items. For example, they may be uncertain about features, obsolescence, others' reaction or possible reduction in prices after purchase.

Mitchell (1991) analysed 30 years of research of perceived risk and concluded that the number of risk relievers used over the three decades did not change significantly. What he advised was that one should be aware that some risk reducing strategies are related to the type of buyer and/or area of study.

Besides Cox's (1967c) proposition of information seeking, both Sweeney *et al.* (1973) and Hawes and Barnhouse (1987) have identified a variety of formal and informal sources, like: visiting the potential vendor to observe his viability and questioning the potential vendor's present customers (Ballam, 1987). Henthorne *et al.* (1993) found informal influence (*e.g.*, personal sources of information) to have a significant effect on perceived risk. Patti (1977) identified brochures and magazines while Baker and Parkinson (1977) reported advertisements and salesmen as useful sources of information. Cyret and March (1963) alerted to avoid risk by negotiating uncertainties and as possible avoid contracts. Puto *et al.* (1985) purposed the use of guarantees of performance and Greenwood (1981) added advising to obtain service warranty as well. A particular concern to IT brand buyers is that of ensuring good maintenance back up (Garris and Bursh, 1983). Sweeney *et al.* (1973) recommended multiple sourcing to reduce risk of relying uniquely on a supplier.

Many have been pointing to the same direction regarding source loyalty (*e.g.*, Roselius, 1971; Wind, 1970) as one of the main risk relievers for business buyers. Håkansson (1982) goes a little bit further advocating that this loyalty may be a consequence of long interactive relationships between the buyer and the seller. When it is not possible to use the loyal supplier (*i.e.*, buy the same brand he or she is used to), the use of well-known competitors is an alternative (Cardozo and Cagley, 1971). Fox (1986) has described seeking advice from trading associations and/or copying the buying decisions of other respected companies in the same industry as an alternative.

Professional buyers are normally skilled to use highly structured purchasing procedures (*i.e.*, quantitative approaches) in the analysis and selection of suppliers (Newall, 1977). Hawes and Barnhouse (1987) identified in their research that frequently buyers look for advice with colleagues and/or members of staff in higher hierarchy. Jackson and Pride (1986) have also reported the use of lists of approved suppliers. Dividing the responsibility with others as means of protecting (professional) reputation was also found to be useful (Cox, 1967c).

It has been reported by Volz and Mumford (1985) that it is common to see in the IT industry, for example computer sellers elaborating their contracts in a way to put all the responsibility of a product fault in the user's hand. Experts (*e.g.*, Nieman, 1989; Volz and Mumford, 1985; Westermeir, 1985) have been alerting to the need of designing contracts to include special clauses to cover such issues as technical specifications, timetables for

installation, accepted testing procedures, and any specific need of the buyer. Take legal advice on contract matters has been extensively commented as being essential (Petro, 1983; Newpeck and Hallbauer, 1981).

The needs of the business should be defined before these can be translated into buying goals (Mitchell, 1990). Knowing exactly the requirements of the business should lessen the buyer's risk of buying the wrong brand (Hemmer and Fish, 1983; Taylor and Mainhardt, 1985). To counterbalance the buyer's lack of expertise with that type of product and buying situation, some IT specialists (*e.g.*, Senn and Gibson, 1981; Newpeck and Hallbauer, 1981; Pipino and Necco, 1981; Petro, 1983) strongly recommend to hire a consultant. As an opportunity to talk to many sources at the same time (McTavish and Guillery, 1987) buyers also use shows and conferences.

Because of the pace in technological change, some authors (*e.g.*, Kassiciech and Rogers, 1986) have been recommending calm and some times postponing the decision to catch the next trend. Demonstrations and tryouts are very common procedures (Fox, 1986). Other risk reduction strategy that has been identified is that buyers normally prefer to buy from suppliers located physically close to their business (Marshall, 1982; Pipino and Necco, 1981). As most IT specialists would agree; the most important part of the whole system is to have an adequate software package. To guarantee no surprises in the future, Malone (1985) has been advising buyers' to certify if the desired software package runs well on the selected hardware.

As IT machinery are not the cheapest of products to

buy besides technological obsolescence, some experts (*e.g.*, Moulton, 1987; Thom, 1988; Yorde, 1985) consider leasing a way of reducing the risk. Other reports (*e.g.*, Ballam, 1987; Garris and Burch, 1983) advocate a holistic way to reduce risk by relying on a well-know and respected manufacturer (*e.g.*, IBM, HP, COMPAQ, FUJITSU). In this case the corporate brand name may represent a relief to all risks. For last, some authors (*e.g.*, Hemmer and Fish, 1983; Newpeck and Hallbauer, 1981) have been putting much stress on the need to carry-out a cost-benefit analysis.

Mitchell (1991) in an extensive review of the literature identified 37 different types of risk reducing strategies. After a careful consideration he was able to add to the list 10 extra strategies. He stated that it would be interesting to access all 47 strategies in one study and see their level of importance nevertheless this could lead to an extensive and time consuming to answer questionnaire. To prevent this situation, some buyers' were interviewed and questioned about the array of strategies. There was no consensus; however it was possible for him to identify the least used and eliminate them from the list.

2.4.7. - Factors & Determinants of Perceived Risk in Organisational Buying

According to the literature on perceived risk (*e.g.*, Cunningham, 1967a), buyers should be able to explicitly recognise risk in the purchase and use of products, and the perception of risk should vary not only by individual,

but also by product category. According to the same source, there are some factors that may affect the variations of the buyer's perception of risk (*i.e.*, individual's perception of certain types and the level of risk). These factors include differences between buyers (*e.g.*, demographics, psychological), the buying situation, the decision-making unit, size of the company, product/brand characteristics, country-of-origin, and situational factors. Most of these factors are important to consider when designing perceived risk studies. Their relevance and inclusion in this research will be discussed at the end of this section.

Level of Risk – Since Bauer's (1960) theoretical conceptualisation of consumer behaviour as a risk taking activity, high risk perceivers have been expected to be particularly responsive to certain types of information gathering as compared to low risk perceivers. Some researchers (*e.g.*, Boze, 1987; Gronhaug, 1972; Mitchell, 1991; Newall, 1977) have shown evidence of a strong positive relationship between perceived risk and personal sources of information. For example, Boze (1987) found a positive relationship between perceived risk in the purchase of legal services and two variables such as 'shop around to compare alternatives' and 'ask friends.' Arndt (1967) found evidence that high risk perceivers tend to be more responsive to word-of-mouth than low risk perceivers. Locander and Herman (1979) reported of a positive correlation between the risk of the purchase situation and a person's observation and experience becoming the favoured information source.

As one can see, there is evidence suggesting

different responses to personal sources of information as perceived risk level changes. For this reason it is important to look at this construct as a multi-level phenomenon where people which perceive different levels of risk may behave differently. There seems to be agreement amongst researchers (*e.g.*, Gemenden, 1985; Mitchell, 1991; Newall, 1977) about perceived risk as a multi-level construct. However, they raise severe doubt about how the high/low groups can be separated. Some have been using the median point of the risk scale to separate high and low, others use the mean. In this study, the mean was used as the separation criteria. The reason of this choice was first the absence of a clear better way of doing such separation and second and most important, the brands being evaluated in this study are very well known what tends to generate high levels of self-confidence (Roselius, 1971). Thus, by using the mean it is possible to push the division line between high and low much more towards the high end of the scale and alleviate any discrepancy generated by brand awareness.

Difference Between Buyers - Risk perception may vary according to differences between buyers'. Demographics, like other variables, are interactive descriptors of the consuming unit (Roscoe *et al.*, 1977). Two or more buyers' may appear to be similar along several demographic variables, nevertheless their buying behaviour may be quite different according to the context. While demographics tend to interact with other variable sets such as psychological (Fry, 1971), they also assume different dimensions as the unit of analysis varies. Thus, it is important for the marketer to understand the decision-making unit he is interacting with to determine which demographic variables

will provide the most meaningful marketing information.

Demographics may also serve as an effective moderating variable in examining the relationship between a set of psychological independent variables and product/brand usage behaviour. For example, Peterson (1975) used sex, age, education, and income as sub-samples. These were moderators in examining the relationship between personality variables and consumer product usage. His results suggested an increase in predictability as a result of using the demographic characteristics as moderating variables in comparison of results for the total sample. Clearly there are many demographic and psychological variables that might be related to risk-taking. However, researchers have been focusing their attention on variables such as age, sex, education, previous experience, income, degree of professional affiliation, and self confidence (Cox, 1967a; Mitchell, 1991; Newall, 1977; Sheth, 1973a;b;c).

Age - There is a main premise regarding this variable. It is related to the increase in experience, which usually comes with age, and has the effect of reducing perceived risk. Another possible explanation for the inverse relationship between age and perceived risk is the relative unimportance of the psychosocial components of risk in people's life styles while ageing (Mitchell, 1991). Although, Kogan and Wallach (1964) reported findings that older people, when facing risky situations, tend to be more conservative in their actions. This apparent paradox remains unclear in the literature giving rise to questions regarding how can age affect risk perception?

Gender - Regarding this demographic variable, there is no well-established belief that justifies why the perception of risk can vary according to gender. However, there is some research reports that raise doubts about perception of risk differences according to gender. Bonoma and Johnston (1979) found that there were sex differences in making decisions under uncertainty. Women were found to be rational under both male and female dilemma situations, while men proved to be incapable of making rational decisions when exposed to relevant female dilemma situations.

Another study, by Kumpf (1977), presented results in which the sexes differ regarding perceived risk. Women had higher scores on all dimensions of perceived risk than men. He justified this finding arguing that woman normally place more emphasis on the importance of safety features than men does. Thus, according to these two studies it is reasonable to assume that women stress more safety than men and for this reason perceive higher levels of risk. Although, with an open mind, one should expect no perception of risk differences whatsoever either from men or women.

Education - Regarding this variable, according to Grønhaug (1972), it is reasonable to assume that an essential aspect of most forms of education seems to be some kind of problem solving ability. Moreover, it can be said that a buyer may generalise his or her acquired insight, over the years, into problem-solving ability including buying problems. It also seems reasonable to assume that this insight involves 'openmindness' and that a

buyer with a reasonable amount of this insight will be more inclined to admit perceived risk. Sheth (1973a) in his model of industrial buyer behaviour has been advising that probably the most significant factor that determines differential expectations among buyers is the different educational backgrounds and level (*e.g.*, purchasing, engineering, production, etc.). Studying the purchasing of air-conditioning equipment - Choffray and Johnston (1979) confirmed Sheth's proposition. They found buyers different backgrounds correlating positively with perceived risk.

<u>Previous experience</u> - This variable was defined by Hornby (1978, p.221) as the 'process of gaining knowledge or skill by doing and seeing things.' Past experience is a very well known risk reducer (Foxall and Goldsmith, 1994; Mitchell, 1990). Experience in problem solving may serve to increase the buyer's decision-making skills (Topol, 1981). Experience may also facilitate the processing of information since the familiarity with problems may result in the buyer's routinisation of decision making. This assumption is based on the fact that previous purchases have resulted in some form of learning; which again may lead to a decrease in the buyer's perception of risk. This previous experience may have a positive influence on the buyer in terms of knowing what and how to evaluate. This should enable the buyer to make use of information sources with a higher confidence value (Grønhaug, 1972). Some empirical studies (*e.g.*, Peters and Venkatesan, 1973; Sheth and Venkatesan, 1968) have been successful in supporting these assumptions.

<u>Income</u> - This variable has not been fully explored in previous studies of perceived risk. However, researches

that have attempted to use this variable have implied a negative relationship between income and perceived risk (Grønhaug, 1972). If the results of these few studies can be generalised, this may imply that high income has a positive association with low perception of risk.

Degree of professional affiliation - It is often thought that buyers with a greater number of professional contacts and affiliation to organisations or groups related to their profession are more likely to come across important, new, and relevant information to their work activities (Topol, 1981). Several studies seemed to support this proposition (Kaufman, 1974; Newall, 1977; Ozanne and Churchill, 1971; Rogers and Shoemaker, 1971).

Self-confidence - As a personality construct, this variable has been studied with perceived risk in buying behaviour (*e.g.*, Cunningham, 1967a; Taylor, 1974; Zikmund and Scott, 1973). Self-confidence can be identified in two ways, general and specific. General self-confidence has been associated to self-esteem, which according to Taylor (1974) is the evaluation that individuals makes and customarily maintains about themselves. It may indicate the extent to which the buyer believes he or she is capable, significant, successful, worthy, etc. Specific self-confidence reflects the individual's ability to cope with a specific task (Cox and Bauer, 1967).

Regarding general self-confidence, one may assume that buyers with a high level of self-confidence would be less inclined to perceive risk. However, support for this proposition has been dubious. Hirich *et al.* (1972) has reported a significant inverse relationship between

perceived risk and general self-confidence. Cunningham (1967a) found no significant relationship between general self-confidence and perceived risk on his study.

Regarding specific self-confidence, one may again assume that buyers with a high level of self-confidence would be less inclined to perceive risk. Again, support for this proposition has been limited. Bell (1967) could not find any strong association between specific self-confidence and persuasibilty. Nevertheless, Cunningham (1967a) was able to find support for this proposition but only concerning some products raising doubts about this concept being product-specific.

The Buying Situation - The buying classes were conceptulised by Robinson *et al.* (1967) and consisted of three main buying situations: the new buy, the modified rebuy and straight rebuy. Since then, some research has been conducted that attempts to ascertain the possibility of these three types of buying situations being adequate predictors of perceived risk levels (*e.g.*, Peters and Venkatesan, 1973; Newall, 1977). These three types of buying situations are expected to be associated to a continuum level of risk.

New buy tasks on one side as a high-risk situation and straight rebuy task on the other side as a low-risk situation. The modified rebuy task has a mix of the two other buying situation features and is perceived as a mid-range risk situation (Anderson *et al.*, 1987). However, Newall (1977) based on the results of an empirical study has reported that the modified rebuy is the most risky buying situation. This finding is somewhat surprising. Newall

offered a very limited explanation for this finding. He said that it was likely that the degree of product essentiality had some bearing on this observation.

Note that in this case this conflicting finding has no importance because purchases of IT products are considered to be high in risk (Senn and Gibson 1981) - even when these are being replaced. This happens due to the pace of development within the market that makes almost all tasks related to acquisition effectively to be new buying tasks (Greatorex and Mitchell, 1991).

The Decision Making Unit - To reduce the risk of a purchase decision, it is not unusual to see several managers from different departments helping in the evaluation process (Mitchell, 1995a). So, the marketing manager is faced with the challenge of not only identifying which managers are involved in the purchasing decision, but also what brand attributes are of particular concern to each of them.

As exposed by de Chernatony and McDonald (1992), there is a useful guide to anticipate who is likely to be involved in the organisational brand purchase decision. This can be predicted from the commercial risk and the complexity of the product or service. When the risk is considered high and the complexity high as well, a corporate-wide involvement is likely to take place. When the opposite happens, that is, low-risk and low-complexity; the purchasing manager should dominate. When there is a high-complexity but a low-risk; the user with specialist knowledge is expected to dominate and when the opposite takes place with a low-complexity and a high-

risk; financial advisers normally help the purchasing manager on the matter.

As IT brand buying involves a reasonable amount of risk and these are very complex machines, we can expect this type of decision to be a company-wide involvement decision. Sheth (1973a) proposed in his famous model of industrial buying behaviour that, if the buying decision involves high level of risk, it is most likely to involve group decisions. Newall (1977) after empirical evidence reported that high levels of risk were not exclusive of large or small buying groups. He explained that level of risk can have a relationship with the size of the buying group, but it is most likely to be a non-causal relationship.

Other research (Puto _et al._, 1985) has drawn conclusions that most of the supplier decisions are made by individuals within the department. They raised this point after finding that individuals within the department make two-thirds of purchasing decisions. Webster (1993) made a point in a different perspective. He said

> _"all organisational buying behaviour is individual behaviour in an organisational and interactional setting."_ He added _"... all buying behaviour is motivated by individual needs and desires, guided by individual perceptions and learning, in complex interaction with organisational goals" (p.39)._

Valla (1982) has the same opinion of Webster about the individual approach in the organisational buying behaviour, but he adds implying that the characteristics of the buying centre, the nature of the decision making process, and the interpersonal relationships within the buying centre, can be major determinants of the level of

risk perceived.

Size of the Company - There is plenty of evidence to suggest that the size of the buyer's organisation may help explain the context in which the buyer operates (Cardozo and Cagley, 1971; Kassicieh and Rodgers, 1986; Mitchell, 1995a; Newall, 1977; Paton _et al._, 1986; Peters and Venkatesan, 1973). This context is important because it may guide or even govern the buyer's behaviour. The size of the company (_e.g._, gross sales + number of employees) is considered to affect in some way the type of risk perceived by the buyer. Note that, even not being of the objective of this research to study "company risk" it still has a part to play. It is believed that the buyer's perception of the company's risk, in terms of its implicit understanding of the company's financial standing and capacity to tolerate risk, is likely to influence his or her assessment of the financial and performance risks associated with the acquisition of the product (Topol, 1981).

Kassicieh and Rodgers (1986) studying microcomputer purchase among 440 businesses evidenced that as firms got larger, they tended to place greater importance on use/cost and service and sales support. Translating this to risk terminology, larger firms tend to place more emphasis on financial and performance matters. Another study on computer adoption (Peters and Venkatesan, 1973), among 25 firms, tested the hypothesis that size of the company would be positively related to the adoption of a small computer. They confirmed the hypothesis in both variables (net sales and number of employees) that they

operationalised as size of the company. Small firms when considering acquisitions of small computers were faced with high-risk. In Peter and Venkatesan's study, risk was not operatinalised by its components.

Newall (1977) has presented a piece of work in which he reported the occurrence of psychosocial risk predominantly among large firms. He argued that for small firms, even the incidence of psychosocial risk being smaller than in larger firms, it still happened. For this fact he justified that in these firms a much more compact, highly involved, and equal status members' group emerges with shared responsibility for the decision at all stages. Performance risk was also reported to be present among buyers' on both large and small firms. However, the small firms presented a much higher level of performance risk due to theirs limited financial standing that makes them less tolerant to unfavourable consequences of a wrong choice.

Product/Brand Characteristics – The Product – The purchase of a new product may present serious risks to the buyer and the company (Havlena and DeSarbo, 1991; Mitchell and Greatorex, 1990b). According to Topol (1981) these risks become evident as one considers that there may be some uncertainties regarding some specific characteristics of that type of product (*e.g.*, the usage, the actual performance capabilities, costs of operation of the new product, etc.). Furthermore, these risks (*i.e.*, financial, performance, etc.) are perceived differently due to their independent nature and newness to the buyer. For example,

Greatorex and Mitchell (1991) researching risk reduction strategies by industrial buyers of mid-range computers considered inappropriate to measure physical risk for that type of equipment. In their view, this type of product stands quite isolated from its user, probably generating an insignificant level of this type of risk. Corroborating with Topol (1981), Valla (1982) has been advocating that product characteristics can and should be used to help explain variations in the degree of risk perceived in a specific buying situation.

The Brand - When the purchase of a new product comes to the brand level, considering competing brands, buyers again feel risk (de Chernatony and McDonald, 1992; Havlena and DeSarbo, 1991; Peter and Ryan, 1976). Thus, it is paramount to understand the buyer's perception of risk and its association with the diverse brand characteristics (*e.g.,* name, symbols, etc.). This information should help marketers develop and present their brands in such a way that buyers perceive minimal risk. This proposition is the whole purpose of this study as we continue to discuss it more detail on the following sections of this thesis.

Country-of-origin - It is well know that buyers classify products into categories and apply organised prior knowledge about the categories to evaluate new products (Meyers-Levy and Tybout, 1989). For example, people have well-developed stereotypes about products that originate from foreign counties (*e.g.,* Swiss watches are the most prestigious). According to Ahmed *et al.* (1994), industrial buyers' evaluations are based on their assessment of product cues. These can be intrinsic (*e.g.,* taste, design,

performance) or extrinsic (*e.g.,* brand name, country-of-origin). Buyers often make judgements, when deliberating about an acquisition, based on extrinsic cues, especially when it is not easy to assess the intrinsic ones (Johansson, 1989). This is why country-of-origin is often used as an informational cue when judging new products (Ahmed *et al.*, 1994; Alden *et al.*, 1993; Cordell, 1993; Mitchell and Greatorex, 1990a). Håkansson and Wootz (1975) researching supplier selection in an international environment; found location (*i.e.,* country) of the supplier to be the most important supplier characteristic, especially when ranking bids in high need uncertainty situations.

Situational Factors - There is abundant literature suggesting that some of the organisational buying decisions be also determined by some situational factors (Bunn and Liu, 1996) and not only by systematic decision-making processes. These many influential factors to the buying process are difficult to anticipate and enumerate. As so, they are generators of risk, as buyers have no control over them and they have influence among the buying process.

According to Sheth (1973a) the most common situational factors are: temporary economical conditions, internal strikes, machine breakdowns and other production-related events, organisational changes such as merger or acquisition, changes in the market place, changes in the supplier industries, major technological moves, impact of culture, and internal and external political and economic changes such as new governmental policies for the sector.

Despite the recognition of their existence and influence on risk perception, it is not the objective of this research to get into each and every one of these particular variables.

Relevant factors that need to be considered – Of the factors previously discussed, not all are eligible to report in this research. Factors such as country-of-origin (all brands from highly developed countries), gender (more than 90% male), income (similar job description and salaries), amongst others, are unlikely to have any great effect on risk perceived by professional buyers. Other factors such as professional affiliation (more than 80% has no affiliation), self-confidence (assumed to have random effect), buying situation (pre-established), and DMU (one respondent per firm) are expected to have their effects randomly distributed throughout the population and this way may be put aside in terms of research design.

After consideration, some factors that could affect risk perception of professional buyers such as age, education, previous experience, size of the company, and product/brand characteristics was used to collect data and test hypotheses. It is acknowledged that there may exist other factors that can affect risk perception however, no further assessment was made to uncover and explore all possible options available. The reason for doing so was the intent to protect respondents' from answering an even longer questionnaire and also because it was not an objective of this study.

The whole idea behind the study of perceived risk is that buyers usually place effort to reduce the risk

perceived in the purchase of a given brand and this should lead to a greater probability that the brand will be chosen. Managers need to examine the purchase of their brand from the customer's point of view, determine which type(s) of risk are most important, and then design strategies to reduce the risk in the eyes of the customer (Foxall and Goldsmith, 1994). Many studies have been investigating the ways in which buyers perceive the products they buy and the brands they regularly choose. On particular, attention has been focused on the ways in which branding and brand perceptions affect the buyer's perception of the product characteristics and attributes. The next section of this text concentrates in showing to the reader these brand relationships.

2.5. - Understanding brands

In a competitive market where several manufacturers and retailers are offering rival products, competitors will want to identify and distinguish their particular offer. Basically, this differentiation comes to the buyer in the form of a brand (Doyle, 1989; 1994). Modern branding is very much concerned with assembling and maintaining the elements of the brand in such a way to achieve competitive advantage and become the top of the mind in the customer's preference (Aaker, 1991; King, 1984). Branding, in the view of de Chernatony and McDonald (1992) is a powerful marketing concept. One can better understand what they mean looking at this passage:

"Branding... represents the result of a carefully conceived array of activities across the whole spectrum of the marketing mix, directed towards making the buyer recognise relevant added values that are unique when compared with competing products and services and which are difficult for competitors to emulate" (p.15).

Kodak, Marlboro, IBM, Mercedes-Benz, Shell, etc. - While looking at these names, one may question if these are brands, products, or simply company names? For example, why does Shell name all their products under the company's name? To help understand these issues; there are several type-models showing the association between brands and products. According to Kapferer (1992) there are six main types of relationships between brand and product. They are: product brand; line brand; range brand; umbrella brand; source brand; and endorsing brand; as is now considered.

The purpose of product brand strategy is to assign an exclusive name (*i.e.*, personal brand name) to one product and agree it to its own individual positioning (*e.g.*, Ariel, Tide). The line brand extends its specific concept across different products with practical variations of a closely associated nature (*e.g.*, English Lavender's soap, perfume, etc.). Range branding is typical of food, cosmetics, and cloth sectors. It presents a single name and a promise on a group of products having the same level of ability (*e.g.*, Weight Watchers: eat better and you will have long-lasting results). The umbrella brand is that in which the same brand supports several products in different markets; each with its own communication and individual promise (*e.g.*, Piano, Motorcycle - all by Yamaha).

Source branding is very much like umbrella branding

except that in source branding the product has another name after the main brand name (_e.g._, Ralph Lauren's Safari). The endorsing brand gives its approval to a wide variety of products grouped under product, line or range brand strategy (_e.g._, Nestlé endorses Kit Kat). The main difference between source and endorsed branding is that within the source brand concept the brand is tied to a family spirit while an endorsed brand follows its own singular paths under a simple common guarantee. Some authors (_e.g._, Hankinson and Cowking, 1993; Kapferer, 1992) have been alerting to the fact that these relationships between brand and product are not exclusive. Firms adopt hybrid configurations. The same is true for services.

Branding can occur at company, product, and line of products or range of product levels. The decision on how much emphasis should be put on and what level of branding should be adopted is dependent on market and positioning factors. Many companies now prefer to label their products under the corporate name (Arnold, 1993; Kapferer, 1992; Ryder, 1994). According to Arnold (1993) the most noticeable explosion of corporate brands is in the service sector. He added saying that besides the service sector it is also standard practice in industrial or business-to-business markets for any branding to take place at the corporate rather than the product level.

Some researchers (Levitt, 1965; Meldrum and Millman, 1991) have been pointing out that well-known companies (_i.e._, familiar brand names), from high-technology sectors, recognised as credible sources tend to be favoured by buyers' facing high-risk decisions. IT manufacturers

usually use alpha numeric names for their specific models and rely basically on the company's name to distinguish their products from competition (Hague and Jackson, 1994; Ryder, 1994).

Furthermore to the point of the branding strategy happening at the product or corporate level, too often brands are examined through their element parts (*e.g.*, name, symbols, etc.) (Alt and Griggs, 1988; Ettenson, 1993; Jarvis and Wilcox, 1973; Nedungadi, 1990, Woodside, 1987). However, effective brand management should begin much earlier with a well-defined and managed strategy consistent with the brand's identity.

2.5.1. - The brand's identity

Buyers, in almost every sector of the economy where there is competition, are being bombarded with an increasing exposition of different and many times hard-to-read products whose technical evaluation is not easy due to their similarity. That means increasingly similar products on the market with similar performance and a batch of confused customers. Brands make products easier to read removing uncertainty. It should identify the product and divulge its functional and symbolic values as a reflection of the buyers' self-concept (Kapferer, 1992). It can be expressed as a name, term, sign, symbol or design, or even a combination of them (Kotler, 1997), nevertheless what is important is that it should summarise an idea, values, principles or even a combination of all

this.

In markets, such as the IT, in which technological leapfrogging leads to a constant evolution and change in the offer of products; brands may be the only differential to reflect stability. It does so when it describes an identity which customers can see as a signpost of satisfaction and trust. Though the products and its features may change; the brand has the property of stability (*i.e.*, the brand certainly has to evolve but even though it still keeps its ability to remain unique and permanent through time). Kapferer (1992) makes this whole point clearer stating that:

> *"Brands identify, guarantee, structure, and stabilise supply. They draw their value from their capacity to reduce risk and uncertainty. In a world in which everything is changing, brands possess the rare quality of stability." (p.10).*

Before we continue to explore the topic of brand identity, we need to consider carefully how marketing resources can be used to support brands, but it is crucial to understand first what are the differences between the buyer's (output process) and the marketers perspectives (input process) - regarding the brand.

2.5.1.1. - Differences between an input and an output process

The distinction between internal versus external views relates to the degree to which the brand buying

process is viewed from inside or outside of the buyer's perspective. Most of buyer behaviour is internally driven (de Chernatony and McDonald, 1992). That is, they tend to think silently, observe privately, and evaluate according to their own personal dictates. Obviously in the organisational scenario there are many external factors that can influence their behaviour - _e.g._, vendor, peers, company policy, etc. - but even in these situations, buyers still maintain an internal view of their own decision (Robertson, 1970).

Brand managers play a different role and are most likely to take an external view of buyer behaviour. An important implication of the external view is that it does not allow much insight into the underlying reasons for the brand buying behaviour. To gain such insight about buyers, it is necessary to rely upon concepts of the buying process and research that somehow can obtain buyer's internal views about brand buying. Even these assists can not fully hit sharply the richness of each individual or group of individuals internal perspectives, but they go a long way toward overcoming the inherent shortcomings of the external view. This is the major reason that brand managers should use buying research.

Before trying to understand the brand buying process and consequently the branding process as well, one needs to comprehend what is the brand manager's view (brand-specific) of the brand conversely to the buyer's view (best brand). The 'brand-specific' versus 'best brand' distinction is an interesting point with major implications for brand managers. From the manager's point of view, the best brand should be the brand that he or she is offering. For the

buyer, on the other hand, his or hers interest is usually to purchase the best alternative to solve a specific problem, regardless of which brand it is, or who happens to make it. In this situation they are usually confronted with a number of competing brands, each of which is marketed as if it was the best choice.

Thus, in the brand managers perspective, one should take care not to naively assume that their interest is the same as the buyer's interest. What they have to ensure is that there is a match between these two different perspectives and in this way improve their brand and the possibilities of it becoming the 'best brand' to the buyer.

Brands allow buyers to increase certainty while making choices. They can rely on past experience, as well as information about the specific brand. Over the long run, they can develop easy decision rules as to whether or not even consider buying that specific brand. Brand managers knowing that there are severe penalties to future brand sales following a bad buyer experience, should very seriously consider building a strong brand relationship with their customers.

According to de Chernatony and McDonald (1992) a key problem to close the gap between the brand manager's perspectives and the buyer's perspectives, is that many brand managers place too much emphasis on their brands as something that is done to buyers, rather than something buyers do things with (Meadows, 1983). In other words, brand managers wrongly focus the branding process as an input process only (*i.e.*, brands are primarily seen in terms of the marketing resources needed to support them, such as

growth, sales and profit) (de Chernatony, 1993).

De Chernatony and McDonald (1992), again, strictly recommend that these managers before considering to use marketing resources to underpin their brands, they should first understand the output process to then decide how to use these resources, since the final evaluation of the brand is in the buyer's mind (we should here have in mind that the organisational buyers represent the company that is buying and consequently the user).

Several brand researchers (Biel, 1991; Grunert, 1988; Keller, 1993; Woodside and Wilson, 1985) have stressed the importance of looking at brands as perceptions in buyers' mind. In doing so, we can understand what buyers take out of the process rather than what brand managers put into it. Emphasising what these highly regarded researchers have been saying, de Chernatony and McDonald (1992) said:

> _"When buying a new brand, buyers seek clues about the brand's capabilities. They try to evaluate the brand through a variety of perceptual evaluations, such as its reliability, or whether it's the sort of brand they feel right with, or whether it's better than another brand, so that brand becomes not the producer's, but the buyer's idea of the product" (p.31)._

Corroborating with this same preoccupation above mentioned, Goodyear (1991a; 1991b; 1993) in several opportunities has been emphasising the evolution that advertising literacy goes through. Her central argument is that there are three main roles for brands to play along a continuum of development in advertising literacy bridging from the input to the output point of view. It is important to mention that before this continuum of various stages we must distinguish what is an unbranded commodity

and a branded product. Unbranded commodities are goods that are sold without reference to manufacturer's name and very often without any product differentiation.

According to Goodyear (1993), branded products play their role in a three-phase continuum. They are:

1. <u>Brand as reference</u> - During this phase there is a strong emphasis on product differentiation. The underlying assumption in this phase is that the buyer and the vendor are on different sides of the field playing a game in which there is a confrontation, with one side trying to persuade the other. In this case, the vendor often demonstrates how the product works and enumerates the list of attributes of it. The whole process is very much rational. The brand as reference has also been referred to as company brands (King, 1991).

2. <u>Brand as personality</u> - With the changing in market structure to a more competitive market, products start to have less differences in their formulation. In this phase it becomes important to distinguish the competing brands by adding relevant psychological values to the brand. At this stage the emphasis shifts from the product to the brand and from attributes to benefits.

3. <u>Brand as an icon</u> - Some brands achieve a reference level in their area. At this stage the associative link between the brand and end-benefit is enough strong and there is no need to further mention the product. When Brands achieve this prestigious position, their names become integrated into common expressions such as: I will make a Xerox of this document.

This type of brand typology has been criticised by de Chernatony (1993) because it lays considerable stress on advertising as the prime marketing resource. Nevertheless, the same critic has emphasised that this conceptualisation has several strengths. In his opinion, this typology can show how brands evolve from an input perspective to an output perspective.

2.5.1.2. - Brand image

Since Gardner and Levy (1955) introduced the notion of brand image to brand studies, numerous studies have been reported (*e.g.,* Levy, 1958; Park *et al.,* 1986; Swartz, 1983). They suggested that it was time to scratch beneath the surface and identify more enduring motivations for purchase. Their assumption was that products have a social and psychological nature as well as a physical one. The ideas and attitudes that buyers have towards brands, the sets of feelings, the 'image' they perceive, is crucial to purchase choice.

Customers tend to form images of brands related to attributes (both tangible and intangible), benefits, and even consequences that they associate with the brand (Plummer, 1985). However, it has been argued that the brand image is more then the sum of these images. An image is a total perception of the object that is formed by processing information from various sources over time (Assael, 1992).

The Gestalt concept has been used to help explain the complex nature of a brand image. Gestalt psychology suggests that forming an image is a natural process of developing a total perception of the object. The concept behind it is that nothing is simply the sum of its individual parts. Psychologists adepts to this chain of thinking believe that much of learning consists of forming gestalts. Murphy (1990) has made use of the gestalt theory to analyse 'what is a brand?'. He advocated that a brand acts as a gestalt. We can better understand his approach by the text below:

> "A brand, then, acts as a gestalt in that it is a concept which is more than the sum of its parts and which takes a long time to establish in the minds of consumers. Of course, in order to embrace a complex set of beliefs and values and internalise them as a gestalt the recipient (or consumer) needs to recognise that what is on offer is appropriate and attractive. In other words, the gestalt needs to be credible, coherent and attractive, supported and developed over time and not subject to rapid fluctuations in message, quality, positioning or overall 'mood'" (p.2).

Keller (1993) has been arguing that a positive brand-image should increase the probability of brand choice, produce greater brand loyalty and decrease vulnerability of competitive marketing actions. It should have implications for pricing because buyers tend to be more willing to pay premium prices for the brand (Starr and Rubinson, 1978). It should also have implications on distribution channels due to increase on search (Simonson *et al.*, 1988). Finally, all aspects of the brand image are relevant in determining buyer response to advertising and promotion.

Image is on the buyer's side of the branding

equation. Image centres upon the way a certain public imagines a product, brand, political figure, firm, country, etc. It refers to the manner in which this public decodes all the signals emitted by the brand through its products, services and communication programmes. It is a reception concept (Kapferer, 1992). Identity is on the marketer's side of the branding equation. The marketer's duty is to specify the meaning, intention and vocation of the brand. Image is a result thereof, a decoding process. Thus, identity necessarily precedes image. Form figure 2.4 it is possible to visualise that buyers' form an image through the synthesis of all the signals emitted by the brand.

SENDING   MEDIA   RECEIVING

| Brand identity |

| Signals transmitted |

| Brand image |

| Other sources of inspiration
. mimicry
.opportunism
.idealism |

Competition
and
Noise
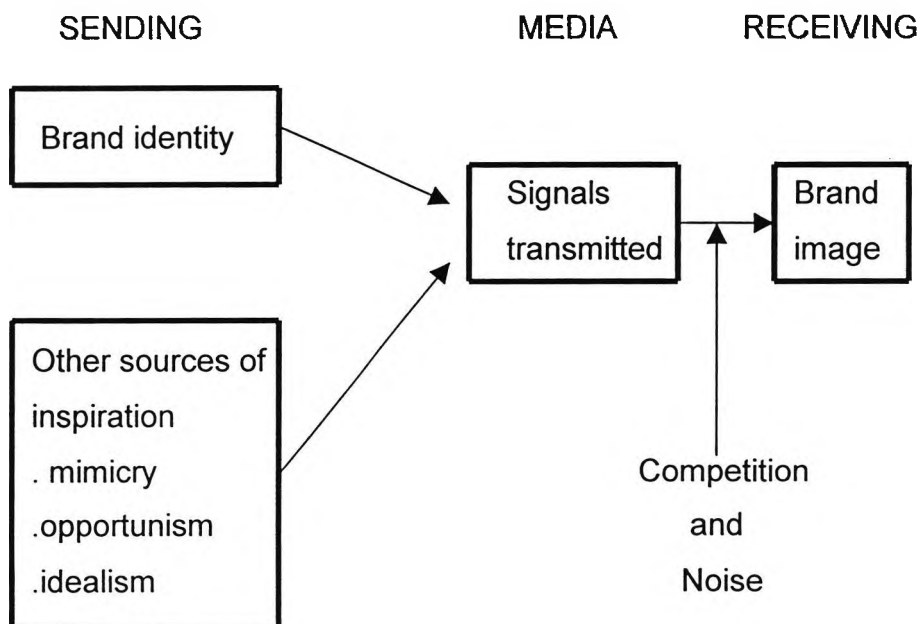
Figure 2.4. - Identity and Image.
(Source: Kapferer, 1992, p.34)

2.5.2. - The facets of brand identity

Not all marketers know where lies the uniqueness of the brand they are working with. This happens due to the absence of knowledge along one or more of the facets that compose their brand's identity. The uniqueness of a brand can be analysed along six different facets; they are the physique (_i.e._, functionality), personality, reflection (_e.g._, user's image), self-concept, cultural, and relational facets (Kapferer, 1986; 1992). Although the singularity of each facet, they are inter-related and the absence of one or the dissonance between them is most likely to produce an identity that lacks depth and/or is non coherent.

The structure of a brand's identity can be represented diagrammatically by a six-sided prism (Kapferer, 1986; 1992). This prism is threefold. At the top of the prism, functional and personality facets describe the picture of the sender. At the bottom, reflection and self-concept describing the picture of the receiver, and at the middle, the cultural and the relational facets that are the bridging points between sender and receiver as depicted in Figure 2.5.

The <u>functional facet</u> of the brand's identity is its basis (Kapferer, 1992). Garvin (1984) has suggested seven different dimensions that may represent functional aspects related to brands, they are: performance, features, conformance with specifications, reliability, durability, serviceability (_i.e._, reflects the ability to service the

product), and fit and finish (*i.e.*, refers to the appearance or feel of quality).

PICTURE OF SENDER
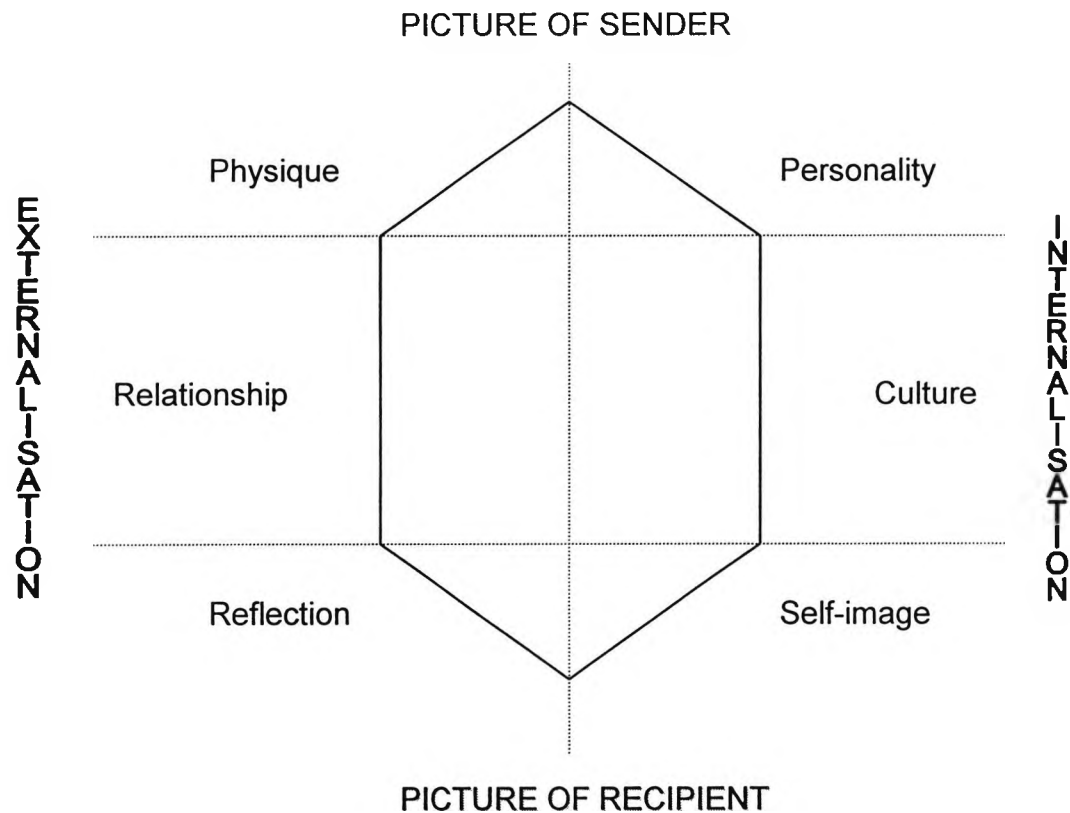
Figure 2.5. - Brand Identity Prism.
(Source: Kapferer, 1992, p.38)

In spite of Garvin's (1984) rational conceptualisation, Kapferer (1992) sees this facet in a different perspective. He argues that what this facet is really about is a combination of independent characteristics which may either be prominent or dormant, though nevertheless distinguishable, on ones mind when the brand is mentioned. Thus, it is not a conclusion after an analytical examination of the brand. It is more like an image that forms the basis of the total image much closer to the brand's know-how and/or positioning than a rational

characteristic or combination of them. An example of his point is the different images' car brands evoke like, Ferrari means speed, Volvo means security.

Garvin's (1984) seven rational dimensions are essential to the brand because every brand represents a product or a service, nevertheless these rational dimensions are much more concerned with the direct product performance than the brand itself (for more information see the section *'the product'*). Kapferer (1992) advocates that most of the appeal and differences held by the brand lies somewhere in its identity structure. Identifying these differences is particularly challenging especially when the set of brands under consideration shares very similar functional characteristics.

A brand can also be described and experienced by its similarity with the human character. That means that a brand has a <u>personality</u> (Aaker, 1996; Aaker, 1997; Gordon and Restall, 1992; Plummer, 1985). In a way it can be generous, adventurous, irritable, responsible, anxious, etc. Batra *et al.* (1993) has defined brand personality as:

> *"the way in which a consumer perceives the brand on dimensions that typically capture a person's personality" (p.84).*

The same authors have advanced that it is reasonable to conceive that a brand's personality is created, over time, by the marketing mix if its elements are deliberately co-ordinated, distinctive, and kept consistent.

The idea of brand personality contrasts to the *"product-related attributes"*, which tends to serve a utilitarian function for consumers, brand personality tends to serve a symbolic

(*i.e.*, emotional) or self-expressive function (Aaker, 1997; Keller, 1993). The brand personality concept has considerable face validity (Aaker, 1996). Respondents in qualitative and quantitative research studies are routinely asked to profile brand personalities. However, an understanding of the emotional use of brands has been limited and non-consensual in the consumer behaviour literature.

Recently, Aaker (1997) undertook an ambitious project to verify empirically the brand personality construct, more specifically, to identify the *"Big Five"* (*i.e.*, sincerity, excitement, competence, sophistication, and ruggedness) dimensions of human personality on brands. To do so, she developed a theoretical framework of the brand personality construct by determining the number and nature of dimensions of brand personality. As a result of her effort, a reliable, valid and generalisable measurement scale was created.

A brand is thought to <u>reflect</u> a customer's image. According to some authors (*e.g.*, Gordon, 1991; Gordon and Restall, 1992; Restall, 1990), a customer's image can be defined as the kinds of people believed by the customer to be the most likely buyers and/or users of the brand. This term reflects marketing values shared by the brand and its customers. Behind this concept relies the idea that brands are used to build and transport values to their buyers' own identity. The <u>self-concept facet</u> reflects buyers' own internal mirror. Self-concept theory is based on the proposition that brands are more likely to be bought if they reflect, or appreciate, the perceptions that buyers have of their self (Onkvisit and Shaw, 1987; Sirgy, 1982).

Through their attitudes towards the brand, buyers develop a certain type of inner relationship with themselves. They may even consider the brand's image to match with the way the see themselves.

Each brand has its own <u>culture</u>. This means that each brand has its own system of values. The cultural facet relates to the basic principles governing the brand in its external signals, such as products and communication (Kapferer, 1992). According to Casson (1994), one of the most important motivations for branding is that it permeates products with cultural characteristics. When branding modifies the cultural characteristic of a product; preferences regarding products are likely to change. Thus, by permeating products with new cultural characteristics, branding influences demand. These cultural characteristics may exist in different forms. In his opinion these characteristics may be identified basically in four ways.

The first, the emotional analogue to the material satisfaction gained from consumption. Second is the badge of allegiance. The whole idea behind this is that people with shared values can recognise each other trough their consumption. Third is related to status. People like to be recognised by what they consume. Finally is their suitability as a gift. However, he emphasises that a product does not make a suitable gift simply because of its utilitarian characteristic. There are many products that are quite inappropriate as gifts. Gift-giving is more common within the household, in clubs, societies and other small non-profit organisations. Between industrial profit-making organisations this type of activity, if happens, at

least is kept under secrecy. Other important aspect is the brand's country-of-origin. For many brands, it evokes cultural associations.

Finally, the <u>relational facet</u> of the brand's identity is considered. The whole idea behind this facet is that every brand is a relationship (Gordon, 1991; Kapferer, 1992). This idea emerges from the communication model in which the brand and the buyer are considered as counterparts of a single system.

Comparable to the relationship between people, the brand relationship concept has been defined by Blackston (1992a;b;c; 1993a;b) as the interactions between the buyer's attitude toward the brand and the brand's attitude toward the buyer. The success of a buyer-brand relationship depends crucially on the buyer's perceptions of the brand's image. A tight congruence between the concepts that picture the sender's side with the ones that picture the receiver's side is a good indicator that there is compatibility between these two parties and this compatibility is most likely to represent a positive brand-buyer relationship.

Some studies on corporate brand relationship have revealed these components of success in positive relationships, they are trust in the brand, satisfaction with the brand, and being acknowledged as a leader (Blackston, 1992b). To finish, as mentioned earlier in this text, the cultural and relational facets of a brand's identity are the links between the picture of the sender and that of the receiver.

2.5.3. - Sources of brand identity

Kapferer (1992) has described a brand – as a plan. Not in the sense of a written plan but in the sense of something that should be analysed just like a plan. He suggests that this analysis should start by the brand's history regarding all its external embodiments like advertisements, products on which it appears and symbols by which it is represented. Thus, if one is to understand a brand's meaning, the best approximation would be to approach it through its signs of identity (*i.e.*, what identifies the brand as unique over time). To make this attempt, he recommends a careful examination of the products or services themselves, the brand name, its personification, logo, country-of-origin, advertising themes, and style and packaging approach to discover the plan behind these signs of identity. Even though using the term plan to describe these elements that most brands have, he states that

> *"more often than not; there is no plan, either conscious or unspoken."* (p.47).

It can be understood by his point that decisions concerning the strategic use of these elements are also the result of opportunities and not only the consequence of an overall branding plan.

In the opinion of Olins (1989), the elements that integrate to form the brand's identity can be seen from two different perspectives. The first perspective would be their symbolism. He compares the brand's symbols to a religious or even a country's national symbolism that

encapsulates and makes vivid a collective sense of belonging and purpose. The second perspective would be their standards of quality. These elements can represent consistent standards of quality and therefore encourage consumer loyalty. Aaker (1991) refers to these elements as assets and skills that, he believes, provide the basis to a sustainable competitive advantage. Thus, wishing to resemble the ideal 'image' for their brands and in this way achieve competitive advantage; marketers should promote their brand's sources of identity in a way to emphasise the brand's attributes and values considered by buyers to be most important.

<u>The product</u> - A brand communicates its plan through the product or service that it represents (Kapferer, 1992). Unless it is a weak brand, often it is not only a name marked on a product. It also represents the qualities (*i.e.*, product-related attributes) that are present into the product or service (Keller, 1993). Kapferer (1992) advises that brand qualities only bring meaning to the customer when they go to the very heart of the product. He emphasises this point remembering that all major brands have a *"pivotal"* product that he described as *"a heart which transmits the meaning of the brand"* (p.49).

For example, in the IT scenario many manufacturers try to make technology the heart of their brands (Ryder, 1994). As a very fast technological changing industry, this may be a good starting point but not a unique one. Besides technology, that is a common attribute that most manufacturers try to associate with their brand, the great challenge is to find an important attribute that has not

yet been claimed by a competitor (Aaker, 1991) and make it the heart of the brand.

A classification schema proposed by Myers and Shocker (1981) suggests that most product-related attributes fall into three major categories:

- <u>Product Referent</u> - consisting of the physical characteristics of the product (*e.g.*, weight, energy consumption);
- <u>Task or Outcome Referent</u> - reflecting the perceived outcomes from using the product (*e.g.*, fast, easy to use); and
- <u>User Referent</u> - reflecting what the usage of the product says about the user to other people (*e.g.*, a youthful kind of car).

Later, Keller (1993, p.4) advanced proposing a different classification schema where attributes are distinguished according to how directly they relate to product performance. They can be:

- <u>Product-Related Attributes</u> - defined as the ingredients necessary for performing the product function sought by customers (*i.e.*, the product's functional characteristics), and
- <u>Non-Product-Related Attributes</u> - defined as external aspects of the product that relate to its purchase or composition. The four main types of non-product-related attributes are 1) price information, 2) packaging or product appearance information, 3) user imagery (*i.e.*, what type of person uses that product), and 4) usage imagery (*i.e.*, where and in what type of situations the product is used).

Buyers make inferences based upon their knowledge of

a product category (Meyer, 1981) and of the specific attributes under consideration (Huber and McCann, 1982). Such cues can be seen as information that is inherent or related to the particular product (*i.e.*, product-specific cue) or product category (*i.e.*, product-category cue) under consideration (Wansink, 1989). Composition models for multi-attribute decisions are based on the implicit assumption that buyers evaluate each relevant attribute and use these judgements in somewhat overall evaluation (Shocker and Srinivasan, 1979).

The name and the symbol – With the enormous quantity of products in the market, one of the means of identification and differentiation between them is the name. The name can actually form the essence of the brand concept (Aaker, 1991). The brand name also performs several key roles. The most important ones are *i)* it identifies and helps to differentiate the products; *ii)* it communicates messages (functional or symbolic) to the customer; *iii)* it creates customer attraction and loyalty; *iv)* it functions as a piece of legal property (Shipley *et al.*, 1988, Murphy 1988); *v)* it can identify its owner; *vi)* it can become a shorthand means for recalling a cluster of benefits; and *vii)* it can reduce concerns about risks (de Chernatony, 1993).

There are a great number of published materials advising companies on brand naming. However, only a few have put effort on this topic in industrial markets. Greatorex and Mitchell (1991) studying risk reduction by industrial buyers of mid-range computers have found brand name to be a source of information used by buyers' when deliberating. Shipley and Howard (1993) drew conclusions

about brand names and brand naming being important to manufacturers of industrial products. Some other researchers (*e.g.*, Saunders and Watt, 1979; Sinclair and Seward, 1988) studying the effect of brand naming on similar competitive products have reported that the brand's name alone is unlikely to be of value, nevertheless, it can affect the buyers' perception of the product as part of a global branding strategy.

It is accepted that an effective name is likely to contribute to a long-term industrial marketing performance (Saunders and Watt, 1979; Sinclair and Seward, 1988). A name can also help build and sustain competitive advantage (Aaker, 1991), however this can only happen if the brand's promise and physical differential advantages can be communicated to the customer. Hence, brand names can be used to interest and/or attract customers (Bogart and Lehman, 1973; Shipley and Howard, 1993).

Brands also have a strong non-verbal component (Biel, 1993) - especially when products and services are difficult to differentiate. In this case, Aaker (1991) believes that the symbol can be a key differentiating element of the brand. King (1991) has been suggesting that the use of an adequate symbol can capture, through association, desirable values (*e.g.*, reliability, performance) associated with the brand. In addition of producing desirable associations, a symbol can well be an indicator for a brand (Aaker, 1991).

Levy (1958, p.409) has defined a symbol as a *"thing which stands for or expresses something else."* Later, Dobni and Zinkhan (1990, p.111) pushed forward Levy's definition of what is a

symbol as being *"a general term for all instances where an object, action, word, picture or complex behaviour is understood to mean not only itself but also some other ideas or feelings."* Symbols can be almost anything, including geometric shapes, the script of the name (*i.e.*, text-dominant design like, the way the name Coca-Cola is designed on the bottle), things, packages, logos, people, scenes, and cartoon characters. Most symbols are deliberately elaborated to reflect a brand's personality and culture (Kapferer, 1992).

According to Aaker (1991), a symbol can also help create awareness, associations, and a liking or feelings that can affect loyalty and perceived quality as Figure 2.6 suggests. The power of symbols to influence buyer's perception should never be under-estimated (Olins, 1989). They have some unique advantages. Verbal components are sometimes misunderstood and it is not rare to see a controversy taking place around its meaning. Symbols as non-verbal components are processed differently from their counterparts verbal components and are not subject to the same logical interpretation. Because of being easy to comprehend and less polemical, they are more likely to be accepted (Biel, 1993). Thus, the minimum a symbol can do is helping gain brand awareness nevertheless symbols rich in associations can contribute much more.

People when buying engage themselves in what Aaker (1991) calls 'affect transfer.' This means that they tend to transfer the emotions (*i.e.*, liking or disliking) they feel about the object to the symbol which is perceived to be connected or related to it in some meaningful way and vice-versa. In many contexts, perceived quality of a brand and/or loyalty provides the pivotal reason to buy,

influencing the brand that is to be selected. The buyer often lacks the motivation and/or resources to obtain the information that might lead to an objective brand evaluation (Aaker, 1991). At the same time, the brand's symbol can communicate some associations; even specific attributes (*e.g.*, durable) that can help transfer a positive or negative feeling.
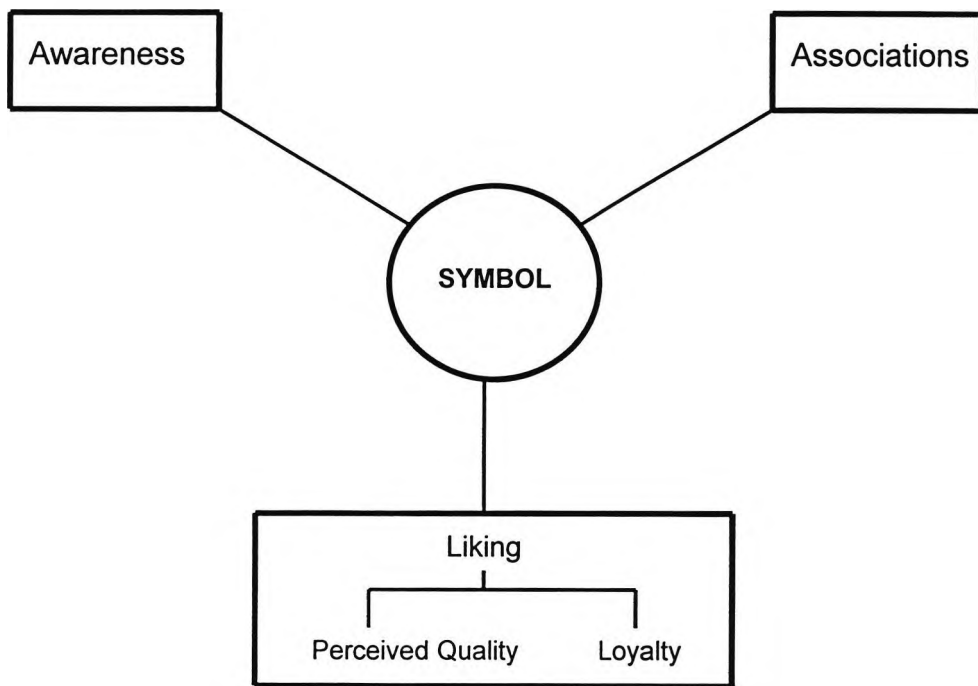
Figure 2.6. - The Role of the Symbol.
(Source: Aaker, 1991, p.198).

<u>The country-of-origin</u> - A country or even a specific geographical area (*e.g.*, California) can be a strong symbol as it induces particular values. Most countries have close connections with some products, materials, and capabilities (Aaker, 1991).

Kapferer (1992) sees this relationship through the

product's perspective. He postulates that certain products transport the identity of their country-of-origin or geographical area to their brands. He exemplified the case of Apple computers that ran on the other direction from the well-established image that IBM had created for the computer industry and that most of computer firms stuck to it, that was the symbolism of order, power and conservatism of the traditional American east coast. Apple as a Californian brand has suggestions of an 'alternative culture.' They have been benefiting from the Californian values of progress and innovation both in technology and social patterns and in this way building their own image for computers.

Research concerning country-of-origin and its effect on product evaluation has been reported (*e.g.,* Ahmed *et al.,* 1994; Alden *et al.,* 1993; Ozsomer and Cavusgil, 1991). Many of these studies seek to understand how buyers' perceptions of products are affected by knowledge of the country or geographical area where these products were made. Some of these researches has found product-specific preferences (Etzel and Walker, 1974; Kaynak and Cavusgil, 1983), for example, Italian shoes can be preferred to many other shoes made elsewhere due to their style and quality while Italian beer may not have the same favouring. Some authors have been advising to the fact that country-of-origin is also a multidimensional construct (Lillis and Narayana, 1974; Nagashima, 1970), which may evoke a wide range of cognitive responses (Cordell, 1993). According to Cordell (1993), buyers may differentiate some countries' brands by such criteria as price, style, quality, availability, etc. However, Nagashima (1977) has been advising that these country profiles are subject to

revision as countries' reputation change with time and/or as buyers become more familiar with it.

Some studies concerning country-of-origin effects have used the perceived risk construct as a dependent or moderating variable (Cordell, 1993; Lumpkin *et al.*, 1985; Witt and Rao, 1992). All approached this relationship in a different way, but all had a similar finding regarding a bias toward products made in less industrialised countries than the United States of America.

The communication - Kapferer (1992) has been pointing out that every brand has a voice and that it can only express itself through communication. Brands acquire a history, a culture, a personality and a reflection through its set of communication (*e.g.*, advertising, word-of-mouth, sponsorship, sales promotion, public relations), but if it is to give a brand its full potential, this set of communication must be managed in the most favourable direction. If this happens, the brand's identity has a greater chance of being decoded by the buyer in the form of a positive image.

Before making any communication strategy, one must look at the buyers' information needs. It is known that before making a buying decision; the buyer needs basically three types of information. First, the buyer must be aware of the brand (*i.e.*, awareness). Information regarding the existence or availability of the brand must be granted. Second, one must be interested in the brand to go farther

considering it as part of a set of possibilities. Information that motivates the buyer to become interested in the brand must be provided. Third, the buyer needs information that will help him or her to evaluate the brand in terms of its ability to satisfy his or her buying goals. This type of information must include details about the product itself, its cost, characteristics, functions, variations, performance attributes, etc. Besides functional information, it may as well carry pieces of information which will help the buyer evaluate the psychological and social consequences of buying that brand (Cox, 1967g).

To satisfy his or her information needs, the buyer has three basic types of sources to which look in. First, there are the marketer-dominated channels of communication, which are under the control of the marketer (*e.g.*, the product itself, pricing, packaging, advertising, promotion, distribution channels, display, personal selling, etc.). Second, are the customer-dominated channels of communication, which are under the control of the customer and include all interpersonal sources of information (*e.g.*, word-of-mouth). Third and last are the neutral information sources such as consumer report, independent magazine and newspaper articles and scientific and non-scientific journals (Cox, 1967g).

Buyers may value the marketer-dominated channels of communication for their ability to present a quick and broad range of performance and financial information. These sources are low-cost sources of information for the buyer. They may not always be perceived as competent (*i.e.*, high predictive value) and/or trustworthy sources of

relevant psychological and social information (Cox, 1967f;g; Maloney, 1962). Moreover, buyers may value customer dominated channels of communication for their flexibility, trustworthiness, and for the amount of information they may convey about the brand - particularly information concerning product performance and psychological and social consequences of a purchase decision (Arndt, 1967; Cunningham, 1967b; Kiel and Layton, 1981). This type of source of information may suffer from the same type of disbelief about its high predictive value. It is also a much more costly in time-consuming and effort way of obtaining information than the marketer dominated sources (Cox 1967f,g).

The so-called neutral information source basically plays a similar role to the customer dominated channels of communication (Cox, 1967g). They may be perceived as excellent and trustworthy sources of performance and financial information, but they may not provide any psychological or social information (Cox, 1967f).

From the previous discussion, one can appreciate the brand perceptual process and how a strategic brand management can benefit from a good understanding of brands. As perceptions are context-dependent, it is important to understand the environment and context in which the brand selection takes place. The next section explores the organisational buying process with a special emphasis to IT acquisition.

2.6. - Organisational buying

Understanding the behaviour of industrial

organisations as buyers of goods and services has been the central theme of business marketing research for decades. These studies have contributed for better managing the buying and selling functions in organisational marketing. Many researchers (*e.g.*, Grhingold, 1986; Johnston and Spekman, 1986) believe that the state of the art in the subject is significantly stronger in descriptive knowledge of organisational buying than is in normative models and strategies for either better purchasing or business marketing.

Traditional views of organisational buying have lacked comprehensiveness. The literature in economics and even some marketing theorists insist that purchasing is related to the buying task itself, and emphasises a rational economic approach. In such views, the objective of purchasing is to obtain the minimum price or the lowest cost-in-use. Kotler (1997) has been saying that no two companies buy in the same way, yet sellers hope to identify enough uniformity in organisational buying behaviour to improve the task of marketing strategy planning. Webster and Wind (1972b) defined the activity of organisational buying as

> "... *the decision-making process by which formal organisations establish the need for purchasing for purchased products and services and identify, evaluate, and choose among alternative brands and suppliers*" (p.2).

Many argue that organisational buying is far more rational than consumer buying (*e.g.*, Webster, 1993), yet emotional factors are considered by others (*e.g.*, Dichter, 1973) to play an important and sometimes decisive role on the brand selection criteria. This section on

organisational buying opens discussing the differences between consumer and organisational buying behaviour. Then it moves on to explore the organisational buyer's purchasing motives (_i.e.,_ rational and emotional motives). Discusses the organisational buying process and finalises describing the acquisition of IT brands. As the objective of this study is not to explore buying behaviour but individuals brand and risk perceptions, we decided to review only the relevant topics on organisational buying behaviour that can help explain the findings.

2.6.1. - Consumer and organisational buying differences

The study of organisational buying can be greatly eased by the recognition of the similarities that exist between the consumer and the organisational buyer. Webster (1993) has discussed that if one is to understand and intelligently attack organisational marketing problems, a number of substantial differences between organisational and consumer marketing must be recognised.

A failure to recognise these differences is one reason why marketing scientists have had trouble applying models and management techniques developed in consumer marketing to problems of organisational marketing. Ames (1970) has noted that, despite lip-service from top management and all the organisational trappings of acceptability, the marketing concept often falls short of full-scale acceptance in industrial companies because they fail to recognise these differences.

Research findings and theoretical discussions about consumer behaviour often do not have adequate relevance for the industrial marketer. This affirmation however is not consensual. According to many (*e.g.*, Dichter, 1959; 1973; Duncan, 1940; Hill and Hillier, 1977; James, 1966; Powers, 1991), it is important to see the industrial buyer as an individual who's task is to buy products and services. This task normally takes place in the context of a formal organisation influenced by budget, cost, profit, and other considerations. Furthermore, organisational buying usually involves many professionals in the decision-making process with complex interactions.

According to Anderson *et al.* (1987), much of the buying and selling in advanced economies are between organisations, that is, business rather than consumer exchange. Hence, it is important to understand the context of organisational buying behaviour. Moriarty (1980) compared consumer with organisational buying research and affirms that the organisational one is still at the conceptualisation stage if compared to the consumer researches. What he actually meant was that organisational buying behaviour is lacking empirical tests of its theories. A likely explanation for this problem is the extreme difficulty of gathering samples of data that have enough observations to justify statistical analysis and at the same time represent a broad range of professional purchases (Anderson *et al.*, 1987; Bellizzi and McVey, 1983).

Meanwhile, Miller (1990) has pointed out, leading the list of similarities, that organisations and consumers use the same basic decision process. Organisations also have needs. Their purchase process also involves search of

information about alternative offerings. A number of external factors also influence their choice, including social influences, salespersons, and advertising. His point is also shared by some consumer behaviour experts (*e.g.,* Crittenden *et al.,* 1986). Other researcher (Fern and Brown, 1984) presents further evidence of similarities involving the increasing use of advertising and promotional techniques by organisational sellers. He believes that some of this activity may be due to the increasing number of brand managers who worked for consumer goods companies taking jobs in firms that operate exclusively in business-to-business.

Despite the similarities, Miller (1990) is still concerned that there are some significant differences to consider. One major difference between individual consumer purchase and an organisational purchase is that the professional buyer is usually not the end user of the product. A second major difference involves the roles of the people who participate in the decision process. A third difference is that the quantities involved in organisational buying can be enormous. A fourth difference refers to the fact that organisational decisions are sometimes more structured processes, in which bids from competing suppliers are invited, quoted and analysed.

As a consequence of all the above mentioned differences, it is not rare to see professional buyers deliberating about a purchase in a much longer period, compared to a regular consumer making a brand choice. The professional buyer frequently expects to have several meetings with potential sellers before feeling confident to make a purchase decision. The process of organisational

buying takes more time, energy and consequently costs a lot more than it does for consumers. Nevertheless, it is motivated by similar factors, both rational and emotional. Moreover, while consumers have preferences and normally express these preferences being loyal to brands, for a professional buyer; brand loyalty means to have a long-term relationship with a particular supplier (Ford, 1990; Håkansson, 1982; Dwyer *et al.*, 1987).

2.6.2. - The rational and emotional sides of organisational buying

For the industrial marketer, it is generally not sufficient to know only the buying process used by the organisational customer. The buying motivations must also be sought out and addressed in a marketing strategy. Organisational buying behaviour is frequently more standardised than consumer behaviour. Professional buyers tend to follow established methods, and is also less likely to make impulse purchases (Brand, 1972; Gaedeke and Tootelian, 1983; Haas, 1992; Hill and Hillier, 1977, Robinson *et al.*, 1967). The normal pattern, especially for new task and modified rebuy situations, is to closely follow <u>rational</u> decision-making processes.

Robinson *et al.* (1967) has added that besides the predominance of rational drives in organisational buying, these drives tend to decline with the increase in <u>functional</u> brand similarities, and other empirical evidences (*e.g.* James, 1966; Shoaf, 1959), nevertheless, has led to an increasing recognition that professional buyers are also influenced by <u>emotional</u> drives. According to Dichter (1973), one of the persistent fallacies of our

times is the belief that when a person undertakes a technical job, or is solving a technical problem, he or she can separate him/herself from its ordinary human emotions and act coldly and logically, functioning as an *"intelligent calculating machine"* (p.16).

These rational buying behaviours cover aspects such as search, communication, negotiation, and buying activities, and source loyalty. One must not lose sight to the fact that professional buyers have emotions toward brands and their perceptual processes can affect these emotions. Even though these emotions may be hidden, they still affect their behaviour. All buying centre members who jointly or independently make decisions are influenced by rational (*i.e.,* task) and emotional (*i.e.,* non-task) factors.

Task operations refer to the main activities that are directly connected with objective buying techniques. Non-task activities are those various machinations that take place in the company and which although not directly related to the specific buying activities still have a bearing on them. In the opinion of Hill and Hillier (1977), the rational and the emotional bases can include the following items shown in Figure 2.7.

The motives underlying the professional buyer's decisions have been given far more attention than most other aspects of organisational buying behaviour (Haas, 1992; Robinson *et al.*, 1967). Roughly, these motives can be classified as task and non-task motives. Proponents of the task motive assume that the buyer's decisions are influenced only by factors that have direct effect on the

immediate task to be performed (*i.e.*, price, quality, delivery, dates, etc.). Nevertheless, the non-task motives are based on the more realistic assumption that task factors are mediated through a set of non-task factors that characterises each buyer.

ECONOMIC (Task)	EMOTIONAL (Non-task)
Source searching	Ego enhancement
Supplier appraisal and evaluation	Office politics
Purchase research	Personal-risk reduction
Value engineering and analysis	Tactics of lateral relationships
Product cost management	Previous experience
Purchase price analysis	Other emotional activities
Other objective techniques	

Figure 2.7. - Examples of Task and Non-task Buyer Behaviour.
(Source: Hill and Hillier, 1977, p.70).

<u>Task elements</u> - The buying motives can clearly be claimed to be rational and Wind's (1967) definition of the buyer's function certainly makes this point:

> *"Buying materials of the right quality in the right quantity at the right time at the right price from the right source" (p.164).*

Lacking an explicit pattern for 'what is right?' this definition is unclear and not sufficiently operational. Suggested by this and other similar definitions', one can at least assume that the buyer when selecting a brand has to take into account a minimal of four variables, they are: quality, quantity, price, and delivery. These task elements are, of course,

broad in nature, and it is expected that different organisations will emphasise different combinations of them according to the particular task to be accomplished by the acquisition (Robinson *et al.*, 1967).

Task elements that potentially can appeal to buyers depend on certain factors, some of which de Chernatony and McDonald (1992) have listed:

1. the different requirements of members of the buying centre,
2. the type of industry buying, and
3. the type of product being bought.

Following their point of view, one can imagine how improbable it is to all members of the buying centre be interested in the same task elements. Buyers come from different backgrounds, different departmental culture, different objectives and have different perceptions of the item under consideration. So, the marketer's challenge is to equalise these different perceptions and, if possible, develop a widespread positive brand-image.

Buyers in different industries may well have different perceptions of the brand's task elements. The marketer may have to consider this possibility and arrange an adequate brand strategy for each industry that they are dealing with. The type of product also produces a critical effect on task element perception. Lehmann and O'Shaughnessy (1974) reported that it appears reasonable to assume that the relative importance attached to the various product attributes would differ among different product types. They also proposed a product classification into four categories based on buying problems likely to be

met if the product is actually bought. These were:

- Routine order products - buyers normally seek reliable delivery, price, flexibility, and reputation;

- Procedural problem products - for this type of product that requires training for use, buyers normally seek use comfort, training offered, and reliability of delivery;

- Performance problem products - these are products where there are uncertainties about their performance, reliability of delivery, flexibility, technical service, and information about product reliability is what buyers look most for; and

- Political problem products - product where there is substantial controversy and consequently extensive debate amongst the buying centre members. In regard to these products, the task elements that buyers look most for are price, reputation, information on product reliability, and reliability of delivery.

Once more, the recognition of how buyers perceive their product according to Lehmann and O'Shaugnassy's (1974) product problem classification should enable marketers to promote different marketing strategies to better communicate with buyers.

Lehmann and O'Shaugnassy (1982) also proposed a classification of the decision criteria used by buyers. These criteria are supposed to operate in every buying situation except for the most minor ones. They are:

- Performance criteria - these criteria evaluate the extent to which the product is likely to maximise performance in the application conceived for it;

- Economic criteria - these criteria evaluate the anticipated cost spending associated with buying, storing, using, and maintaining;

- Integrative criteria - these criteria evaluate the willingness of suppliers to co-operate and go beyond minimal standards in providing services to integrate

their efforts in accordance with the buyer's requirements;

- <u>Adaptive criteria</u> - these criteria evaluate the extent to which the buying firm may have to adapt the capability of the supplier to meet the buyer's requirements for production and delivery;

- <u>Legalistic criteria</u> - these criteria evaluate the impact on the buying decision of legalistic or quasi-legalistic constraints (*e.g.,* government regulations, company policies and practices, etc.).

Lehmann and O'Shaugnassy (1982) when reporting on the empirical results that tested the above-mentioned criteria, mentioned that although buyers declare to use all five-decision criteria, the economic and performance criteria receive the most importance. Obviously, this depends on product sophistication and application. As products become less standardised, economic factors decrease in importance, and performance factors become more important. Adaptive criterion was found to be important for all types of products, and integrative criterion was generally less important.

These task elements are important components to explore if marketers want their brands appeal to the buyer's rational sense. Nonetheless, one must not forget that decision processes are not totally logic events, and so, are likely to also have a non-rational side. The next section explores these non-rational purchasing motives.

<u>Non-task elements</u> - Opposed to the view of rational behaviour is the claim that professional buyers have the same emotions that influence consumer buyers (Dichter, 1973; Powers, 1991; Shoaf, 1959). A seminal work on this topic conducted by Shoaf (1959) exposed certain non-economic characteristics of professional buyers. First, the

professional buyer is likely to be a conformist. This produces a conflict. He or she normally wants to grow and gain respect in helping the company to grow and for that is ready to take high-risks. However, frequently he or she is security minded and plays safe to impress their boss. Second, as brands become more similar, the buyers final decision tends to be based more and more on subjective emotional factors. He concluded that it was clear that organisational buying decisions are not only governed by rational motives.

The non-task motives that affect buyer behaviour have frequently been presented either as a specific list of motives (Robinson *et al.*, 1967) or as a generalisation of a major motive that ascertains the buyer's behaviour (Hill and Hillier, 1977). Robinson *et al.* (1967) has been claiming that professional buyers have two major broad motives, they are:

1. Risk reduction motives, and

2. Achievement motives.

About the risk reduction motives readers are referred to the previous section 'perceived risk' in this chapter for a more comprehensive explanation. About achievement motives one must consider some aspects of the human nature. Buyers, being human, seek to increase their chances for promotion, status, and recognition preferentially without taking too many risks.

Brand (1972) arguing about the dichotomy of the task and non-task forces influencing professional buying has advised marketers that they can harmonise both forces. He postulates that if the marketer is aware that other buying

motives subordinate to the major objective of profit are present, these need to be tackled. Understanding the emotional concerns of professional buyers can give the marketer bounds to better position their brand in relation to competitors that focus exclusively on rational issues. Powers (1991) is another author to provide an argument in favour of the interaction of what he calls economic and non-economic purchase motivations. His interaction proposal can be best appreciated by looking at Figure 2.8.
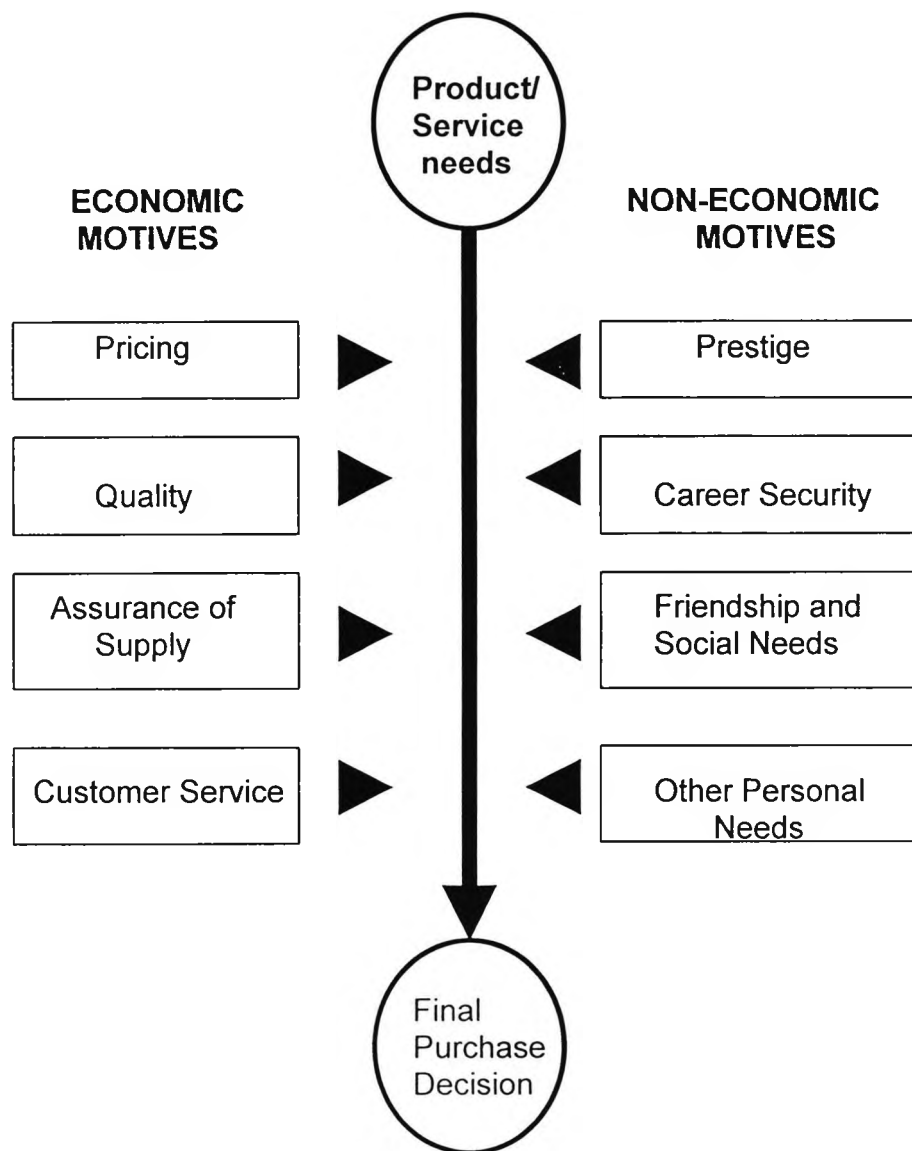
Figure 2.8. - Economic and Non-economic Motives Influencing the Business Buyer. (Source: Powers, 1991, p.47).

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2.6.3 - Organisational buying process

The buying of brands by organisations is a complex set of activities, not an event. It is an organisational decision-making process. According to Möller (1985), the key conceptualisations of organisational buying behaviour comprise the phases of the buying process, the elements of the process, and the contextual factors affecting it. An essential problem in attempting to produce conclusions that can be generalised on the buying process is the nature of the buying. Organisational buying is an example of multi-phased, multi-person, multi-departmental, and multi-objective processes. It is composed of individual, departmental, and company-level interactions.

One of the most widely accepted models of organisational buying process is the buygrid model proposed by Robinson *et al.* (1967). This model is a clean and easy to use approach to understand the organisational buying process. It is a tool that may be used to advantage by the marketer in analysing customers and then assessing where marketing emphasis should be placed within the process.

In the buygrid model, purchases are classified into three basic types *i) new task purchases*, where the buying firm is buying a new product for the first time to solve a problem; *ii) modified rebuy purchases*, where the buying firm modifies a purchase looking for lower price, better service, better delivery, or some other such factor; and *iii) straight rebuy purchases*, where the buying firm simply buys on

a repeat basis those products it usually buys. This model incorporates eight phases in the process, as shown in Figure 2.9.

The model in Figure 2.9 typifies the manner in which organisational customers enact transactional purchases in that it reflects a single purchase, but the process also applies to long-term purchases. As discussed by Haas (1992), when organisations seek suppliers for long-term buying relationships, they typically buy something from them first to test the process. When this happens, the process in Figure 2.9 applies. However, once a decision is made to create a relationship with a supplier; the process does not apply to each and every order.

1 Anticipation or recognition of a problem (Need).

2 Determination of the characteristics and quantity of the needed item.

3 Description of the characteristics and quantity of the needed item.

4 Search for and qualification of potential sources.

5 Aquisition and analysis of proposals.

6 Evaluation of proposals and selection of suppliers.

7 Selection of an order routine.

8 Performance feedback and evaluation.

Figure 2.9. - The organisational buying process.
(Source: Robinson *et al.*, 1967, p.13)

2.6.4. - The acquisition of IT brands

For buyers', trying to buy the right IT brand is like walking into a maze. If there was only one exit it would

not be so bad, but they soon learn that noting in the IT world is that simple. This maze has multiple exists. Even if the buyer has experience in negotiating in this maze, when it's time to buy a new IT brand most of the routes followed in the past has already changed. Even experts sometimes get lost in this maze (Brodie, 1988).

There are almost certainly a number of sound and trustworthy brands in the market that are able to supply the correct product for the business needs. The problem is to find them. Where to start looking? How to be sure that brand is respectable? These and many other questions must be answered before considering a specific brand. To understand and overcome this maze, a structured approach to collect information to use in the decision-making process is recommended.

Following the generic approach of the buygrid model of organisational buying, some authors have proposed specific models to describe an IT buying process. Pipino and Necco (1981) have proposed a four-step model that comprises a feasibility study, an analysis of the available alternatives, the selection, and the financial arrangements. Others like Brodie (1988) has seen this process through an even simpler model of only three stages, starting with the requirements, going to analysis of the available alternatives and for last a systematic evaluation. Norton (1988) has been looking to this phenomenon through the lens of a complex ten stages hierarchical process that includes the definition of users' requirements, a preliminary study, a full study, the request of proposals, evaluation of proposals, the clarification of proposals, the evaluation of tenders, the

award of a contract, the delivery, installation, acceptance, and the post-implementation review.

The level at which these types of decisions are taken will depend on the management style of each company (Norton 1988). In some companies the decision may have to be approved by a board of directors. In other, the head of the department who solicited such equipment has the authority and budget control for such acquisition. After a review of the literature and a series of qualitative interviews on the subject, this process can well follow this structure.

Business Requirements - Too many companies immediately approach a brand supplier with only very vague ideas of what they want (Norton, 1988). This approach can save time, but can easily result in the purchase of a partially useful product. To prevent an unsuccessful purchase, the first step to take is to analyse the business's needs. Once the business's present requirements have been considered, the buyer should begin to look further for future issues regarding changes and improvements.

According to Burch *et al.* (1979) the first step when considering IT acquisition is to determine its feasibility. They advocate that there are five important dimensions to be considered in this analysis; they are technical, economical, operational, legal, and schedule feasibility. Pipino and Necco (1981) have been corroborating with Burch *et al.*'s view, however they clarified the previous proposal as a two-stage approach, in which the first stage should be an initial benefit analysis and second, Burch *et al.*'s full five-dimension

analysis.

All of this analysis work should be drawn together in a specification of the required product. It is important to stress that this specification should not be considered the final word on the subject and that some amendments can occur after detailed re-analysis. It is common to involve users and suppliers in this phase. This specification can also be extremely useful in cutting down the time taken to evaluate potential brands. By showing suppliers the specification, the buyer is clarifying his needs and expecting back a proposal offering a solution for the request. From this point the buyer should start to look for potential brands.

Available alternatives - The criteria for qualifying suppliers is said to vary from organisation to organisation (Robinson *et al.*, 1967). The specific buying situation is also considered determinant of this variation, but there are other buying influences involved. Robinson *et al.* believes that the emphasis on qualifying suppliers may be directly related to the risk perceived by buyers. The members of the buying group attempt to avoid risk by using decision rules, by using short-run reaction to short-run feedback and by arranging a negotiated environment.

Many companies jump straight from producing a product specification to talking to suppliers (Robison *et al.*, 1967). It is better to pause slightly at this stage and do some research work into the brands available on the market. At this stage, it is unlikely that this research will uncover the perfect brand for your business, but it is always better to approach potential suppliers with at least a

minimum of knowledge of what their brands are and what do they deliver. Beck (1988) has been advising that after research; the buyer has already discarded some brands and is considering only a few. From this point he or she can move toward approaching potential suppliers with their requests.

<u>Request for proposals</u> - Having drawn up a product specification, and carried out some research into the brands available, the next step is to make contact with suppliers of these potential brands. One of the most used methods is to send out an Invitation to Tender to all considered brand suppliers (Brodie, 1988). This document consists of the product specification, plus any other relevant information (_e.g._, timetable constraints). One may be curious about how many invitations to tender to send out. This question can only be answered by each buyer. What is generally known is that the major factor that will determine this number is the knowledge that buyers have of each potential brand and his or her preliminary consideration about them. Experience in dealing with some brands is another relevant decider. After preliminary consideration, it is not rare to see companies sending only just a few Invitations to Tender. This is due to the appeal that these brands have and what they mean to the buyer (Norton, 1988).

<u>Proposal evaluation</u> - After receiving some proposals, the buyer moves toward choosing the most adequate one. Which proposal should be considered? How select the winning proposal? The answer is "that depends" and "it's a combination of many things" (Beers, 1983). The decision to acquire a new brand should follow from exercise of both technical expertise

and management judgement. Operational justification rests on technical suitability of the chosen brand. This technical suitability is expected to the work requirements of the buying company. Given that the proposed brand and its acquisition has been justified on operational grounds; economical justification can be examined on its own merits. Basically, the question is whether the projected economical gain to the company is balanced with the cost of the new brand.

For these evaluations, Burch _et al._ (1979) recommend a two-step approach. Fist, establish a set of "imperative conditions" (_i.e._, risk reducing strategies) and compare the competing vendors based on these conditions. Those unable to meet any of the conditions must be eliminated form the set. For the remaining contenders a technical evaluation should take place based on not only functional matters but services as well.

Negotiating the contract - After the evaluation process is terminated, the buying company invites the chosen supplier to supply. Someone in the organisation will now have to negotiate the terms of the contract. It is not unusual to see legal consultants playing a role in this stage (Norton, 1988). It is very important that the contract satisfies both parts and represents the reality.

Delivery and installation - This must be carefully monitored in order to receive what has been promised. Penalty clause regarding delivery and installation delays is common. Norton (1988) has mentioned cases of firms failing to deliver at the stipulated time, taking many weeks after the signing of the contract and the delivery of the

equipment.

<u>Post-implementation review</u> - After the equipment installation has been completed, a series of tests takes place. Even if all the initial expectations are fulfilled, a long-term performance evaluation starts to take place. At this stage questions as to how well the purchased brand solved the problem and how well the supplier performed his task contributing to the success of the purchase. This feedback is paramount to the construction of a solid relationship with the supplier.

Taking the steps outlined previously in this text may appear time-consuming. Before going any further with this point, one must be aware that a successful purchase and installation do not come easily. By taking these steps the buyer is greatly improving his or her chances of reaching a successful conclusion. The important point to remember is that the obstacles thrown up by the maze can be overcome by gaining information and reducing all uncertainties. The use of this information in a practical form, by applying it to a structured buying model like that previously detailed may well lead the buyer to find the right exit of this maze.

2.7. - Conclusion

In increasingly competitive environments, marketers are striving to differentiate their brands not only through their functional performance, but also in terms of what they say about buyers. As technological leapfrogging makes it more difficult to sustain functional competitive advantages, marketers recognise the benefit from

augmenting their brands with psychosocial characteristics. Enrobing brands with emotional values enables customers to perceive distinctive images being projected by competing brands. Buyers recognise different images from competing brands and brand choice is influenced by the extent to which buyers feel comfortable being associated with particular brand images.

Self-concept refers to the attitude individuals hold towards themselves and self-concept theory has been used by many researchers to explain buyer behaviour. One of the underlying assumptions about buyer behaviour is that buyers are concerned with maintaining and enhancing self-concept. As brands are endowed with social and psychological characteristics, buyers use these to infer meanings and it is postulated, from the self-concept brand-image hypothesis, that brand are more likely to be bought if their image reflects, or enhances, the perceptions buyers have of their self. Thus, when a buyer is deliberating between competing brands, they may consider the extent to which the brands match the way they actually see themselves (actual self-concept), or the way they would like to be seen (ideal self-concept) or the way they wish to be seen among particular groups of people (social self-concept).

The concept of risky decision-making has been the topic of concern of many consumer researchers. The concept is based on the idea that the buying activity involves risk. In this sense, any action of the buyer will produce consequences that he or she cannot anticipate with anything approximating certainty. Perceived risk stimulates information search and risk handling behaviour,

and affects both consumer and business buying decisions. Perceived risk has been conceptualised as a two-dimensional construct (*i.e.*, uncertainty and consequences). Findings from studies dealing with risk handling strategies suggest that buyers engage in information search as a primary risk reduction strategy. However, it is interesting to know that buyers tend to develop simplifying strategies (*e.g.*, brand loyalty, buy a well-known brand, reliance on past experience) to decrease the effort associated with reducing risk perception on brand buying.

There are a variety of interpretations of the term brand. Many still believe that branding is about tactical issues such as putting a name, a sign, a symbol or design, or the combination of them on a product as means of simple identification. If the company is to succeed with their brands, they need to have a much more strategic approach and for that they should take advantage of the perception their customers have of their brands and explore the functional and emotional concept with strategic actions. Brand success is a consequence not only of branding as an input process, but specially of what their customers take out of it (output process). Marketers must never forget that the selective mental image of the brand influences the buying decisions.

Organisational buying decisions are not solely governed by a "rational" review of the problem posed if rational is to be interpreted as a long, fully considered view of all possible alternatives to obtain maximum company profitability. Yet, "emotional" considerations also influence brand buying. The brand marketer should take

advantage of understanding the buying process, what influences it, who plays the game and what influence these players. With this information in hand, the marketer has a good instrument to work with and help build a competitive brand.

This chapter has reviewed buyers' perceptual processes more specifically self, risk, and brand imagery perceptions. Organisational buying with emphasis on the IT acquisition process was also examined. In the next chapter a framework will be established, building on this review, postulating how knowledge about risk, self, and brand perception might be used to identify the industrial buyers' risk perception and the varying patterns of brand portrayal. This information might also be used to predict brand preference and industrial segments.

C H A P T E R   T H R E E

The Research Hypotheses

The naming of some claim or line of reasoning or piece of research "scientific" is done in a way that is intended to imply some kind of merit or special kind of reliability. But what, if anything, is so special about science? What is this "scientific method" that allegedly leads to especially meritorious or reliable results?

ALAN F. CHALMERS

3.1 - Introduction

For some time, researchers (*e.g.*, de Chernatony, 1988; 1989; Gordon, 1994; King, 1983; Nanden and Dickinson, 1994) have been exploring the relationship between manufacturer brands and retailer brands. They have been leaving the impression that manufacturer brands have reached a point in the brand development cycle where they have passed their zenith and that we are about to embark on a new era where retailer brands or even unbranded products (*e.g.*, computer clones) will sustain a dominant role compared to manufacturer brands in the market. De Chernatony (1996) has

recently re-evaluated this relationship, and it is his contention that the considerable economic, social, and psychological roles played by manufacturer brands, as well as the long term gains (*e.g.,* customer loyalty) made by brands such as Kellogg's, Gillette, Kodak, Hewlett-Packard and Apple are significant. He feels that some criticisms of branded products are exaggerated.

The past few years have been witness to some turbulent branding activities which have shaken the foundations of the classical brand model (de Chernatony, 1996). This model is based on certain assumptions; the main one being that brands thrive because of unique technologies, specific to their manufacturer, which ensure their superior quality. However, this basic assumption is absent in several industries such as the IT industry, where technological differences are so minute as to be immaterial, and so they can not be regarded as the basis for sustainable competitive advantage (The Economist, 1994).

Another assumption of the classical brand management model is that buyers develop a favourable attitude towards the brand that he or she recognises as offering relevant added value. At the same time, the customer in question will be prepared to pay a premium price for that brand (McKenna, 1991). This assumption is beginning to show signs of refutation as prices of IT products continue to drop (Gates, 1996) and as cheaper and less known brands such as Dell or Gateway 2000 continue to make gains from the market share previously dominated by high-ticket brands such as IBM and Apple. Buyers confronted with these new choices are becoming less and less willing to pay the high prices of high-ticket brands. Nevertheless, while facing strong competition from the less familiar brands offering similar products at lower prices, Compaq is one company which has

been able to maintain price parity or a premium over its competition, and at the same time experience tremendous growth (Crowley and Zajas, 1996).

Crowley and Zajas (1996) offer evidence that supports the assumption that buyers value brands as an important and decisive informational cue when considering the acquisition of an IT product. These researchers even found the brand factor to be more important than price in every major product category tested in their study (*i.e.*, desktop PCs, printers, application software, and notebook PCs). Nevertheless, they also found evidence that buyers of IT products evaluate multiple brands when making a purchase decision.

Whenever buyers are faced with making a choice from many possibilities there is a probability that the chosen brand will not meet the required level of performance (Greatorex and Mitchell, 1993). This probability, sometimes high or low depending on specific situations and market offers, is likely to be anxiety provoking among decision-makers. The role of the brand in this situation should be to relieve that anxiety, and provide reassurance (Blackston, 1992b). As IT brands become more 'commodity-like' in terms of their lack of technical differentiation, brand managers should focus their attention on creating a stronger customer-brand relationship, placing emphasis on creating customer associations with the functional and emotional features of the brand (*e.g.*, versatility, sophistication, status appeal, excitement) as a means of transmitting self-expressive benefits to the customer.

Based on evidence which shows that brands can act in an important manner to reduce perceived risk, a framework

has been developed, based on the assumption that if brand managers are able to identify a buyer's pattern of risk aversion, it is then possible to present aspects of the brand in a manner that will allay the buyer's perception of risk, and therefore encourage brand preference. This study is based on this assumption.

Following Popper's (1969) critical rationalism approach, seven hypotheses were developed as conjectures to be tested. The underlying logic behind testing hypotheses in science is described as (Singleton *et al.*, 1993) the hypothetical-deductive method. The first half of this term indicates that the scientific explanations to be tested are hypothetical in the sense that they are assumed to be true. The second part posits that after an assumption is made about an explanation, then its observable consequences should be deduced from testing.

This chapter begins by describing a relationship between perceived risk level and brand preference. It moves on and develops a more intimate understanding of both brand value proposition association and perception of risk; and concludes by suggesting several demographic associations with perceived risk.

3.2 - Perception of Risk and Brand Preference (Hypothesis 1)

In the process of brand evaluation, buyers prefer the brand that they expect will give the most satisfaction, based on the benefits they are looking for (Assael, 1992). In benefit association, a priority of desired benefits is

developed (*e.g.,* functional and/or emotional benefits) and a brand's characteristics are related to these benefits. This procedure is known as "compensatory method of evaluation", because evaluation is based on a system where a negative rating on one criterion can be made up by a positive rating on another. Nevertheless, buyers may use different decision criteria in evaluating each brand (non-compensatory approach). A non-compensatory model addresses this problem, requiring that buyers rate brands a few criterions at a time, rather than evaluating the brand across all criteria, all together.

Both methods describe a multi-attribute approach to decision-making (Wilkie and Pessemier, 1973). This means that buyers use more than one attribute to determine their preferred brand. This multi-attribute model assumes that decisions are made objectively by collecting information on utilitarian attributes such as service costs, technical support, and performance. In actual fact this premise is not always strictly correct. In many cases, symbolic rather than utilitarian values dominate decision-making (Hirschman and Holbrook, 1982). The difference between a utilitarian and a symbolic purchasing behaviour lies in the nature of information processing and brand evaluation. Information processing is likely to be dependent on the match made between individual perception of brand symbols, and how these symbols are associated to self-image (Mowen, 1988). Brand evaluation is dependent on the fit of this association.

Individual personality can be represented as a set of inferred hypothetical constructs relating to certain persistent qualities of behaviour. Just as people, brands are assumed to have personality images (Alt and Griggs, 1988; Gordon and Restall, 1992; Plummer, 1985). This set of

constructs can be used to describe customer segments based on a capacity for identifying variables which reflect consistent and enduring patterns of behaviour (Gunter and Furnham, 1992; Kassarjian, 1971). Thus, in the context of customer segmentation, it can reasonably be assumed that personality variables can be related to buying behaviour.

When researchers first began to study consumer behaviour, they turned to existing personality theories to explain buying motivations. The first of these to be so used was Freud's psychoanalytic theory. However, as such theories were developed to explain personal and social disorders rather than consumer behaviour, their use for analysis of consumers was limited (Assael 1992, Kassarjian 1971). Moreover, much of the seminal work which helped create the impression that a positive relationship between personality and brand preference exists, used personality inventories from clinical psychology to provide operational measurements of behavioural dispositions, which are based solely on individual observations.

The development and use of personality tests in academic contexts used student populations and this introduces another limitation to these studies. According to Gunter and Furnham (1992), in neither circumstance has enough effort been made to merge the measure of personality with buyer behaviour and even less effort has gone into testing their effectiveness as predictor variables.

There exist many different schools of thought, which relate personality to purchasing behaviour, but only a few have had a strong impact on the study of buyer segmentation strategy. These are: psychoanalytic theory (including motivational research); social-psychological theory; trait-factor theory; and self-concept theory. These four theories

vary greatly in their approaches to personality measurement. The methods used to describe markets depend primarily on the researchers' beliefs about and feelings regarding personality theory.

Psychoanalytical and social-psychological theories tend to employ qualitative methods to evaluate personality variables. Of those listed above; trait-factor theory is the most empirical theory and self-concept theory falls mid-way between a qualitative and quantitative approach. It is not the intent here to provoke discussion about which is the best personality theory, or which successfully predicts buying behaviour. Instead, what is presented here is a close examination of one of these theories - the self-concept theory and how it relates to brand preference. This theory was chosen for consideration because, of all the personality concepts previously mentioned, it has provided the most consistent results (Foxall 1980), and consequently the greatest promise for application to buying behaviour research.

Self-concept theory has been employed by many researchers to explain buying behaviour (*e.g.*, Birdwell 1968; Dolich 1969; Leigh and Gabel 1992, Malhotra 1988, Onkvisit and Shaw 1987, Sirgy *et al.* 1991). Their choice was made based on the proposition that brands are more likely to be bought if they reflect, or enhance, the perception of self held by consumers. Self-concept theory is rich in that it underlines the importance of context in the development of a consumer's concept of self.

For example, when a consumer is deliberating between brands in a product field he or she may consider the extent to which the brand matches his/her concept of self. Individuals can have a concept of self based on who they

think they are (<u>actual self-concept</u>), who they think they would like to be (<u>ideal self-concept</u>), or even the manner in which the person believes others think of and perceive them (<u>social self-concept</u>). Besides these perspectives of self, Sirgy (1979) suggests that a combination of the ideal and social self-concepts may exist, and if it does, it is most likely to play an important role in human behaviour. <u>Ideal-social self-concept</u> might be described as how the individual desires to appear to or be perceived by others (and particularly significant others).

Yet another perspective is put forward by Schenk and Holman (1980), and is based on the symbolic interactionism school of thought. It is termed <u>situational self-concept,</u> and can be defined as perception of other in a specific situation.

While the existence of multiple constructs is acknowledged in the literature, self-concept has been conceptualised and treated by many investigators (*e.g.,* Dolich 1969; Hong and Zinkhan 1995; Landon, 1974; Ross 1971; Schewe and Dillon 1978) as having only two major components – the actual and the ideal. The main reason provided by researchers for using duo self-construct to represent self-concept, is simplicity. Each concept has close descriptions which could result in confusion. Limiting choices reduces tedium for respondents who might not comply if required to answer five sets of scales. Following in this tradition, this study employs the dual dimensions of actual and ideal self-concepts. In addition to investigating actual and ideal congruities independently, a further goal of this study is to treat the two constructs as interactive.

Many corporations are preoccupied with what they term their "relationship" with their customers. Unlike other corporate assets, brands do not belong exclusively to the corporation. According to Blackston (1993a;b), it is not unreasonable to describe the buyer as an "equity partner" in relation to the brand. This is because the most valuable equities of a brand (*i.e.,* the intangible ones that create added value) are reliant upon its relationships with buyers. Relationships with a brand actively influence buyer behaviour. These relationships are based on a set of beliefs and perceptions formed over a long period of time; some are even culturally influenced. An individual must feel confident that the brand fits into his or her own value system in order for a positive relationship to be established with that brand.

Brand-buyer relationships are based on a congruence of value systems. The potential benefits of establishing a close relationship with buyers are huge since buyers have been shown to favour brands perceived as most closely representing facets of their own values (Blackston, 1992a;b;c). Studies show that the strength of the brand-buyer relationship reflects the goodness-of-fit between the physical and psychological needs of the buyer, and his or her perception of the brand's functional attributes and symbolic values (Hankinson and Cowking, 1993).

In the market buyers are faced with an abundance of products whose performance is not easily assessed. This results in buyer confusion. Brands make products easier to "read" and alleviate buyer uncertainty (Kapferer, 1992). Successful brands identify products and reveal brand values as a reflection of buyer self-image. Thus, brands act to identify, guarantee, structure and stabilise supply. Their value is realised from their capacity to reduce risk. This

means that risk is an important factor in shaping the types of relationship established between brands and buyers.

Whenever a situation arises where the buyer is either unable to evaluate the product easily before purchase, or product failure could result in serious consequences (*e.g.*, material or other) - the buyer engages in a process of risk assessment. Because of the amounts of money involved and the domino effect of product failure many business decisions are made in favour of trustworthy brands with which the buyer has already established a close relationship (Blackston, 1992a;b;c; 1993a;b).

On top of this is the fact that uncertainty in any area of an individual's psychological life can lead to feeling of anxiety (Statt, 1997). Thus, the more uncertain the consequences of a buying decision the more anxiety an individual will experience, and the more he or she will try to relieve that anxiety. That is, he or she will seek to reduce the perceived risk attached to the decision. Research in consumer behaviour (Roselius, 1971) indicates that reliance on a well-known brand is the most popular strategy for reducing perceived risk.

Cognitive psychology provides information indicating that an individual's ability to sense a given stimulus varies according to his or her immediate psychological and physiological condition. It is also believed that different people have varying absolute thresholds for risk perception (Schiffman, 1976). This results in a situation where individuals perceive risk in unique ways. Thus, while certain individuals will perceive risk in a given buying decision, others will not. In specific instances, some people will perceive high risk, others low risk (Statt,

1997; Stone and Winter, 1987). Based on this discussion, it can be hypothesised that:

> **H1 -** _Buyers who perceive high levels of risk will tend to prefer brands that are most closely associated with their own set of values, as compared to buyers who perceive low levels of risk._

3.3. - Perception of Risk and the Brand Value Proposition (Hypotheses 2 and 3)

Brand image perception is more than a mere listing of the attribute levels associated with a brand. It is also more interesting than that. One facet of brand image is that benefit perception is influenced by how the brand is categorised. Such categorisation may also lead to inferences of related benefits, not consciously intended by the buyer.

Sirgy (1983) proposes that brand benefit perception involve problem-need recognition. It also incorporates the concept of opportunity recognition. In this process, the buyer is confronted with a new or unfamiliar brand in the marketplace, which he or she examines initially for benefit. The brand is also assessed according to its ability to satisfy one or more specific needs or wants. This assessment occurs when the individual uses a perceptual cue associated with the brand to evoke a cognitive category involving that brand. In Sirgy's system, the evoked cognitive category represents a set of attributes or benefits associated with the evoked concept.

These attributes may be functional or emotional in nature. However, this perceptual categorisation is dependent on the goodness-of-fit between the perceptual cue(s) and the matching attribute(s) within the evoked cognitive category.

There is a sense in which functionally oriented brands may be less conspicuous in either purchase or use of them. The critical issue is that for buyers, value represents less a means of self-expression, and more a means of differentiating between competitive offerings in functional terms (*e.g.,* reliability, durability, efficiency, quickness, economy, etc.). De Chernatony and McWilliam (1990, p.114) define brands which predominantly satisfy functional needs as:

> *"names developed by marketers both to distinguish between competing offerings and to facilitate purchasers' and users' decision-making through rapid recall of customer-relevant performance benefits. Their values are less to do with the purchaser's and/or user's personality and more to do with the product's functional capabilities and physical attributes."*

Emotionally oriented brands can be distinguished from those functionally oriented, in that they transmit an image which includes an element of self-expression to the buyer and/or user (*e.g.,* sophistication, prestige, etc.). According to de Chernatony and McWilliam (1990, p.113), emotionally oriented brands can be defined as having:

> *"a set of consistent beliefs and meanings held by their purchasers and users which are associated with the product or service, but which exist over and above its physical functioning. These feelings are shared by purchasers and users and help them choose the competing version which is best suited to the expression of their particular personalities, roles, set of needs and emotions in a given situation."*

The strongest brand identities are not exclusively characterised by one of these dimensions (*i.e.,* functional or emotional), but rather a fusion of them (Agres, 1990).

According to Aaker (1996, p.95), a brand's value proposition is a statement of the functional, emotional, and self-expressive benefits delivered by the brand and providing value to the customer. An effective value proposition should lead to a positive brand-customer relationship, and increase purchase decisions.

Another point which needs to be highlighted, is that it is believed that the higher the monetary value involved, or the more grave the consequences of product failure, the greater is(are) the risk(s) perceived. Thus, as mentioned earlier in this text, perception of risk plays an important role in shaping the types of relationship buyers look for in brands. There are two major sources of perceived risk (*i.e.,* hard and soft risks); either can contribute to a purchasing decision (Rossiter and Percy, 1987).

There are several different types of risk within each of the two major sources of perceived risk (Jacoby and Kaplan, 1972; Roselius, 1971). Performance risk is that associated with the possibility that the brand might not perform as expected. Financial risk is that associated with the cost of the brand. Time risk is that associated with time loss in buying or fixing a brand. These 'harder' types of risk have been grouped together and described as economic (Rossiter and Percy, 1987) or performance risk (Cox, 1967f). Of the 'softer' risks, social risk is one associated with the level of approval from a respected peer group, and psychological risk is associated with the fit between the brand's image and the buyer's self-image. These risks are also known as psychosocial risk (Cox, 1967f; Rossiter and Percy, 1987). The following hypotheses result from the previous discussion:

> _H2 - Buyers who perceive high levels of psychosocial risk will tend to value highly emotional brand signals, as compared to buyers who perceive low levels of psychosocial risk._

> _H3 - Buyers who perceive high levels of economic risk will tend to value highly functional brand signals, as compared to buyers who perceive low levels of economic risk._

3.4. - Perception of Risk and Buyer Differences (Hypotheses 4 and 5)

According to Yates (1992), the casual observer knows that individuals differ in their attitudes toward risk. Some individuals seek certain kinds of risks that others desperately avoid. Consequently, it would seem straightforward to differentiate individuals according to their tendencies toward risk.

Considerable research has gone into study the differences between individual organisational buyers (_e.g.,_ Hillier, 1975; Thain _et al.,_ 1959) and the relationship of these differences to perceived risk (_e.g.,_ Grønhaug, 1975). This area of study is based on the assumption that the unique characteristics of individual decision-makers can help to explain differences in both the content and style of the decision-making process in organisational buying.

Robinson _et al._ (1967) reports the effects and importance of personal attributes on the buyer's decisions in their work. In another study of the determinants of industrial buying behaviour, Duncan (1965) emphasises that:

*"it is evident that the motivation and behaviour of the purchasing officer is influenced by such personal qualities as his ambitions, his eagerness to learn, his alertness as manifested by his awareness and use of 'newer' tools and methods, his desire to do a better job than the buying executives in competing companies, **his education and experience and similar personal characteristics**. ... All influence his purchasing behaviour to an important degree" (p.15).*

The literature which focuses on the individual organisational buyer has mainly sought to identify specific buyer characteristics (*i.e.*, psychological and demographic variables) which then serve as correlates of perceived risk. Once these correlates can be identified, they are then used as a buyer **segmentation device**. Since risk perception may vary across people and situations, we would like to characterise buyers in some general way to allow using risk segmentation in practice. Following this argument, it was decided to choose an explanatory variable representative of buyer differences that affects buying behaviour.

One such individual characteristic that can be chosen as a explanatory variable is **buyer experience** (Cunningham, 1967a; Festervand, 1980; Hisrich *et al.*, 1972; Zikmund and Scott, 1973). As mentioned earlier (see pg.64), experience has been defined by Hornby (1978) as "the process of gaining knowledge or skill by doing and seeing things." Wolman (1973) was more explicit in his definition when he stated experience as "the living through or personal encountering of an event" and the "skill or understanding which is the result of living through something, or of practice, or of participation in something." Thus, as one can realise from these definitions, it can provide a goldmine of information.

According to Festervand (1980), experience was first investigated in consumer research in terms of the confidence a buyer has in making a given purchase decision. The underlying proposition of the 'experience ↔ confidence' relationship was that the more a consumer engaged in a given purchasing activity, the more confidently he or she should do so. This line of reasoning has been empirically investigated by several researchers (*e.g.*, Cunningham, 1967a; Hisrich *et al.*, 1972; Zikmund and Scott, 1973) who found some support for this proposition. Thus, experience may give the buyer insight into the buying problem.

From a review of relevant literature, it became obvious that perceived risk is linked to the experience factor of learning theories (Ring *et al.*, 1980; Sheth, 1973a). The experience factor asserts that knowledge and skill increase with experience. When applied to organisational buying, this concept suggests a prospect that buyers are expected to become more proficient in their task as their experience increases (Howard, 1973). The suggested result of combining the effect of varying amounts of experience with perceived risk theory is that as the organisational buyer's experience increases, uncertainty should be significantly reduced and perceived risk minimised (Festervand, 1980; Robinson *et al.*, 1967).

Another assumption put forward by Robinson *et al.* (1967) refers to what they have called "the achievement motive." This posits that organisational buyers, being human, seek to increase their chances for promotion, status, and recognition, while at the same time minimising personal risk. It is also possible to suggest that the patterns of risk a buyer perceives will vary with experience (Festervand, 1980).

For example, less experienced buyers may focus on assuring an adequate supply of materials and thus the continuity of operations. This group can be characterised as one with career aspirations and might tend to be adverse to performance, finance and time risks as opposed to buyers at later stages in their careers. Conversely, more experienced buyers may be more concerned with image and job security. Thus, the latter group might be expected to be preoccupied with pleasing superiors, and preserving the good impression held by their peers about them. In other words, it is likely that this group will show a higher level of psychosocial risk perception than the less experienced group. To test this proposition the following tentative hypotheses are advanced:

> **H4 - _Less experienced buyers will tend to be more sensitive to economic risk than do the most experienced buyers._**

> **H5 - _The most experienced buyers will tend to be more sensitive to psychosocial risk than do the less experienced buyers._**

3.5. - Perception of Risk and Company Size (Hypotheses 6 and 7)

Recently Tullous and Munson (1992) developed a very interesting study on market segmentation. They proposed a new way of segmenting as an option to the more traditional forms. They suggested that the degree of perceived risk in a buying situation affects the weight a purchaser places on his or her buying criteria. The analysis indicates that buying situations involving various types of uncertainty (_i.e._, need, market, and transaction) provide an useful

segmentation base for industrial markets. However, they do recognise that due to scarcity of research in this area, many firms continue to use the so called traditional forms of segmentation (*e.g.*, industry sector, geographic location, and company size).

Another group of researchers (Rangan et al., 1992), while analysing mature industrial markets, segmenting customers on size, industry, or product benefits concluded that any of these segmentation forms alone is rarely sufficient. Customer behaviour in terms of trade-offs between price and service is an important additional criterion. A framework is offered for such buying-behaviour-oriented microsegmentation of industrial customers. The framework is applied to segment the national accounts of a large industrial company and it is shown that the results of a segmentation study can be used to redirect the firm's resources and customer segments. A practical and implementable method for constructing buyer-behaviour-based segments from readily available data sources is demonstrated. The key is to identify variables that adequately capture the variance in buying behaviour and that address a specific management problem.

Shama (1993) studied marketing strategies comparing different sized companies. He argued that different sized companies may be facing different economic environments depending on their target markets and market power. Larger companies usually have more market power, which often can help them. On the other hand, a small business might have a protected market niche which can help it in a recessionary climate while other small businesses, unable to borrow needed cash, may be squeezed out of business. Feder (1991) reports that small businesses are especially affected by the recessionary economic environment, and Bowers (1991)

reports how small businesses are reducing expenses. However, Graven (1990) reports that mid-size companies, especially those in manufacturing, are facing the hardest times.

Niemela and Smith (1995) fixed-format interviews with 102 of the largest softwood sawmills in Finland, the western coastal and inland regions of the US, and the coastal and inland timber regions of British Columbia, Canada, were completed. The interviews compared and contrasted the marketing strategies used in these 5 regions. The marketing strategy concept was measured in 2 ways - in terms of a firm's perceived emphasis on targeted customer groups, product types, and market areas served; and how a company views itself relative to competitors on 9 factors describing market competence. It is found that a sawmill's product strategy appears to be a function of <u>firm size</u> and export orientation.

Based on the evidence above discussed, one can realise that company size can be analysed in many different ways. This may be a useful information for industrial market researchers, but segmentation based only on company size is rarely seen as sufficient (Rangan *et al.*, 1992). Plenty of evidence exists which suggests that the size of the organisation may help explain the context in which the buyer operates (Cardozo and Cagley, 1971; Kassicieh and Rogers, 1986; Newall, 1977; Paton *et al.*, 1986; Peters and Venkatesan, 1973). This particular context is important because it may guide or even govern the buyer's behaviour.

The size of the company is considered to affect the type of risk perceived by the buyer in some way (Kassicieh and Rodgers, 1986; Peters and Venkatesan, 1973). It has been argued that for small firms, the incidence of

psychosocial risk is smaller than in larger firms. This is because small firms tend to be organised in a much more compact, highly involved, and equal status members' group manner, with shared responsibility for decision-making at all stages. On the other hand, high levels of psychosocial risk occurs among buyers in large firms where the decisions is incapable of being routinised via the structured company purchase procedure (Mitchell, 1991; Newall, 1977). Small firms are also expected to experience a much higher level of economic risk than do larger firms, due to their limited financial standing leaving them less tolerant to the unfavourable consequences of a wrong choice (Newall, 1977).

After all the evidence presented above, it is reasonable to believe that size of the company does have an effect on risk perception. Two questions regarding annual turnover and number of employees were incorporated into the questionnaire in order to measure this effect. From the discussion above, the following hypotheses are advanced:

> *H6 - In larger companies, buyers will tend to*
> *be more sensitive to psychosocial risk than*
> *are their counterparts in smaller companies.*

> *H7 - In smaller companies, buyers will tend to*
> *be more sensitive to economic risk than are*
> *their counterparts in larger companies.*

3.6. - Conclusion

Perceived risk and branding are two well-researched areas in marketing. Confusion is evident amongst marketing

managers about the asset of brands, and in particular, about how these assets can be used to underpin market oriented brands in order to reduce risk perception amongst buyers. These ideas led to the construction of a conceptual framework.

It has been argued that most organisational buyers operate under uncertainty and that risk is present in any buying situation where uncertainty exists regarding the consequences of a given choice. Another point under discussion is that buyers feel more confident making choices they perceive to be less risk prone.

Within this overall pattern, research shows that different individuals can present varying patterns of risk perception. For example, some focus on 'hard' risk factors (*i.e.*, economic risk), such as buying the best value for money brand; others are more inclined to focus on 'soft' risk factors (*i.e.*, psychosocial risk), like seeking peer acceptance. It has been suggested that these patterns vary according to individual and corporate characteristics and with the overall level of perceived risk attached to the decision.

Another well-accepted idea is that buyers tend to favour brands most closely associated with their own set of values. Thus, a successful marketer will accentuate features of their brands which match the buyer's value system, in a broad sense. The potential benefit of establishing such a relationship is massive.

This chapter has advanced some hypotheses, which are summarised in table 3.1.

Table 3.1 – Summary of Hypotheses

	High Psychosocial Risk / High Economic Risk	High Psychosocial Risk / Low Economic Risk	Low Psychosocial Risk / High Economic Risk
H1	Self-Congruence		
H2		Value emotional signs	
H3			Value functional signs
H4			Less experienced buyers
H5		Most experience buyers	
H6		Large companies	
H7			Small companies

Based on these ideas, seven hypotheses have been proposed as conjectures to be tested. Chapter 5 – 'Methodological Issues', describes how these hypotheses were tested and Chapter 7 - 'Tests of the Hypotheses' – presents the results of these tests.

C H A P T E R   F O U R

Exploratory Research

*We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.*

T.S. ELIOT 1888 - 1965

4.1. - Introduction

In order to test the hypotheses proposed in Chapter 3, a research methodology was developed which will be considered in this and the following chapter. The present chapter concentrates upon describing the exploratory research: its procedure and results. The main objectives of undertaking exploratory research was to gain insights and ideas into the general nature of the research problem, possible decision alternatives (*i.e.*, brands), and relevant variables which needed consideration.

The chapter is divided into two sections dealing respectively, with the literature search, and interviews with experts. The first section discusses the methodology employed for the literature search. In the latter section, the methodology and results of the interviews with experts is discussed.

4.2. - Literature Search

A thorough literature search was undertaken using various approaches to locating studies for consultation. An initial approach was to look at published materials in libraries. Second approach to the problem, was to pay close attention to periodical literature reviews such as that in the *Journal of Marketing* and another from Lancaster University's Management School called *LAMBDA.* CD-ROM and online indices were also useful. Indices such as PsychLitt, ABI Inform, BIDS, and Business Periodical Index were periodically consulted. Dissertation abstracts were of further help. Notwithstanding all sources of references, one of the most useful was to seek for new information in bibliographies of recently published articles.

Following the advice of Singleton *et al.* (1993), the literature was selected to clarify the theoretical context of the problem under investigation, and elucidate how others have studied it. Hundreds of studies were located, but only the relevant literature in the process of

presenting the underlying theoretical and methodological rationale for the research was examined in greater detail. After careful consideration, some studies were excluded from the set. The remaining references were cited throughout this thesis mainly because they were considered to be key studies, which emphasise major findings.

4.3. - Preliminary In-Depth Interviews

A in-depth interview is an unstructured personal interview which uses extensive probing designed to encourage a single respondent to talk freely and to express detailed beliefs and feelings on the topic (Kahan, 1990; Knox, 1986). The purpose of the technique is to get below the respondent's surface reactions and to discover the more fundamental reasons underlying his or her attitude and behaviour. Mitchell (1993) advises researchers regarding considerations that need to be noted to ensure a successful interview. These include carefully identifying the objectives of the interviews, monitoring training and preparation, credibility and confidentiality, interview technique, lack of co-operation, interview accuracy, reliability and validity, and overload. When interviewing experts for exploratory purposes, we followed most of Mitchell's recommendations. Each prior consideration noted will now be discussed in more detail.

Objectives of the interviews - The overall objective of performing in-depth interviews with experts, was to dig out new information that could potentially direct the whole

theoretical study. It was hoped that it could also provide sufficient background to allow sound questionnaire development since the questionnaire was the main data collection instrument. Within the overall objective other sub-objectives were defined. They were:

1. Identify the most prominent product fields and brands in the IT industry;
2. Identify the most important attributes in IT brands;
3. Describe the IT brand buying process;
4. Identify who is likely to participate in the IT brand buying decision-making process;
5. Provide answers to how and in which way do buyers perceive risk in the acquisition of IT brands.

The strategy adopted in this research was to approach individuals separately rather than in groups for three main reasons. Firstly, this was because literature (*e.g.*, Fern, 1982) has provided evidence that an individual approached privately tends to express him/herself in a richer form. Secondly, the administrative problems and costs of arranging selected focus groups was prohibitive. Lastly, this decision was taken because, to a major extent, the interviews with experts about risks and problems in the purchase of an IT brand, satisfied all our informational needs.

Credibility and confidentiality - The *Computer Users Year Book of 1994* (1994) and the *Anuário da Federação das Indústrias de Pernambuco* (1994) (annual publication from the Industrial Federation of Pernambuco, Brazil) were both consulted for names of experts according to their job position. Potential interviewees were contacted initially over the

telephone to arrange an interview. During the phone conversation, a guarantee was offered to the interviewee that any information given would not be used in a manner that could undermine or damage his or her image in any way.

To keep the interview as short as possible, it is usually best to leave behind a list of questions so the interviewee can become familiar with it. Thus, a letter was sent confirming the appointment, outlining the topic to be covered and questions to be asked. (Readers are referred to appendix 1 for a copy of this letter). This letter was written on City University Business School headed stationary, to offer a guarantee as to the credibility of the research. Finally, since appropriate respondents are often difficult to identify, we asked for recommendations about colleagues which it might be useful to interview.

Interview technique - A major challenge was met in establishing rapport and credibility, in the early moments of the interview. Usually, the more characteristics shared by the interviewer and the interviewee, the greater the chance of a successful interview. For this reason, some precautions were taken in order to enhance the interviewee's empathy with the interviewer.

First, the interviewer dressed in a suit to give a business-like impression. Second, the conversation initiated by an explanation of how the interviewee's name had come to the attention of the researcher. Once the interviewee felt that he or she was actually being

interviewed to gain from their expert opinion and not for any other reason (*e.g.*, journalism), they normally tended to "ease up", and the chances that a successful interview could follow were greater. Last, the interviews were conducted at the interviewee's convenience in terms of time and place. This occurred because we believed that some respondents would be more likely to give up their leisure time than their professional time. Another reason for offering to conduct the interviews anywhere and anytime, was to make the interviewees feel appreciated.

<u>Accurate data capture</u> - A difficult problem encountered in planning these interviews was record keeping. The recording of answers would seem a simple enough task, and one that interviewers might be expected to perform accurately. However Moser and Kalton (1971) mention that at times interviewers make substantial recording errors due to several factors. First of all, their job is a fairly tiring one. This was particularly true in the case of this research. At times we had to wait for over two hours after having travelled a fair distance to be greeted with a bad-tempered interviewee. Secondly, the interviewer often has to take notes of the answers very quickly, and rarely is able to confine his or her attention to one task: while recording the answer of one question, he or she is preparing to ask, or is actually asking the next question.

According to some experts in social research (*e.g.*, Belson, 1967; Butcher *et al.*, 1956; Moser and Kalton, 1971), one possible solution to the recording problem in open and intensive interviews, is the use of a tape recorder to

record everything the respondent says. In this way, the interviewer is free to concentrate on the interview and moreover, the interviewer keeps a permanent record of how the interview was conducted. In our case, some executives would not agree to be tape-recorded and others even suggested that the information they provided be restricted from public consultation for a year's period. This problem was overcome by explaining that all information collected would be dissipated into the thesis and deposited in the University Library where it will normally be available for consultation and reference purposes only.

Overload - To avoid any overload problem, no more than one interview was conducted per day. Stimulus overload can also occur as a consequence the exhaustive task of analysing many qualitative interviews at once. Thus, the tape containing the interview was rapidly analysed. According to Miles and Huberman (1984) these precautions have the advantage of allowing the production of interim reports and follow-up telephone calls to clarify points of confusion while the respondent-interviewer relationship is still fresh.

The interviews - The interviews were conducted in two different situations. The first situation was in September of 1994 in London, U.K. The sample frame was limited to main decision-makers working in IT activities in London. Fifteen executives responsible for IT activities were chosen from the *Computer Users Year Book of 1994* (1994). However, before any interview was actually conducted, a problem had to be solved. We had to be sufficiently

persuasive to get through the shield of secretaries and receptionists around many executives in order to get an appointment. From the original fifteen selected interviewees only one cancelled the appointment.

The in-depth interview is variable in length. While some authors (*e.g.*, Kinnear and Taylor, 1996; Malhotra, 1996) say it may take form thirty minutes to more than an hour, another (Hakim, 1987) has reported that there are cases where it can take up to five hours. It may also be extended into repeat interviews at later dates. On average, the London interviews lasted forty-five minutes each.

The second situation occured in January of 1995 in Recife, Brazil. A similar sample frame to that used in the London interviews was employed, with the exception that this time, the interviews took place in Brazil. Fifteen interviewees were selected from the *Anuário da Federação das Indústrias de Pernambuco* (1994). These individuals were harder to contact than the ones in London due to tough gatekeeping by their secretaries; however with persistence they were most collaborative. It was actually possible to contact all fifteen decision-makers who agreed to be interviewed. These interviews lasted on average between one and two hours each. The in-depth interviews were successful and provided the information necessary to complete the study.

4.4. - Interview Results

This next section presents an overall impression of the answers the interviewees gave to the questions asked of them. The answers from the London group were aggregated along with those from the Recife group. This strategy is justified since no distinctive trend emerged from one specific group. The information is taken mainly from the interviews, nevertheless evidence in the literature was occasionally used to corroborate the findings. The results presented here should help the reader better understand some points before tackling the more substantive quantitative results.

4.4.1. - Brand Familiarity and Elicitation of Image Dimensions.

Where products are very similar as is the case in the IT industry, brand identity produces an illusion of difference which is vital to competitive selling. Familiarity is not in itself an index of a brand's market position (Day, 1970). The leading brand of any product field usually enjoys both familiarity and salience out of proportion to its market share (Bogart and Lehman, 1973). Thus, although brand familiarity is not an end in itself, most marketers consider it a desirable objective.

Thousands of different brands are marketed world-wide (Kochan, 1996; Stobart, 1994). No individual can be

expected to be familiar with all of them. Thus, the previously mentioned interviews were conducted in order to establish comparative brand awareness. During the interviews, probing questions that were not on the letter were asked, to stimulate awareness. One of these probing questions was "When I mention IT products, which brands come to mind?" Once several brands were mentioned another question was asked, "What other brands can you think of?" No attempt was made to move from active to passive familiarity. That is, from recall to the larger realm of recognition.

Within a particular product field, brands may differ widely in their familiarity to customers, and yet share certain characteristics based on product attributes and a unique marketing environment. When brand mentions were grouped into product categories, Network servers accounted for 30% of the citations; LAN workstations (*i.e.*, local area network) 27%; mid-range laser printers for 25%; modems for 6%; and other for 12%. Due to concept similarity between the first two product fields, the decision was made to address only the more prominent of the two. Modems were not accessed because many users have internal modems, a fact which may trouble brand perception. Since network servers and mid-range laser printers were both well recognised as prominent product fields in the IT industry and provide good test conditions, these two separate product fields were chosen for this research.

Table 4.1 shows the list of brand names given by interviewees and the percentage of total mentioning.

Table 4.1. - Brand Names and the Percentage of Total Mentioning.

Computer Brands	%	Printer Brands	%
IBM	67	Edisa - Hewlett-Packard	80
Edisa - Hewlett-Packard	60	Xerox	73
Compaq	53	Epson	60
Apple	47	IBM	53
Itautec	40	Itautec	47
Fujitsu	33	Texas	47
Olivetti	27	Digital DEC	40
SID	27	Rima Okidata	40
ABC Bull	27	Sharp	27
Unisys	27	Alfa Digital	7
Digital DEC	13	Facit	7
Sisco	13	Apple	7
Alcabyt	7	Master Personal	7
Alfa Digital	7		
Lince	7		
Sisgraph	7		
Updating	7		
Dell	7		
Siemens	7		

Joyce (1963) has defined a brand's image as the set of associations acquired from an individual. These associations may be beliefs about the physical properties of the brand, but they can also include impressions about how long the brand has been on the market, who manufacturers it, the sort of people who use it, and

situations for which its use is most appropriate (Nolan, 1971).

Since the image study itself was based on a fairly direct question-and-answer technique (free association), a number of available criteria on which to base the necessary selection procedure were borrowed from Nolan (1971). They were:

1. The frequency with which the dimensions are mentioned in the elicitation research.

   This is an appealing criterion, if only because it is simple to understand and easy and objective to apply. It can be argued that even if the frequency with which respondents verbalise dimensions in an interview is not directly proportionate to the part these dimensions play in influencing consumer choice, there is likely to be a reasonably close correspondence between them, at least for those consciously-held attitudes with which any quantified research will be concerned. Dimensions which are only mentioned by one or two respondents out of a total of twenty-nine were obvious candidates for omission from a final checklist.

2. The extent of overlap with other dimensions.

   Obviously there is no point in incorporating dimensions that are synonymous into the final checklist. Over and above that however, there will be dimensions, which are highly inter-related without being identical. A possible

selection procedure is to identify such overlaps, and then eliminate one or other of the dimensions concerned.

3. The relevance of the dimension to the final choice.

There is little point in researching those aspects of brand-image which are unrelated to consumer behaviour since it is with the latter that the ultimate concern of any marketing operation must lie.

During the interviews, respondents were asked to make a list of adjectives and/or name traits, which they judged to be important attributes and/or values of an IT brand. Respondents were also asked to indicate how clearly they saw themselves as the sort of person described by the word. As the image selection criterion was met, fifteen referents (and their antonyms) were considered. They were:

1.	CREATIVE	.....	UNIMAGINATIVE
2.	ECONOMICAL	.....	EXTRAVAGANT
3.	EXPERIENCED	.....	INEXPERIENCED
4.	CONFIDENT	.....	INSECURE
5.	PERSUASIVE	.....	UNCONVINCING
6.	CHEERFUL	.....	SERIOUS
7.	UNIQUE	.....	COMMON
8.	BROAD-MINDED	.....	BIASED
9.	PRESTIGIOUS	.....	HUMBLE
10.	EFFICIENT	.....	INEFFICIENT
11.	VERSATLE	.....	NON-VERSATILE
12.	HELPFUL	.....	UNHELPFUL
13.	REALISTIC	.....	IDEALISTIC
14.	LEADER	.....	FOLLOWER
15.	QUICK	.....	SLOW

4.4.2. - Buying IT Equipment

The change from elite technology for the few, to an industry manufacturing workhorses for the many, is a process which has taken approximately thirty years (Ballam, 1987). Suppliers now face a reality where they have to be much more receptive to market demands. To this end the IT industry has entered an entirely new phase which may in some senses, be more radical than any moment previously marked by technological developments. We have entered an era dominated by development and strategy dictated by market demand.

Today, IT brand buyers (and users) are free, and they do not accept the idea of being tied to any one supplier. The need to choose from a variety of sources is therefore both practical (in the sense that if the supplier goes bankrupt there is always another to do his job) and strategic (in the sense that a competitive market is a healthy market).

The <u>risks</u> of buying a non-starter today are few, but buyers should nonetheless be concerned. Those who do not want to take any <u>risks</u> with hardware should look to those companies (*i.e.*, brands) with strong foundations such as, *IBM, COMPAQ, HEWLETT-PACKARD, XEROX*, etc. These companies normally have their own sale departments, but most of their products can also be found in private dealers. According to Ballam (1987), dealers represent an important

source of supply but they currently represent the high-risk part of the scene. Some dealers have become very expert in handling specific vertical markets. However, companies seeking greater security should perhaps directly approach one of the major suppliers.

On the other hand, the secret of successful and effective marketing strategy is a good understanding of the customer's "decision-making process" (Armitage, 1996). In Chapter 2 the section on *'acquisition process of IT brands'* describes how organisations buy IT brands. This section relied primarily on information provided by the experts interviewed in the exploratory phase of this research. (Readers are referred to Chapter 2 - "Review of the Literature" for a detailed discussion on the buying process of IT equipment). For major commercial or industrial organisations IT buying decisions inevitably involve a large number of people.

4.4.3. - Participants of the IT Buying Process

No effective marketing action can occur until the supplier has defined the target market, its stage of decision-taking, the membership of their decision-making unit, and the information they need at each stage of the buying process (Armitage, 1996). This is why marketers must know who participates of the buying process and identify their likely buying behaviour, in order to develop brands that solve buyer problems.

According to Maskell (1986), top management must actively provide guidance and direction throughout the whole buying process. Top management involvement is necessary because IT equipment not only provides a complete set of tools for controlling a business but its use also changes the way in which companies do business (Gunn, 1986; Puri and Sashi, 1994). Besides this, it also requires very large investments which normally must be approved by top executives.

Once an organisation decides to buy IT equipment, it usually forms a buying unit whose members are drawn from different functional areas such as engineering, manufacturing, finance, purchasing, and data processing departments (Puri and Sashi, 1994; Welch, 1986). Other functional managers such as sales and quality control may also move in and out of the unit. A multidisciplinary unit is necessary because IT equipment such as a network server impacts the many aspects of a business operation. This buying unit's size may vary from two to five persons in small companies, to a dozen or more individuals in larger enterprises (Puri and Sashi, 1994).

In effect, what is here called "buying unit", is a buying centre. Members from different departments in the company and different levels in the organisational hierarchy each play one or more functional roles such as buyer, influencer, user, decider, and gatekeeper (Webster and Wind, 1972a;b). The buying unit normally has a manager who quite commonly reports directly to top management. The manager is charged with the responsibility of overseeing the buying activity, ensuring that it meets its

objectives, and reporting to top management on the progress of the process.

The success or failure of the buying of IT equipment rests on the shoulders of the buying unit. This group is responsible for selecting the equipment (*i.e.*, brand) and for training other members of the organisation in its use. It reviews the needs of the business, available technology, probability of success, and ease of implementation. Different members of the unit, depending on their expertise, review various aspects of the way in which the targeted business application can be handled by the IT equipment (Puri and Sashi, 1994).

Once IT equipment is bought, the failure of this equipment to meet the expected standards can have serious consequences. The next section considers some consequences of failure which result in buyers' perceived risk.

4.4.4. - Acquisition of IT equipment as a Risk-Taking Activity

The advantages of investing in IT are well known. However, there are also substantial risks, which appear to be much greater for small companies than it is for large ones. According to Senn and Gibson (1981), the acquisition of IT equipment may start out as an apparent small monetary investment in hardware and software, and end up in a sizeable investment which threatens to jeopardise the entire future of the enterprise.

Many managers see the solution to their operating and control problems in the acquisition of IT equipment. Unfortunately, these hopes can frequently lead to disappointment. For example, the cost of a network server is often understated (Canning and McNurlin, 1978). While it is true that some systems may be acquired for as little as £2,000, they are primarily designed for computer hobbyists. Systems suitable for businesses must have adequate main memory, additional auxiliary storage, and printed output capabilities. These kind of systems are more likely to cost at least £10,000. Moreover, the necessary business software is not as widely available or as functional as most managers might be led to believe (Patrick, 1978).

Current hardware technology has advanced to the state where a minimum of maintenance is necessary. Overall hardware reliability is actually quite high. Despite these positive aspects, some maintenance remains necessary as components wear out, become damaged, or malfunction. In large data processing centres, preventive maintenance is performed on a regular basis. The necessary diagnostic and testing equipment is at hand. Support personnel are on call and can usually begin working on a system problem with short notice. As a result, maintenance and repair times are minimal and seldom affect the organisation's operations to any great extent.

Small businesses are not so fortunate. When equipment problems arise, they are normally forced to seek outside help. This means returning to the dealer who provided the

system. In many cases[1] however, these dealers are primarily concerned with selling; they are able to do very little in the way of diagnostic work or maintenance. Instead, most dealers return the equipment to the manufacturer or authorised service centre. Accordingly, necessary repair work can take a substantial amount of time. In the meantime, the organisation will have to do without the data processing capabilities upon which it has become dependent (Senn and Gibson, 1981).

To obtain suitable benefits from an IT equipment, assistance[2] is usually needed both initially in the selection of the equipment, and later throughout its usage life. Such aid is necessary to determine which applications should be developed, which should be implemented first, and how software and other facilities should be acquired to use with the hardware. In each of these cases, risks are taken.

4.5. - Conclusion

This chapter has concentrated on describing the exploratory research procedure and some key findings. From the interviews it was possible to assess expert opinion on IT brand buying by businesses, the risk-taking aspect of the process, which are the prominent brands in the market

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[1] Most high profile IT brands offers some type of on-site maintenance support package. However, the next day service is relatively expensive for small organisations that may not be able to afford such a service.

[2] Assistance can be obtained from a systems professional who has expertise both in computing and in the business of the expertise (*i.e.*, information systems consultant). These professionals are more objective and offer a broad knowledge of different capabilities of components that can be purchased.

and the desirable attributes such brands should demonstrate.

In the early stages of this research, there was little prior knowledge on which to build, hence exploratory research was used primarily to increase the researcher's familiarity with the problem, and isolate key variables and relationships for further examination. First, a literature search was performed; the result of which permeates this entire thesis. Later, qualitative interviews were undertaken in order to assess expert opinion.

A thorough literature search was done using multiple sources. After collecting a huge number of references, the literature was selected based on importance (*i.e.*, considered by many as key studies) and also as it helped make clear the theoretical context of the problem under investigation.

Once the literature was scanned and analysed, preliminary interviews were undertaken to uncover major questions and provide sufficient background to allow the development of the main data collection instrument. Two product fields were recognised as prominent in the IT industry. These are network servers and mid-range laser printers. The interviewees also provided a list of brand names. A number of adjectives emerged as the most important attributes and/or values such brands should have.

Buying an IT brand is understood to be a risky activity. However, the risks of buying a non-starter were

considered to be few. Buyers who do not want to take any risk should focus on brands with strong foundations. Other important advice was to directly approach one of the major suppliers and avoid dealers. Dealers were pointed out as an important source of supply, but also as less able to offer post-purchase assistance than the manufacturer itself.

On the other hand, no effective marketing action can take place until the supplier has defined the target market, its stage of decision-taking, the membership of a decision-making unit, and the information they need at each stage of the buying process. Once an organisation decides to buy an IT brand, it usually forms a buying unit whose members are drawn from different functional areas such as engineering, manufacturing, finance, purchasing, and data processing department. Members from different departments in the company and different levels in the organisational hierarchy comprise such a unit. This unit normally has a manager who reports directly to top management. This group is responsible for selecting the IT brand.

Many managers see the solution to their operating and control problems in the acquisition of IT equipment. Unfortunately, these hopes can frequently lead to disappointment. Performance, financial and time risks were all recognised as being present in IT brand buying. However, surprisingly, the respondents failed to mention psychosocial risk as an important source of anxiety to buyers.

Having discussed this exploratory research and its findings, we have yet to discuss how this research was conducted. The methodology used will be considered in the next chapter.

C H A P T E R   F I V E

Methodological Issues

Though this madness, yet there is method in't.

WILLIAM SHAKESPEARE 1564 - 1616

Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be precise.

JOHN TUKEY

5.1. - Introduction

This chapter outlines the methodology used in this research. It essentially attempts to clearly state how the study was done, providing enough information to permit replication by others. However, relevant literature is also reviewed. A collection of empirical and theoretical articles is analysed to examine and most important guide the methodology used in this research. Although this chapter is essentially descriptive, there is some analysis and criticism where appropriate.

Methodological issues are presented both in this chapter and the one that follows. The reason why the author opted to show these issues along two separate chapters is that he chose to present a wide range of literature base. This literature acts to demonstrate his knowledge of various procedures, providing a rationale for those procedures which were eventually undertaken and to highlight some of the major considerations necessary. This chapter is divided into four main sections, which deal respectively with design, subjects, measurement, and procedures.

In the 'design' section emphasis is placed on explaining the type of research, the type of data collection instrument, and the nature of the setting(s). The 'subjects' section presents the sampling design. This section makes clear who participated in the study, how they were selected, and whom or what they represent. The sampling procedure and the generalisability of the sample data are also discussed. The 'measurement' section is where the operational definitions are described. Last, the 'procedures' section, which can be a part of the description of sampling and measurement and presents a summary of the various steps in the conduct of the research is actually a descriptor of the methods used for data analysis.

This chapter begins by discussing the research design, moves on to explain who are the subjects under investigation, explains how the constructs were measured and finishes by detailing the research data analysis procedures. Conclusions are drawn at the end of the chapter.

5.2. - Research Design

A research design is a framework or blueprint for conducting a research study, used as a guide in collecting and analysing data towards its objectives (Churchill, 1995; Malhotra, 1996). It details the procedures necessary for obtaining the information needed to structure or solve research problems.

To design something also means to ensure that the pieces fit together. The achievement of this fit among objectives, research approach, and research tactics is inherently an interactive process in which earlier decisions are constantly reconsidered in light of subsequent decisions. This may mean a revision of the research objectives as new insights are gained into the complexities of the population to be sampled, or a reassessment of the research approach in light or realistic cost estimates (Aaker *et al.*, 1995).

A research design ensures that the study will be relevant to the problem as well as it will use economical procedures. Unfortunately, there is no single procedure to follow in developing the framework. In the opinion of Churchill (1995), this is the case. Other authors go further. For example, Simon (1969, p.4) advises:

> *"There is never a single, standard, correct method of carrying out research. Do not wait to start your research until you find out the proper approach, because there are many ways to tackle a problem - some good, some bad, but probably several good ways. There is no single perfect design. A research method for a given problem is not like the solution to a problem in algebra. It is more like a recipe for beef stroganoff; there is no one best recipe."*

Rather, there are many research design frameworks, just as there are many stroganoff recipes. The choice of a research approach depends on the nature of the research that one wants to do. In this section the various types of research approaches, data collection methods, and the factors affecting their choice are discussed.

5.2.1. - Nature of the Research

Research designs may be broadly classified as exploratory or conclusive. The stage in the decision-making process for which the research information is needed determines the type of research required. These different types of research differ significantly in terms of research purpose, research questions, the precision of the hypotheses that are formed, and the data collection methods that are used.

Exploratory research is appropriate for the early stages of the decision-making process. This research is usually designed to obtain a preliminary investigation of the situation with a minimum expenditure of cost and time. The research design is characterised by flexibility in order to be sensitive to the unexpected and to discover insights not previously recognised. Wide-ranging and versatile approaches are employed. These include secondary data sources, observation, interview with experts, group interviews with knowledgeable persons, and case histories (Kinnear and Taylor, 1996). The previous chapter discussed in greater detail the importance of exploratory research and for this reason no further effort will be made here to

discuss the pros and cons of this type of research. (Readers are referred to Chapter 4 - 'Exploratory Research' for a comprehensive discussion on the topic).

On the other hand, conclusive research provides information, which helps managers evaluate and select a course of action. The conclusive research is typically more formal and structured than exploratory research. It is based on large, representative samples, and the data obtained are subjected to quantitative analysis. The findings from this research are considered to be conclusive[1] in nature in that they are used as input into managerial decision-making. Conclusive research designs may be either descriptive or causal, and descriptive research designs may be either cross-sectional or longitudinal (Malhotra, 1996). Each of these classifications is now discussed.

As the name implies, the major objective of descriptive research is to describe something. In descriptive research, hypotheses often will exist, but they may be tentative and speculative. In general, the relationship studied will not be causal in nature. However, they may still have utility in prediction (Aaker *et al.*, 1995). Descriptive research deals with questions of *what* things are like, not *why* they are that way. Good description is important (de Vaus, 1996). It is the basis for sound theory. Descriptions can highlight puzzles, which need to be resolved and as such provide the basis for theory construction. In addition, descriptive research plays a key role in highlighting the existence and extent of marketing problems and can stimulate marketing action.

According to Churchill (1995, p.163) and Malhotra (1996, p.90), descriptive research is appropriate when the research objectives include:

1. Describing the characteristics of certain relevant groups, such as consumers, salespeople, organisations, or market areas. For example, based on information gathered from known users of a particular brand, it is possible to develop a profile of the average user with respects to age, educational level, and so on.

2. Estimating the proportion of people in a specified population who behave in a certain way. For example, someone might be interested in estimating the percentage of heavy users of prestigious department stores who would also frequent discount stores.

3. Determining the perceptions of brand/product characteristics. For example, how do IT users perceive the various computer brands in terms of salient factors?

4. Determining the degree to which marketing variables are associated. For example, a company may study the degree of association between sales of a brand and such buyer characteristics as age and education level.

5. Making predictions regarding the occurrence of marketing phenomena. For example, someone might be interested in predicting the level of their sales for each of the next five years so that they could plan for hiring and training for new sales representatives.

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[1] It should be noted, however, that from the perspective of the philosophy of science, nothing can be absolutely proven and hence nothing is absolutely conclusive (Hughes, 1990).

While descriptive research may characterise marketing phenomena and demonstrate an association amongst variables, statements regarding cause-and-effect relationships are not possible with descriptive research. The decision-maker may make predictions that certain actions will result in certain performance outcomes based on the evidence provided from a descriptive study, but this evidence in itself does not demonstrate a cause-and-effect relationship. Where such evidence is needed, causal research designs are required (Kinnear and Taylor, 1996).

According to Churchill (1995), the researcher should not fall prey to the temptation of beginning a descriptive research study with a vague thought that the data collection should be interesting. A good descriptive study presupposes much prior knowledge about the phenomenon studied. It rests on one or more specific hypotheses. These conjectural statements guide the research in specific directions. In this respect, a descriptive study design is very different from an exploratory study design. Whereas an exploratory study is characterised by its flexibility, descriptive studies can be considered rigid. Descriptive studies require a <u>clear specification</u> of the *who, what, when, where, why,* and *how* of the research.

Descriptive research can be further classified into cross-sectional and longitudinal research. The cross-sectional design is the most common and most familiar (Churchill, 1995; Kinnear and Taylor, 1996; Malhotra, 1996; Singleton *et al.*, 1993). It typically involves a sample of elements from the population of interest. Various characteristics of the elements or sample members are measured at one point in time. Frequently this is called

the *survey research design*. This survey design is useful in describing the characteristics of consumers and determining the frequency of marketing phenomena, although it is often expensive and requires skilful and competent research personnel to conduct it effectively.

The cross-sectional design may be further classified as single cross-sectional and multiple cross-sectional. In single cross-sectional design, only one sample of respondents is drawn from the target population, and information is obtained from the sample only once. In multiple cross-sectional designs, there are two or more samples of respondents, and information from each sample is obtained only once. However, often information from different samples is obtained at different times.

Longitudinal designs, on the other hand, involve panels. A panel is a fixed sample of elements. The elements may be stores, dealers, individuals, or other entities. The panel or sample remains relatively constant through time, although there are periodic additions to replace dropouts or to keep it representative. The sample members in a panel are measured repeatedly, as contrasted to the one-time measurement in a cross-sectional study (Churchill, 1995; Hakim, 1987; Moser and Kalton, 1971). Besides panel study there is another type of longitudinal design known as trend study. A trend study consists of a repeated cross-sectional design in which each survey collects data on the same variables with an independent sample of the same target population. This allows for the study of trends or changes in the population as a whole. In the opinion of Singleton *et al.* (1993), ideally all trend information would be obtained through measures repeated

frequently at regular intervals. However, much of trend survey data comes from infrequent replications of studies.

Descriptive research is not sufficient if it is necessary to show that one variable cause or determines the values of other variables. In this case, a causal research approach must be used (Aaker _et al._, 1995). According to Malhotra (1996, p.97) and to Kinnear and Taylor (1996, p.134), causal research is appropriate for the following purposes:

1. To understand which variables are the cause (independent variables) and which variables are the effect (dependent variables) of a phenomenon.

2. To determine the nature of the relationship between the causal variables and the effect to be predicted.

Causal studies typically take the form of experiments, because experiments are best suited to determine cause-and-effect (Unnava _et al._, 1994). However, interrogating respondents through survey is also a main source of data collection for causal research (Kinnear and Taylor, 1996).

Having stated the basic general purpose of each major type of research design, Churchill (1995) warns that although the suggested classification of design types is useful for gaining insight into the research process, the distinctions are not absolute. Any given study may serve several purposes. Another point is that the three basic designs can be looked at as stages in a continuous process.

In the case of this study, exploratory research was the initial step in the overall research design framework. A descriptive research (_i.e._, cross-sectional) followed as the approach used to statistically test the developed hypotheses. Due to the complexity and importance of hypotheses 2 and 3 (the core hypotheses of the conceptual framework), causal relationships were also investigated for these hypotheses.

5.2.2. - Data Collection

The data required to test the proposed hypotheses on this research goes beyond the findings of the preliminary interviews, requiring quantification. Conclusive research involves a systematic and objective process through which a target market is sampled and responses are measured using a structured data collection technique. Sampling issues are discussed later in this chapter. The focus of this section is on conclusive research data collection techniques; that is, what types of information we looked for and how we gathered it.

The researcher attempting to collect primary data has a number of choices to make amongst the means that will be used. The primary decision regards the type of data collection method to use. There are two basic methods of collecting data from respondents. They are the communication method and the observation method.

The communication method of data collection is based on the questioning of respondents. Such questions may be asked verbally or in writing, and the responses may be in either form. The data collection instrument typically used in this process is a questionnaire. The questionnaire has come to be the predominant data collection instrument in marketing research (Kinnear and Taylor, 1996; Schreier, 1963).

The main advantage of the communication method is its versatility. Additional advantages relate to the speed and cost of the communication method as compared to the observation method. However, there are three important limitations to the communication method. The first relates to the respondent's unwillingness to provide the desired data. The second limitation concerns the respondent's inability to provide the data. For example, the respondent may not recall in details the facts in question. The last limitation involves the influence of the questioning process on the responses. That is, respondents may bias their responses in order to give a politically correct answer (Churchill, 1995; Kinnear and Taylor, 1996).

The observation method does not involve questioning. Rather, it involves the recording of the respondents' behaviour. The observation method has several advantages in comparison to the communication method. First, it does not rely on the respondent's willingness to answer. Second, the potential bias caused by the interviewer and the interviewing process is eliminated. Last, certain types of data can be recorded only by observation (Kinnear and Taylor, 1996; Scott _et al._, 1990). However, this method has two major weaknesses. First is the inability to

observe such things as perception. Second, the behaviour patterns to be observed must be of short duration, must occur frequently, and/or must be reasonably predictable if the data collection costs and time requirements are to be competitive with the communication data collection method.

As the main purpose of this research is to assess buyers' perception (of risk and brand-images), it makes no sense to refer to the observation method because it does not apply to a research of this characteristic.

There are many ways of collecting quantitative data. The four types of communication approaches available for obtaining data from respondents are the personal interview, the telephone interview, the mail interview, and the computer (disk or internet) interview. According to the sampling plan (that will be discussed in detail in a further section on this chapter), a large number of firms are to be contacted at a geographically dispersed area (*i.e.*, whole of Brazil). These requirements ruled out both personal and telephone interviews as too expensive, time-consuming, and impractical. Computer interviews are still a novelty and some interviewees' might not be able to respond promptly to this method of data collection - especially in Brazil. Thus, questionnaires were used (see appendixes 6 and 7). Questionnaires are a reliable and cost-effective procedure for gathering information from firms (Eborall, 1991; Jobber and Saunders, 1989; Singer *et al.*, 1983; Smith, 1991), and has been used in much academic research, including studies on the Brazilian industry (*e.g.*, Moraes, 1988).

There are several specific reasons why we chose to use a mail survey. Some of these reasons are:

1. Mail surveys are easy to use over a wide geographical area, such as the one covered by this research.

2. It provides a low cost per contact.

3. Ease of administration.

4. Facilitate respondent independence. With this method of data collection there is a greater likelihood that the respondents will complete more truthfully any sensitive question. There is no interviewer effect.

5. Facilitate respondent convenience (time and place).

6. Allow respondents to take the trouble to consult other people, look up documents, or go find out details about what is being questioned, which they may be less keen to do during a personal interview.

7. Assure anonymity. This relative anonymity helps people feel confidence and this way improve response rate.

The effectiveness of a mail survey should be considered in terms of the response rate (Tull and Hawkins, 1993). There are a number of techniques that may be used to improve it (Eborall, 1991; Hague, 1992; Mitchell, 1991; Moraes, 1988; Smith, 1991; Yammarino *et al.*, 1991). For example, a great deal of effort was made to compromise with a professional approach regarding the questionnaire's length and presentation. The same effort was applied for the cover and reminding letters (see appendixes 2 through 5). An attractive layout on the City University Business School stationary explaining the research's objectives, importance, persons and institutions involved was done. Clarity and lack of ambiguity in layout and question wording were also considered carefully. The questionnaire was freepost (see

appendix 17). Some of these techniques will be discussed in greater detail in the forthcoming section "questionnaire design".

The questionnaire was sent out on 19 February 1996. Following the questionnaire, one month later, the first reminder letter (see appendix 3) was sent to all non-respondents. Again, one month later, a second remainder letter (see appendix 4) followed; this time with an extra questionnaire to all individuals contacted that had not yet replied. Three weeks after the last letter (see appendix 5) a fax was sent to all that did not respond. This technique of making several contacts has proven to be effective on improving response rates (Eborall, 1991; Jobber and Saunders, 1989).

5.2.3. - Questionnaire Design

A questionnaire is an assembly of formulated questions designed to collect information from respondents. It is useful to begin by looking at the overall role of the questionnaire in business marketing research. According to Hague (1991, p.177), questionnaires have four main functions.

1. They are intended to draw accurate information from the respondent - perhaps their most important function.

2. They provide a structure, which ensures that an interview flows smoothly, and so is successful in drawing out the required information.

3. They are a means of recording information.

4. They provide a system from which information can be obtained for analysis.

As it is destined to a specific public, one should start by understanding who the respondents may be and on behalf of whom are they expressing their ideas. Individuals that take part in industrial marketing research are primarily members of an organisation, some being production personnel, others technical (*e.g.*, computer analyst), others buyers, etc. (For more detail on the selection of these individuals see the forthcoming section 'sample'). They are often experts in their specific professional fields and are likely to carry with them particular behaviour, expressions, and even image from their different hierarchical positions and titles.

Another factor, which characterises business marketing research, is the variability in interviews. Business marketing research is heavily influenced by the wide variations that exist in business markets. Companies differ in size as well as nature. For example, there are obvious differences between companies from different industries such as, pharmaceuticals and clothing.

By their very nature, business market research tends to be much smaller than those carried out aiming consumer markets. It is not unusual in some business markets for a researcher to collect data from a handful of respondents.

However, other business surveys can be very large. According to Hague (1991; 1992), a business survey can involve hundreds of interviews, however a study involving more than 200 companies is rare.

Market researchers classify questionnaires according to the degree of discretion they allow the interviewer when administering the questions. A useful method of classification of questionnaires has three main types, as proposed by Hague (1992, p.207) and summarised in Table 5.1.

Table 5.1. - Classification of Types of Questionnaires.

Type of Questionnaire	Areas of use of Questionnaire	Administration of the Questionnaire
STRUCTURED	Used in large interview programmes (anything over 50 interviews). Typically used where it is possible to closely anticipate responses.	Telephone/ Face-to-face/ Self-completion
SEMI-STRUCTURED	Used widely in business-to-business market research where there is a need to accommodate different responses from companies. Also used where the responses can not be anticipated.	Face-to-face/ Telephone
UNSTRUCTERED	The basis of many studies into technical or narrow markets. Also used in depth interviewing and in group discussions. Allows probing and searching where a skilled researcher is not fully sure of the responses before the interview.	Group discussions/ Industrial visit interviews/ Depth telephone interviews

Many industrial researchers (*e.g.*, Festervand, 1980; Mitchell, 1991; Moraes, 1988) have been using a structured type of questionnaire on their studies. This is due to the highly standardised procedure most commonly needed to conduct an industrial marketing research over a wide geographical area. On this modality of questionnaire all questions are to be asked in a written form and in the same order and structure to all respondents (Singleton *et al.*, 1993). Its major limitation is the inflexibility; nevertheless they are very useful for large-scale business interviewing programmes (Hague, 1991; 1992). They have the particular characteristic of making coding and classifying much easier then other methods. Following the above-mentioned classification, this researcher used a structured postal questionnaire as the medium for data collection in this study.

Before designing the questionnaire, the researcher must have a detailed list of the information needed to test the proposed hypotheses as well as a clear definition of the respondent group. Barker and Blankenship (1975) have identified the information provided by respondents as follows:

1. <u>Facts and knowledge</u>: what are the present beliefs, perceptions, and depth of knowledge about, for example, specific products, brands, industries, or organisations?

2. <u>Opinions</u>: what are the existing attitudes towards products, etc., including an assessment of the strength with which these attitudes are held?

3. <u>Motives</u>: what underlines specific types of market behaviour, _i.e.,_ what motivates buyers to buy specific brands?

4. <u>Past behaviour</u>: what are the patterns of consumption of certain kinds or brands of products over specified time periods?

5. <u>Future behaviour</u>: indicators of possible future behaviour may be obtained from sensitive questioning about, for instance, levels of satisfaction with existing products, nature of expectations, social habits, etc.

The questions on the questionnaire should flow logically from the list of information needs. It would seem obvious that no question should be included on the questionnaire unless it relates to a specific information need. However, according to Kinnear and Taylor (1996), unnecessary questions can be justified if they facilitate gaining the respondent's collaboration or add continuity to the questioning process. In practice we felt a strong tendency to include questions that seemed interesting but had no specific link to the information needs.

After consulting several sources (_e.g._, Block and Block, 1995; Churchill, 1995; Hague, 1991; 1992; Kinnear and Taylor, 1996; Singleton _et al.,_ 1993) seeking their accumulated experience, a series of guidelines that can be useful to the less experienced researcher confronted with the task of designing a questionnaire emerged. The guidelines are presented in Figure 5.1.

Experts agree that questionnaire design is more an art form than a scientific undertaking. No steps, principles, or guidelines can guarantee an effective and efficient questionnaire. Questionnaire design is a skill that the researcher learns through experience rather than

by reading books. The best method of learning the skill is to write a questionnaire, to go out and interview people with it, then to analyse its weaknesses, and revise it (Chisnall, 1997; Morton-Williams, 1986; Kinnear and Taylor, 1996). However, there are some guidelines, which can help laying the foundation for the questionnaire design. These guidelines were followed during the development of the questionnaire used in this research. A discussion on these guidelines is now considered.

Figure 5.1. - Guideline for Developing Questionnaires.

1. Decide on question content
2. Decide on response format
3. Decide on question wording
4. Decide on question sequence
5. Decide on physical characteristics
6. Pretest, revise, and make final draft
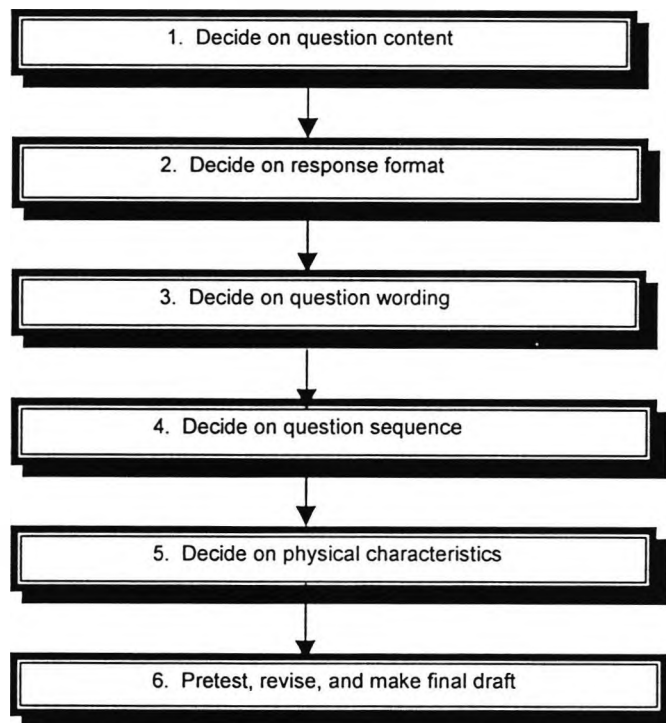
5.2.3.1. - Question Content

A successful questionnaire takes the respondent smoothly through the interview and in such a way that the respondent finds it easy to answer. It is not strange to see questionnaires that do not work as expected and fail to provide the needed information (Hague, 1991). To avoid

developing a questionnaire that fails to communicate to the respondent it is important to recognise that the respondent's ability and/or willingness to give accurate answers influence the content of the questions (Kinnear and Taylor, 1996).

Before actually sitting down and writing questions, first we need to recognise whether or not respondents will have the ability to answer the questions based on their experience. Even if respondents are informed on the topic and have the information needed, they may not be able and/or willing to share it. Confidential data is not something that many business people will disclose easily to any researcher that he or she barely knows (Block and Block, 1995).

Assuming that respondents can accurately give the information being asked in the questionnaire the next issue is to determine if they are willing to share it. Unwillingness to answer accurately can be reflected in 1) non-response error (*e.g.,* refusal to answer to a question or a series of questions) or 2) measurement error (*e.g.,* deliberate provision of an incorrect or distorted answer). In Malhotra's (1996) opinion, most respondents are unwilling to devote much effort to provide information. However, their willingness to answer a question or even the whole questionnaire is a function or their understanding that the data are needed for a legitimate purpose.

These two major issues (*i.e.,* respondent's ability and/or willingness) that influence the content of the questions was carefully considered. To ensure that the

questionnaire would reach the right hands, a extensive snowballing procedure was undertaken (this topic will be covered in more detail in the forthcoming section 'sample'). Following expert advice from Mooney and Gramling (1991) all sensitive topics, such as company turnover were placed at the end of the questionnaire. We expected that after answering to 95% of the questionnaire, respondents would be more willing to give away any sensitive information. Sensitive questions were also hidden in part three of the questionnaire (categorical questions) that is a group of innocuous questions. Once the problems related to the content of individual questions was analysed, we focused on the particular form of the response.

5.2.3.2. - Response Format

Response formats can be open-ended, multichotomous (*i.e.*, multiple-choice), dichotomous (*i.e.*, only two alternatives), or scaled (Seiberling *et al.*, 1983; Spagna, 1984). The chosen response format depends on the question content. Most of the questions used to build up the questionnaire for this research are basically attitudinal and classification questions. The attitudinal ones are to detect respondents' perception. The classification ones are to build up a profile of the respondents and the firms they work for. The information required for this study revolved basically around three areas, they were 1) risks perceived in a buying situation, 2) perceptions about different brand images and 3) classification variables relating to the individuals and the organisations in which they work.

The most common basic tool of attitudinal measurement is the rating scale, by which respondents can position their attitudes or behaviours along a valued continuum (Morton-Williams, 1986). Too many different scale types exist to enumerate here, however what will be now discussed is which scale was chosen and why.

Churchill and Peter (1984, p.365) reviewing the marketing literature over a 20-year period examined measures for which at least two indexes of their quality were reported, and then they estimated the effect of a measure's feature on its reliability[2]. Table 5.2 summarises that study's findings with respect to some of the major questions surrounding the construction of attitude scales. The information provided by that study had a great impact on the selection and development of the scale used on this research.

In spite of the useful information provided by Table 5.2, the final choices regarding what scale to use and how to develop it remained in the domain of the researcher's judgement. The scale chosen to be used in this research to collect data about risk perception, self-image, and brand-image was an itemised rating scale. One of the most commonly used itemised rating scales in marketing studies is the semantic differential developed by Osgood *et al.* (1957). The original semantic differential scale consisted of bipolar adjectives, which were engaged to secure respondent's reactions to the objects of interest.

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[2] Reliability assesses the issue of similarity of results provided by independent but comparable measures of the same object, trait, or construct; it is an important indicator of a measure's quality because it determines the impact of inconsistencies in measurement on the results (Churchill, 1995). The issue of reliability and its relationship to the validity of the measure will be further discussed in Chapter 6.

Table 5.2. - Scale Characteristics on Reliability Estimate

Scale Characteristic	Conclusion
Number of items in the final scale	The hypothesis that there is a positive relationship between the number of items in the scales and the reliability of the measure was supported.
Difficulty of items	The hypothesis that a negative relationship exists between the difficulty of the items and the reliability of the measure was not supported.
Reverse scoring	The hypothesis that scales with reverse-scored items will have lower reliability than scales without them was not supported.
Type of scale	No *a priori* prediction was made that one of the scale types is superior, and no relationship was found between scale types and the reliability of the measure.
Number of scale points	The hypothesis that a positive relationship exists between the number of scale points over the normal range and the reliability of the measure was supported.
Type of labels	No *a priori* prediction was made that numerical and verbal labels are superior to verbal labels only, or vice versa, and no relationship was found between type of labels and the reliability of the measure.
Extent of scale points description	The hypothesis that scales for which all points are labelled have higher reliability than scales for which only polar points are labelled was not supported.
Respondent uncertainty or ignorance	The hypothesis that scales with neutral points have higher reliability than forced-choice scales was not supported.

According to Dickson and Albaum (1977), the semantic differential is normally a seven-point rating scale. Individual items on a semantic differential may be scores on a 1 to 7 scale. For example, in question number 1 in this study's questionnaire a seven-point semantic differential scale was used to collect the data.

e.g., 1. When deciding to buy a workgroup server, product you have never purchased before, how certain do you feel that the chosen supplier will perform satisfactorily?

Totally uncertain   1   2   3   4   5   6   7   Absolutely certain

It was decided to follow the tradition and use a seven-point semantic differential scale. Of the twenty variables and its adjectives that composed the set of images five were reversibly coded. For the brand-image scales, a 'no opinion'[3] option was offered to the respondent in the case of he or she feeling unable to give an opinion on a specific attribute.

The advantages of open-ended questions are several. First, allows respondents to express themselves freely, using their own words and thoughts, many times filling up gaps which may have been overlooked by the researcher. Second, they influence responses less than multiple-choice or dichotomous questions. However, it is the opinion of some experts (*e.g.*, Block and Block, 1995; McDonald, 1982) that open-ended questions are the most difficult kinds of questions to quantify, requiring special effort and attention that adds to time, complexity, and cost of a

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[3] The issue of 'no opinion' is particularly useful to soften the double jeopardy effect that may be present (Barwise and Ehrenberg, 1985). This point will be discussed in greater detail in the forthcoming section 'beliefs amongst users and non-users.'

study. Thus, following their advice, open-ended questions were kept to a minimum. There was only one dichotomous question in the whole questionnaire. It was regarding respondents' sex and it was dichotomous for obvious reasons.

Several multiple-choice questions were used. Part 3 of the questionnaire, where most of the categorical data was collected, was composed where possible of multiple-choice questions. According to Kalton and Schuman (1982), multiple-choice questions overcome many of the disadvantages associated with open-ended questions. Most important, they reduce time and cost associated with data tabulation. They are considered to be generally easier and faster to complete (Tull and Hawkins, 1993). Once the response format was determined, special attention was driven to question wording.

5.2.3.3. - Question Wording

Good research comes from asking the right questions to the right people (Hague, 1991). The wording of questions is perhaps the most critical and difficult task in questionnaire construction. This is a critical task, because poor phrasing of a question can cause respondents to refuse to answer it or to answer it incorrectly, either on purpose or because of misunderstanding (Churchill, 1995). The first condition known as item nonresponse can complicate data analysis (Fowler, 1992; Omura, 1983; Presser, 1984). The second condition leads to response error, that is, meaningless responses (Peterson and Kerin, 1981).

Even though it is recognised by many (*e.g.*, Churchill, 1995; Judd *et al.*, 1991; Sudman and Bradburn, 1982) that the wording of questions can affect the answers collected, it is sometimes hard to develop good phrasing of questions, because there are few basic principles researchers can rely on when conceiving questions. At times, wording decisions may be bypassed. The overall research purpose may permit the replication of a question. According to Judd *et al.* (1991), it is common for researchers to search out earlier questions on the topic of their interest and repeat them exactly in a new study. This eases decisions about question wording however this facility enhances the risk of miscommunication with the specific public of interest.

The literature is abundant with guidelines about wording questions. Numerous research experts have been publishing books and papers advising researchers on how to phrase questions. However, it is difficult to build out of them any general principle. Hence, we decided to list some guidelines that seemed to be of consensus amongst some authors and guided the questioning of the questionnaire used in this study.

1. Use simple language. Ordinary words should be used in the questionnaire and they should match the vocabulary level of the respondents (Duncan and Schuman, 1980).

2. Avoid ambiguous words and questions. Ambiguity can arise from poor sentence structure using words with several different meanings (de Vaus, 1996).

3. Avoid leading questions. A leading question is one that clearly suggests the answer or reveals the researcher's opinion (Aaker *et al.*, 1995).

4. Avoid implicit alternatives. An implicit alternative is one that is not expressed in the options (Noelle-Newmann and Worcester, 1984).

5. Avoid implicit assumptions. Questions are frequently framed so that there is an implicit assumption about what will happen as a consequence (Churchill, 1995).

6. Avoid generalisations and estimates. Questions should be specific, not general (Malhotra, 1996).

7. Avoid double-barreled questions. Double-barreled questions are those in which the wording calls for two responses (Kinnear and Taylor, 1996).

When developing the questionnaire for this research, care was taken to ensure that the phrasing of questions followed as much as possible the advice present in the seven guidelines for question wording previously presented. An attempt was made to keep the questionnaire objective. The major effort in question wording was concentrated towards the development of sound questionnaire in the language that respondents would answer hence the original version[4] of the questionnaire was first developed in Portuguese. Once the issue of question wording was considered we turned our attention towards question sequence.

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[4] For the original version of the questionnaire and letters in Portuguese readers are referred to the appendixes 9 through 16 at the end of this thesis. An English version of the questionnaire is also presented for reference purposes.

5.2.3.4. - Question Sequence

The sequencing of questions can be crucial to the success of the research effort. It can influence the nature of the respondent's answers and be the cause of error in the survey findings. In the opinion of Judd *et al.* (1991), the sequence of the questions in a questionnaire has two major implications. First, an appropriate sequence can ease the respondent's task in answering, which is particularly important at the very beginning to capture the respondent's interest and motivate completion. Second, the sequence of questions can either create or avoid biases that influence responses to the later questions. Context effects[5] have been much studied in recent years, and they pose the same sorts of issues as effects of question wording, although they seem to be less powerful.

While this aspect of question sequence decision draws heavily on the skills of the researcher in charge of the questionnaire development, experts have again proposed several guidelines that if followed should help produce a questionnaire that is as free from bias as possible and interesting for the respondent. The basic guidelines are straightforward:

1. Use a simple and interesting opening question.

   The opening question must capture the respondent's interest. Questions that ask respondents for their

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[5] Context effects relate to the issue of preceding questions on the response to later questions (Judd *et al.*, 1991).

opinions can be good opening questions, because most people like to express their opinions (Malhotra, 1996). There are reports of such questions being asked even when they have no bearing in solving the research problem (Crespi and Morris, 1984; Krosnick and Alwin, 1987).

2. Use funnel approach.

Even though interest may centre on specific issues, according to Kahn and Cannell (1957) the researcher should start the questionnaire with broad questions about the subject and then narrow it down to the specific issues. This is what they have called a funnel sequence.

3. Ask classification questions last.

Some advocate that it is a good idea to think of the questionnaire as having several parts (*e.g.*, Block and Block, 1995; Malhotra, 1996). As mentioned earlier, usually some general questions are asked up front because they ease the respondent into the topic. Second, the specific issues are covered. Last, ask those questions seeking classification information last. There is a logical information for this. In the opinion of Churchill (1995), the basic information is most critical and without it there is no study hence it is best to avoid the possibility of alienating the respondent by asking a number of personal questions before getting to the hart of the study.

In regard to the questionnaire used to collect the data for this research, an opening statement explaining

the aim of the questionnaire, the theoretical content, and a request for their expert opinion was positioned on the top of the first page. The brief statement had the researcher's name endorsing it in an attempt to give a personal touch to the message. The instructions for questionnaire response was placed in the bottom half part of page one. In the sequence, part 1 - regarding perceived risk - was shown. In this part a general scenario[6] positioned the respondent as a buyer faced with a buying decision. Following, fifteen questions were placed to assess the respondent's risk perception.

Part 2 of the questionnaire mainly regards the respondent's self-images, brand-images, and user-images. Self-images were positioned first, brand-images second and user-image last. To avoid carry-over effect from brand sequence on the questionnaire, a rotation also known as the Latin square double cross over proposed by Neter *et al.* (1990) was employed. Neter and his partners postulate that if carry-over effects from one treatment (*i.e.*, sequence) to another are anticipated, one may balance out these carry-over effects by choosing a Latin square in which every treatment follows every other treatment an equal number of times. For four brands ($r = 4$) as is the case in this study, an example of such rotations is:

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[6] The scenario was idealised to be realistic and at the same time ensure that the respondents could easily relate to the problem described by it. After careful consideration, a general scenario was developed asking the respondent to act as a buyer responsible for an IT equipment acquisition. The scenario was pilot tested as part of the questionnaire. Readers are referred to the appendix 6 where the full version of the questionnaire is shown for a view of the scenario.

Table 5.3 - Illustration Of The Rotation Table Used To Reduce Carry-Over Effect.

Type of questionnaire	1	2	3	4
1	A	B	D	C
2	B	C	A	D
3	C	D	B	A
4	D	A	C	B

where

A, B, C, and D are different brands.

We were concerned with the position of the brands in the treatment order, that is, the position of a specific brand affecting the results obtained by another brand. For example, the first brand may receive better ratings than its counterparts mainly because of its position in the set. Thus, in this study, approximately half of the questionnaires were to assess computers and the other half to assess printer. Of these approximately 200 questionnaires destined to each product field, 50 were of type 1, 50 of type 2, 50 of type 3, and 50 of type 4. This rotation was carefully monitored with the sole intention of controlling any interference in the treatment order.

Part 3 of the questionnaire assessed the classification and sensitive questions. As far as possible, some consideration was given to the issue of question sequence. Once the content and form of the

questionnaire was defined, we set our attention to its physical characteristics.

5.2.3.5. - Physical Characteristics

The physical characteristics of the questionnaire can be influential in securing the co-operation of the respondent (Sanchez, 1992). The quality of the paper and printing can influence the respondent's first reaction to the questionnaire. A mail questionnaire that looks unprofessional, disorganised, or difficult to answer is likely to deter respondent answering. According to Block and Block (1995), this is even truer in business-to-business research than with consumer research.

Considerable thought and care was taken to ensure the questionnaire's appearance. The questionnaire was designed to look attractive and easy to answer. Malhotra (1996) suggested that booklet format is easier for the respondent to handle and does not easily come apart with use. Thus, the chosen questionnaire format was that of a booklet. In the last page (the one with the freepost authorisation and folding marks), some institutional symbols were presented. This page was headed with the Federal University and City University Business School's institutional logos (coat of arms). The sponsors (*i.e.*, CNPq, FIEPE, and SUCESU) and their logos were also printed in an attempt to show the seriousness of the institutions involved and capitalise from their endorsement.

5.2.3.6. - Presentation of the Brands to Respondents

According to Loosschilder _et al._ (1995), it is common to see actual market-place choices being based on inspections of pictures (_e.g._, catalogues) of products. In this regard De Bont (1992) ads by saying that visual stimulus can only help as one major aspect of it is evoking realism. Loosschilder _et al._ (1995, p.19) defined realism as _"the degree to which the representation resembles the actual product."_ For all this to be true; the particular visual stimulus must reflect the limited information capacity and the willingness of respondents to process such information (Boecker and Schweickl, 1988). Thus, if this technique is well applied, it can be expected that a higher task involvement and motivation can take place and if this is to happen, a more convenient and less fatiguing stimulus than verbal product descriptions may well get respondents' more involved and improve response rate (Green and Srinivasan, 1978).

Nevertheless, it is recognised that there are some limitations regarding the use of visual stimuli. First, with a one-dimensional view of the item the respondent is unable to feel it and in this way gain information through touching. Second, the order the brands are presented in the print may influence perception. Finally, some images may be more appealing and again influence. To ease these limitations some precautions were taken. They were:

1. The order the brands were presented in the print varied in a way that each brand rotates equally. This way the influence of being the first in the order was equally distributed.

2. The size and the background of the print was carefully manipulated to ensure an equal visual impact; and

3. the same quantity of information will be provided for all brands (*i.e.,* logo and picture).

After taking these precautions, we believed that the practical advantages of using colour prints as a visual stimulus compensated for some of the limitations.

Thus, to facilitate recognition and recall (*i.e.,* awareness), each questionnaire was accompanied by a colour print with the set of pictures of brands. A full profile approach was used (see Green and Srinivasan, 1978), which means that each respondent will see the visual stimuli and at the same time make its judgements regarding the functional and emotional attributes and values of each brand. Before the questionnaire is ready for fieldwork, it needs to be pre-tested and revised.

5.2.3.7. - Pre-testing the Questionnaire

To evaluate if the instrument (*i.e.,* questionnaire) is adequate to test the hypotheses, a pilot study was conducted later 1995. The basic reason for conducting such a study was to determine whether the questionnaire served the purpose for which it was designed or whether corrections were needed. For this pilot study, a personal interview strategy was undertaken in order to capture the maximum of the respondents' suggestions about the instrument. After extensive discussions with his research

supervisor, this researcher started testing the questionnaire on colleagues and other academic specialists, as suggested by Hague (1992).

Running the questionnaire only on academics is not enough to *iron out* all problem areas that may exist. Thus, the instrument was also tested on a real basis situation with typical respondents (*i.e.,* the same type of individuals that were interviewed when survey took place) in order to polish up any further unidentified problem that may existed. According to Converse and Presser (1986, p.65) and Singleton *et al.* (1993, p.309) piloting the questionnaire should provide answers to questions such as:

- Does the level of language match the sophistication of the respondents?
- Are instructions to respondents clear?
- Are the questions and their format varied enough to retain interest and attention?
- Are the choice options clear and exhaustive?
- Are interviewing aids such as prints or photographs effective and practical?
- Are there questions that respondents resisted to answer?
- How long does the interview take to complete?

After the pilot study, the expected final version of the instrument that was used in the larger sample emerged. Some reliability and validity tests were performed at this time to evaluate the instrument. For the quantitative results of the pilot test, readers are referred to Chapter 6.

5.2.3.8. - Development of Portuguese and English Questionnaires

The master version of the questionnaire was formulated in Portuguese. A double-back translation technique (Green and White, 1976) was employed to ensure the development of a comparable version of the questionnaire. Language is not a neutral vehicle. If equivalents of a concept in another language are missing, often, the desired meaning can still be transferred by circumlocution. Translators are obviously bilingual, if not multilingual. Most bilinguals still have one dominant or preferred language, in which they express themselves more easily. The translators were chosen in a way where they could translate into their preferred language.

5.2.3.9. - Achieving a High Response Rate

The response rate is the percentage of the total attempted interviews that were actually interviewed. The non-response is the difference between those that were interviewed and the total original sample. A low response rate can compromise or even invalidate the research's results. Thus, special care was taken to achieve a high response rate as now discussed.

Achieving high response rate focuses on motivating the respondent to answer the questionnaire and return it (Fox _et al._, 1988). There are a number of techniques that may be used to increase a mail survey response rate. However,

one should start by securing an optimum selection and correct address of the person to be interviewed. One of the chief response limiting factors in business-to business mail surveys, and one that is given insufficient attention, is the quality of the mailing list used for sampling (Eborall, 1991). Special consideration was given to this issue. The whole procedure of selecting the correct people is discussed in detail in the forthcoming section 'sample'.

A comprehensive review of the literature by Yu and Cooper (1983) identified some measures that if dealt with can help increase response rate. These measures are:

1. Offer some sort of incentive (*e.g.,* money, books, pens, lottery ticket, etc.).
2. Send preliminary notification that the survey is coming.
3. Use foot-in-the-door techniques. These are multiple request strategies. The first request, a relatively small one, followed by the critical request, which is actually the target behaviour.
4. Personalise the communication. Send letters addressed to specific individuals.
5. Send follow-up letters requesting completion and return of the questionnaire.

Singer (1978) has provided evidence suggesting that the quantity of information given to the respondents about the content and purpose of the survey is directly related to response rate. She recommended the use of an advance letter or a telephone call to give respondents the necessary information about the study and request their co-operation. It is not rare for some interviewees to refuse to participate because they do not wish to be

identified with their responses. To alleviate any doubt respondents may have, a guarantee that the replies will be held in confidence should be given. As far as possible these recommendations were taken in consideration. More information on response rate can be found in Chapter 6 in the section 'survey response analysis'.

5.2.4. - Research Setting

Modern Brazilian economic history is marked by a succession of cycles. The industrialisation process from 1950 to 1970 was dramatically rapid marked by the expansion of important industrial sectors such as the automobile, petrochemicals, and steel industries. This period was also marked by large infrastructure projects. During these almost 20 years of fast growth, Brazil's annual Gross National Product (GNP) growth rate was among the highest in the world, averaging 7.4% (Brazil in Brief, 1994).

The next decade, from 1970 to 1980, Brazil absorbed excessive liquidity, especially from commercial banks under the baton of the IMF - International Monetary Fund (basically American banks) and the Paris Club, _i.e._, European banks (World Bank, 1992). The great majority of this capital inflow was directed to State owned infrastructure investment. The result of these investments was an impressive Gross Domestic Product (GDP), averaging a rate of 8.5% increase during the decade (Stone, 1993).

In the first years of the 1980s Brazil was forced to change its policy of fast growth due to a sudden and substantial increase in the interest rates in the world economy. The unexpected suspension of capital inflows reduced dramatically the investment rate being made of 25% per year to something around 15% (Stone, 1993). The debt contracted during the previous decade affected public finances and threw the country into an ascending inflationary spiral that was to persist till mid 1994.

Following the early 1980s crisis, a severe economic contraction occurred, with the result being the so-called "lost decade", and as a consequence the GDP rate in 1990 fell by around 4.6% (Davies and McDonnell, 1992). During the period of 1991-92, the Brazilian economy stagnated and much of the industry operated well below capacity as consumption and investment demand remained depressed by high real interest rates in a bid to keep inflation under control (Stone, 1993).

The Brazilian economy suffered a decade of recession. In 1993 it exits the negative period of recession reporting an increase of 4.1% of its GDP compared to the previous year. In 1994 its performance was even better recording a real GDP growth of 5.7% (Financial Times, 1995). The investment rate, which had languished at 14% in 1993 grew to a 16% rate in 1994 and 17% in 1995, however it is still far from the 25% rate invested in the 1970s (Exame, 1995a; 1995b). With a GDP of US$ 688.1 billion in 1995 (World Development Report, 1997), Brazil is now one of the largest economies of developing nations and far the largest in Latin America.

Obviously the numbers shown above are official but in Brazil's case the informal economy is expansive and worth of consideration. Calculations from the ILO (International Labour Organisation) estimate that there must be 300 million people in the world working in some sort of informal job, of these 10% would be in Brazil. The size of the Brazilian informal market is huge. According to conservative estimates it should be something in between U$ 250 to 300 billion per year (International Labour Organisation, 1995). The Brazilian underground economy is said to vary between 30% and 40% of industrial and commercial activities and could be even higher in the agricultural sector (Price Waterhouse, 1991).

Brazil has a broad, modern and dynamic industrial base, as well as sophisticated consumers (Overseas Trade, 1994). The economy has been opened to foreign competition and average tariffs have fallen from 42% in 1990 to 14% in 1995 (Foster, 1995; Overseas Trade, 1994). The economy is basically one of free enterprise; however the State still owns a considerable amount of firms in various strategic sectors, such as oil and its derivatives, energy production (hydroelectric and nuclear), rail transport, and telephone networks. Since 1990, the government has introduced special legislation to privatise many companies where the presence of the State is no longer considered to be essential (Price Waterhouse, 1991). So far 34 companies have been brought to the market (Exame, 1995b). For example, the Brazilian steel industry, one of the largest in the world, is now wholly in private hands.

5.2.4.1. - The Brazilian Industry

In the last 25 years Brazil has succeeded in diversifying and expanding the production of manufactured goods and consumer durable. The industrial performance for 1993 recorded a growth of 9.6% compared to the previous year's result when it dropped 4.7%. A major responsible factor for the rise in annual production was the behaviour of the transformation industry that achieved a significant growth of 10.1% alone (Vergniaud, 1994).

According to Vergniaud (1994) these numbers are basically the result of the convergence of various factors; however the most significant one was the drop in interest rates. In early 1993 the real interest rate was 35% p.a. By September it had already dropped to the real interest rate of 13% p.a. This substantial cut contributed to a reasonable relief on production costs. In addition, it had the immediate and inevitable effect of encouraging buying in all sectors of the economy as a whole.

Other factors helped achieve the industrial production growth of 1993. A major portion of this growth was due to concrete entrepreneur determination. Some of the most relevant are the sector's effort to adjust, materialised principally in the adoption of permanent technological modernisation programmes, streamlining business structures, further rationalisation of managerial methods and cost efficiency, and a substantial increase in contracting third parties. Another portion of this growth was due to the increase in purchasing power of a

considerable contingent of the economically active population in large urban centres (Vergniaud, 1994).

Yet, despite the advances gained since 1993, the Brazilian Industry continues to face problems, which jeopardises its expansion and inhibits its competitiveness. There are still some major problems to be tackled if the Brazilian industry is to be internationally competitive in the majority of its sectors.

The first problem is the scarcity of long term financing. In Brazil, there is a lack of long term credit, which in its majority is being operated by the official bank network that is characterised by its short-term mindness. Another problem, which also terrorises the Brazilian industry, is the heavy tax load made up of a group of 58 duties that can represent up to 40% of the earnings of an industry. Other problems that affect Brazil's industrial park are high port costs, poor maintenance of infrastructure (*e.g.*, ports, motorways) and for last, the lack of technical skills of a vast number of the workforce (Vergniaud, 1994). Despite this whole legion of problems, the Brazilian industry is succeeding and growing, as statistics testify.

In 1991, there were 3.5 million registered firms in Brazil. Of this total, 0.4% was 'large size' firms (more than 499 employees, 1% was 'medium size' firms (between 100 and 499 employees), 8% was 'small size' firms (between 20 and 99 employees), and 90.6% was 'micro' firms (less than 20 employees). Regarding sales and market-share by firm size, the large firms were responsible for 26.5% of the total, the medium firms for 30%, the small firms for 27%,

and the micro firms for 16.5% (Anuário Estatístico do Brasil, 1994).

More than half of the registered firms in Brazil (50.6%) operates in commercial activities. 15.4% operate in industrial activities. 1.8% in transport and distribution activities and 32.2% in service activities (Anuário Estatístico do Brasil, 1994). However, even though there is only a small proportion of the total of registered firms operating in industrial activities, most of the growth in the production occurs in the domain of consumer and industrial goods, being it also responsible for the largest proportion of the GDP (The Economist Intelligence Unit Country Report, 1994).

5.3. - Selection of the Population and Sample

Sampling is used in market research in an attempt to learn about some large group (*i.e.*, population) by looking at only a small part of it (*i.e.*, sample). Only very rarely, mostly in industrial market research, is it possible or sensible to look at the whole population (Collins, 1986; Powers, 1991). Normally it is not possible to contact all the subjects who detain the relevant information sought by the researcher. In this case, some kind of sample must be selected from the total. The theory underlying sample-based inference assumes that a sample should be selected in a way that every unit in the population of interest to the study has a known positive chance of appearing.

A sample should be as representative of the whole as possible if any generalisation is later to be made. When dealing with a homogeneous population, the researcher can be less concerned about the finer points of sampling. Nevertheless, when faced with a population known or believed to be variable, he or she should consider carefully sample selection in order to assure that it will be representative of the whole (Collins, 1986).

In industrial markets, population variability is almost the norm. In these markets the member companies are more often than not different in size and relative spending power. Their scale of buying may influence the whole market. For example, a single industrial buyer may be extremely large and account for a substantial portion of the purchases in his market. A random sample could fail to select this specific buyer and if this happens the research's findings would by no means represent well the whole of the market (Hague, 1992). For this reason, random sampling techniques are not very popular amongst industrial market researchers.

A central methodological problem in researching industrial markets is the difficulty to select individual respondents as independent units. It is necessary to select the individual or group of individuals regarding the organisation they make part of. As a consequence, the organisation is most often the relevant initial unit to be selected followed by a second selection scheme, this time of individual respondents within the selected organisations; that is the sample (Wind and Thomas, 1980).

Wind and Thomas (1980) have also been emphasising that these methodological issues are complicated by some frequent constraints. Unlike consumer researchers, the industrial ones have a much smaller population to work on and much higher costs involved, especially when collecting the data. These constraints tend to lead to rather small samples. They can also suggest a range of options the researcher faces when considering the selection of the population and sample, for example when considering sample size (large vs. small), representatives (random vs. purposive), and unit (organisation vs. individual).

There is an array of methods available to help market researchers select the population and sample to study, however for those concerned with industrial markets this array becomes limited at least when compared to what is available for consumer researchers. The nature of most industrial markets has some peculiarities that can make the selection procedure quite complicated. An important starting point is to understand that in industrial markets, unlike consumer ones, each organisational unit should not be considered as equal. The lack of equality can derive from many factors such as: size, consumption, financial standing, corporate culture and policy, possession of certain types of equipment, geographical location, form of organisation and others (Wilson, 1973).

The distinctive units in an industrial population must first be identified before sampling can be carried out because its omission can severely damage the survey to the extent of making the quantitative results meaningless (Hague, 1992; Macfarlane, 1991; Wilson, 1973). Following this advice, it was decided to carefully select an

industrial population for this study according to some criteria and analysis of secondary data, as is now discussed.

5.3.1. - Selection of an Industrial Population

The industrial population to be covered by the survey is the totality of the units, which are identified as being of interest to the study. When defining an industrial population, a good starting point is to define initially the respondent because any population is primarily defined in terms of the individuals that compose it. Thus, if the researcher has at least a vague idea of what type of respondent he or she is looking for, one might well find out where these individuals are likely to be found. Macfarlane (1991, p.143) proposes that the survey designer should ask the following questions when thinking about what industrial population to be covered. In this study, Macfarlane's guidance was carefully considered.

- Who is to be interviewed?

This should be defined carefully in terms of job titles and levels of responsibility; if the definition includes professional qualifications it may automatically lead to a suitable sample frame but more usually the definition leads to the next stage:

1. Where are these individuals likely to be found?

This should lead to a definition of likely companies to be contacted.

2. <u>What level of information is required from these individuals</u>?

In the simplest case, only the individual's opinion or usage is required, but more frequently he is asked to give data about his company.

Following Macfarlane's advice and the specific requirements of this research, the first question was answered by targeting C.E.O.s responsible for purchasing of large and medium firms operating in industrial activities. To answer the questions 1 and 2 one needs to look deeper into the selection of an industrial population, as is now considered.

In the opinion of Churchill (1995), one of the researcher's most creative tasks is the development of an appropriate sampling frame, especially when the list of population elements is not readily available. Sometimes this means sampling geographic areas or institutions and then sub-sampling within these units when, say, the target population is individuals but a current and accurate list of the appropriate individuals is not readily available.

In Macfarlane's (1991) opinion, it is very important to define all the issues related to population definition precisely and it is also generally helpful to make a list of inclusions and exclusions. Following her advice a list describing several reasons why large and medium firms operating in industrial activities were considered as the basic population for this research was developed. These reasons were:

- to broaden the possibility of encountering well structured purchasing departments;
- to reduce the risk of not existing a data processing or information department;
- to expand the possibility of information technology equipment being familiar to buyers;
- to reduce the overall sample size; and
- to reduce time and financial constraints.

To reduce the overall sample, some criteria were established to capture the most prominent industrial sectors in the Brazilian economy. A six-part analysis was conducted. All industrial sectors were evaluated by

1. real growth in sales (1993 compared with 1992);
2. return on equity (*i.e.,* net profit over stockholders equity);
3. profits (after income tax and price level adjustments);
4. liquidity ratio (current and long term assets over current and long term liabilities);
5. debt to assets (all long and short term debts); and
6. productivity (operational sales divided by the total assets subtracting investments in other companies).

All industrial sectors that scored above the median rate (of all industrial sectors of the economy) on these variables were considered except for the variable debt that was approached the opposite way. The data presented in Table 5.4 was obtained from Exame Maiores e Melhores de 1994 and summarises the six-part analysis (Exame, 1994, p.120).

Table 5.4. - The Most Prominent Industrial Sectors of the Brazilian Economy in 1993.

INDUSTRIAL SECTORS	Sales	Return on Equity	Profits	Liquidity	Debt	Productivity
	%	%	%	%	%	%
Median of 1993 compared with 1992	14.2	3.2	1.1	1.02	42.4	1.80
Clothing & Accessories (cloths, shoes, leather, fur, etc.)	21.9	4.4	2.4	1.18	39.9	1.90
Pharmaceutical (pharmaceutical, medical, perfume, veterinarian, soap and candle)	20.5	18.8	6.8	1.45	28.3	2.74

This criterion led to the selection of two very distinctive industrial sectors (clothing and accessories - pharmaceutical products) which have very little if anything in common. The main characteristics of these industrial sectors are summarised as follows.

5.3.2 - Clothing and Accessories

In 1993 the Brazilian textile and clothing industries accounted for more than 4,000 textile companies that are the main suppliers for approximately 11,000 firms in the clothing industry. The revenue of these industries, for 1993, was approximately of US$ 18 billion, which would represent a growth of 5% compared to 1992 (Vergniaud, 1994). For the same period, the increase in volume of physical production was of 6.4% in the textile industry

and 8.1% in the clothing industry (Anuário Estatístico do Brasil, 1994).

These numbers, mentioned above, are not a consequence of a totally free trade and competitive market. In 1993 the Brazilian textile industry was faced with the problem of artificial and synthetic textile exports from Asia to Brazil at lower prices than the international market. Mass dumping of those Asian products caused considerable losses to the Brazilian textile industry. The Brazilian textile industry would not have thrived in the last few years if they had not received the support from the Brazilian Government in implementing a antidumping law that brought a surtax of 30% on textile imports from Asia, especially from China and South Korea (Vergniaud, 1994).

The footwear sector produced 562 million pairs of shoes in 1993 (Brazilian Association of the Footwear Industries, 1994). For the same year, exports had the record revenue of US$ 1.9 billion, which was the result mainly of modernising the footwear manufacturing park, quality and productivity upgrade of the sector. After technological modernisation of the sector, Brazil has become the third largest footwear producer and the second largest exporter of leather footwear in the world (Vergniaud, 1994).

5.3.3. - Pharmaceutical Products

The production of the pharmaceutical sector in 1993 increased 9.7% compared to the previous year. A less impressive growth, nevertheless a growth (3.6%) was

recorded for the perfume, soap and candle segments (Anuário Estatístico do Brasil, 1994). The sector succeeded in achieving positive financial results for the first time in ten years, as a result of the new free market economic policy. Despite the positive results in 1993, there was a drop of 7% in the unit sales due to a suspension of purchase by Government organisations (Vergniaud, 1994).

The privately owned pharmaceutical companies operating in Brazil are influenced by governmental policies such as, the licensing to market products, a strict price control that lasted 40 years only ending in the early 1990s, and a direct competition with subsidised State owned companies to supply the national health system.

These governmental policies are carried out by two different agencies. The first is the CEME (*i.e.*, Central de Medicamentos) whose objective is to supply the national health system and second is the DIMEP (*i.e.*, Divisão de Medicamentos) which is responsible for licensing the production of all pharmaceutical products. Both of these agencies are subordinated to the Health Ministry. In opposition to these agencies, a private trade association named ABIFARMA (*i.e.*, Associação Brasileira da Indústria Farmacêutica) was created back in 1947 to defend the interests of the private business community that are constantly complaining about badly applied controls and restrictions carried out by these governmental agencies.

In 1990, there was around 600 pharmaceutical companies operating in Brazil. Of these, approximately 520

are of Brazilian capital and the 20 largest are
multinationals. The Brazilian market for pharmaceutical
products was estimated in 1990 to be approximately of US$
4 billion (Anuário Estatístico do Brasil, 1994).

After capturing two particular and prominent
industrial sectors, a second criterion was established to
capture a significant geographical area to approach.
Brazil is a Republican Federation formed by 26 States and
a Federal District. An analysis of the data published by
Exame Maiores e Melhores de 1994 (Exame, 1994, p.39) led
to the selection of six States due to their
representativeness amongst the total of large firms as
depicted in Table 5.5.

Table 5.5. - Percentage Distribution of the Largest Firms.

States		1993
São Paulo	(SP)	52.8
Rio de Janeiro	(RJ)	13.2
Rio Grande do Sul	(RS)	7.6
Minas Gerais	(MG)	5.4
Santa Catarina	(SC)	3.6
Pernambuco	(PE)	1.0
Total		83.6%

After studying the characteristics of each of these
industrial sectors (clothing and accessories -
pharmaceutical products) using the latest Industrial
Census available (Censo Industrial do Brasil, 1994) it was

possible to identify the number of registered establishments in each sector by State. It was also possible to identify the classification of size by sector and this way select the number of organisations in each State to be approached as presented in Table 5.6.

Table 5.6. - Industrial Sectors and Number of Firms by State and Size

Industrial Sectors	Number of Firms by State						
(number of employees)	(SP)	(RJ)	(RS)	(MG)	(SC)	(PE)	Total
Clothing and Accessories							
Medium (between 250 and 499)	77	20	59	8	10	3	
Large (more than 500)	29	8	31	3	15	3	
Total	106	28	90	11	25	6	266
Pharmaceutical Products							
Medium (between 100 and 249)	61	21	3	1	2	1	
Large (more than 250)	26	15	1	1	--	1	
Total	87	36	4	2	2	2	133
Total	193	64	94	13	27	8	399

5.3.4. - Sample

The next step was the determination of the relevant individuals or groups to be approached on each of these firms. According to Webster and Wind (1972b) these buying groups vary in form and number from firm to firm and from buying situation to buying situation. These groups can vary from only one person to twenty or more. Moriarty and

Bateson (1982) on an empirical study, found that after a single-stage snowballing the number of individuals per firm was 3.5 on average and after an exhaustive multistage snowballing this number increased by 86% to an average size of 6.5 DMU members. Their study only involved firms larger than 100 employees on an attempt to find well established DMUs. Nevertheless, of the 319 organisations that responded to their appeal, only 159 (49.84%) returned more than one questionnaire. These findings add by showing that even after an exhaustive snowballing sampling procedure these researchers' were still unable to motivate at least half of their sample to answer.

Following the advice of some authors (*e.g.,* Moriarty and Bateson, 1982; Moriarty and Speckman, 1984; Speckman and Stern, 1979; Wind, 1978; Wind and Thomas, 1980) we first focused on the prime decision-makers (*i.e.,* key informant) within the organisation with experience in buying or advising on IT brands. Houston (1974) has qualified key informant as an experienced member of the department, which is generally influential and hands much of the department's responsibility. In the purchase of IT equipment, the head of the Computer Department would be the key informant.

In spite of the attempt for consistency to the decision-making unit (DMU) construct proposed by many authors (*e.g.,* Webster and Wind, 1972b; Powers, 1991), the approach used in this study builds the unit of analysis on independent individual respondents. This is due to the interest of learning their personal views about brands and also to satisfy statistical strictness regarding the

characteristics of the data required to test the proposed hypotheses. The great majority of hypotheses in this thesis are in terms of co-variances and if there is any corporate effect (_e.g.,_ view, policy, tendency coming from the same firm) attached to the data, this effect is likely to produce an odd outcome on co-variances and even on variances undermining much of the statistical testing. We recognise that this means that individual probabilities of selection can be unequal depending on the size of the decision-making unit from which the person is drawn. We considered weighting the data to equalise the selection probability but again because we were concerned with correlation analysis we decided it would be unwise.

There are some different methods of determining whom these individuals respondents are in each organisation (_e.g.,_ see Silk and Kalwani, 1982). From the array of different methods, the snowballing procedure proposed by Moriarty and Bateson (1982) and Moriarty and Speckman (1984) was chosen as a first stage procedure to be used on this study. This procedure was chosen because it improves the probability of finding the desired individuals within the organisation with a lower variance and cost.

The snowball procedure is a referral technique that uses a process of chain referral. In this process an accessible member of the organisation is contacted and asked to indicate other organisational members who may also be involved in the decision-making process; these other members are then contacted and asked the same question until there is no new references (Aaker _et al.,_ 1995; Green _et al.,_ 1988; Luck and Rubin, 1987; Singleton _et al.,_ 1993; Wind and Thomas, 1980).

The major advantage of this type of technique over other methods of identifying DMU members is that it substantially increases the probability of finding the desired individuals with a lower variance and costs (Green *et al.*, 1988; Luck and Rubin, 1987). Aaker and Day (1986) add saying that this technique is very appropriate when it is necessary to reach small and specialised group of individuals.

On a preliminary stage, the annual publication from the industrial federation on each of the six selected States was consulted for the address and telephone of each of the 399 selected firms. With this information on hands, each firm was contacted over the telephone in order to identify the name and tittle of the C.E.O. responsible for its IT activities.

Letters were sent to each C.E.O. identified (see appendix 1). These letters explained the purpose of this study, the institutions and individuals involved, and the instrument that was going to be used for data collection. His or her co-operation was requested. They were also asked if they shared with other members of the organisation the decision making process. In the case of a positive response, they were asked to name their peers.

This letter was followed within a week by a telephone call to confirm if he or she was willing to co-operate and the names of his or her peers. An effort to contact individually each of the named individuals was made. Again, during this contact a snowballing technique was used to identify more names that could be involved in a

possible decision-making situation of buying an IT brand. Once new names emerged, a further effort to contact those individuals was made. This multistage snowballing technique only stopped after the great majority of named decision-makers were actually contacted and asked for their co-operation. All individuals contacted per firm were considered as members of that firm's DMU. After discovering how many and who were the DMU members of each of the 399 firms', a random selection of one individual took place and a questionnaire was sent to this individual only.

5.4. - Selection of Products and Brands

In order to test the proposed hypotheses, first some product fields had to be selected. After qualitative in-depth interviews (Readers are referred to Chapter 4 – "Exploratory Research" for more information on the interviews) it was possible to reduce the set of IT products to a manageable number that could encourage respondents to participate. The results of the interviews indicated that workgroup servers and mid-range laser printers as prominent product fields of the IT industry. These products were also recognised as common in our days to all middle and large businesses.

To compose each product field with a set of brands some qualitative depth interviews were undertaken. The results of these interviews are reported in detail in the previous chapter. From these interviews it was possible to identify a set of competing brands within each of the

product fields. The first three brands that qualified as most mentioned by the interviewees were chosen to compose the final set of brands. After choosing the most mentioned brands, we decided to add one extra brand per product field.

The computer profile has **Apple** as their fourth most mentioned brand but we decided not to consider it because this brand's products are different from all other in terms of architecture and we preferred every equipment to be, if possible, almost identical in function or effect to the others of the set to avoid any perceptual bias. The subsequent computer brand listed was **Itautec,** a Brazilian computer brand that we decided to exclude to avoid any prejudice related to country-of-origin that could happen. Thus, the next brand in the list was added.

In the printer profile, we decided to keep **HP** in the set even though it was already chosen to include the computer profile. This was because of its market leader position. However, we decided to exclude **IBM** from the list even it being classified as fourth in an attempt to offer a more varied set of brands and this way benefit in some way in terms of risk perception dispersion. Once more, the next brand in the list was added to the set of brands to be presented.

Thus, for workgroup servers the chosen brands were **IBM, Hewlett-Packard, Compaq,** and **Fujitsu.** For mid-range laser printers, they were **Hewlett-Packard, Xerox, Epson,** and **Texas Instruments.** All brands share a successful story (Readers interested in a historical review of each of these brands are referred to appendix 18). The next section is devoted

to explain how perceived risk and brand-image were measured.

5.5. - Measurement

Measurement is the process of assigning numbers or other symbols to units of analysis according to certain pre-specified rules in order to represent conceptual properties (Malhotra, 1996; Nunnally, 1978; Singleton *et al.*, 1993). Measurement often deals with some characteristic of an *object* and not the object *per se*. That is, individuals are not measured in the strict sense, only their perceptions, attitudes, preferences, or other relevant characteristics.

The measurement process actually begins as the researcher formulates a research problem and develops a conceptual framework to answer such problem. Every problem or hypothesis contains concepts that refer to aspects of reality in which the researcher is interested. According to Singleton *et al.* (1993), the ultimate goal of measurement is to specify clearly observable referents of the terms contained in one's hypotheses, but to get to this point one must first consider the abstract meaning of the terms. They suggest the measurement process to be broken down into three steps. They are 1) conceptualisation, 2) specification of variables, and 3) operationalisation.

We describe both the conceptualisation and the specification of variables in detail in Chapters 2 (Review of the Literature), 4 (Exploratory Research), and 6 (The

Results). The concepts embedded in this study's conceptual framework were exposed in the literature review and later tested for reliability and validity. Subsequent to the conceptualisation, we moved from a language of concepts to a language of variables. After selecting the variables, the final step in the measurement process was to delineate the procedures for sorting units into categories (*i.e.*, operationalisation). The detailed description of the research operations is now discussed.

5.5.1. - Perceived Risk Measurement

In the last 37 years, since Bauer's (1960) conceptualisation of buyer behaviour as a risk taking activity, many different researchers have been attempting to operationalise the perceived risk concept. Cunningham (1967a) was one of the first to suggest a two-dimensional model designed to measure the perceived <u>certainty</u> of a given event happening and the <u>consequences</u>/losses involved if the event actually happens. Besides the two-dimensional model, another type of perceived risk measure has been used. Dowling (1986) described it as an unideminsional measure. In this measure individuals are asked to rate the riskiness of a product/brand on a single scale such as, "How risky is brand A?" With answers ranging from "Not at all risky" to "Very risky" (de Chernatony, 1988; Hampton, 1977; Spence *et al.*, 1970).

<u>Uncertainty</u> in this study was conceptualised as the overall likelihood that losses would occur due to a poor brand choice and <u>consequence</u>; the seriousness attributed

to the occurrence of each loss. We decided to conceptualise this measure in this way for several reasons. The major reason for using the two-component model is that such a measure has been successfully used by other researchers (*e.g.,* Cunningham, 1967a; Mitchell, 1991; Stone and Winter, 1987) over a long period of time and has shown to be trustworthy.

The second reason is that a great number of studies (*e.g.,* Boze, 1987; Cunningham, 1967a; Dash *et al.,* 1976; Mitchell, 1991), which have employed the two component model in the past exists making possible any future comparison. The third reason is that after an extensive meta-analysis (over 100 studies compared), Gemunden (1985) concluded that separate measures of uncertainty and consequences is a better predictor of information search. Last, there has been a previous report (Lumpkin and Massy, 1983) of convergent and discriminant validity of the two component model.

After Cunningham (1967a) many others (*e.g.,* Carrol *et al.,* 1986; Greatorex and Mitchell, 1991; Guseman, 1981; Hirisch *et al.,* 1972; Hoover *et al.,* 1978; Peter and Ryan, 1976) attempted to develop models to measure perceived risk. Constant arguments emerged from these models, especially if the risk model should be multiplicative or additive, however, little empirical work testing the functional forms and benefits of these models was done.

Dowling (1986) has been advocating that there are theoretical and practical arguments for selecting a multiplicative relationship between uncertainty and

consequences/losses. Accordingly, some of his arguments
are

1. the absence of either variable would eliminate the perception of risk and
2. the influence of a non-salient loss on the overall perceived risk is reduced.

On the other hand, some researchers (*e.g.*, Bettman,
1973; Horton, 1976; 1979; Peter and Ryan, 1976) have
presented some evidence that an additive model fits
slightly better than the multiplicative model. Joag (1985)
tested, in an organisational buying situation, a range of
different models and concluded that there is only a slight
difference between them. Until recent years the prevailing
view maintained the same, that uncertainty and
significance of consequences (importance of losses) should
combine or in a multiplicative or additive form. Yates and
Stone (1992) advanced this knowledge by saying that the
two-dimensions of perceived risk are actually combined by
an operator that behaves essentially, though not
completely, like multiplication. In other words, their
view is that uncertainty and consequence should combine
interactively.

Thus, after reviewing the literature, no strong and
convincing evidence indicating which of these models (*i.e.*,
multiplicative versus additive) is the most adequate to
measure perceived risk was found. Initially, we decided to
operationalise perceived risk in both ways and test which
model fits better. The results of these tests can be seen
in the section on 'construct validation' in Chapter 6.

Another idea has to do with the conceptualisation of
an overall perceived risk. It is believed that in
situations which more than one loss might occur, the

effect of those losses is independently cumulative (Dowling, 1986; Yates and Stone, 1992). This assumption can be challenged based on the findings of some research (*e.g.*, Jacoby and Kaplan, 1972; Kaplan *et al.*, 1974) that found high positive correlation among some types of losses. However, the contribution to overall risk made by one potential loss tends to be the same, regardless of the other potential losses that might accompany it (Yates and Stone, 1992). Consequently, the overall risk implied by a collection of potential losses is an accumulation of the contributions made by each of them.

Dowling (1986, p.198) has postulated that the majority of measures of perceived risk are positioned at a low level of abstraction and can be found that have used one of the following indices:

1.   Perceived Risk = Uncertainty

2.   Perceived Risk = Uncertainty x Adverse Consequences

3. Overall Perceived Risk = $\sum_{i=1}^{n}$ Uncertainty$_i$ x Adverse Consequences$_i$

4. Overall Perceived Risk = $\sum_{i=1}^{n}$ Probability of Loss$_i$

5. Overall Perceived Risk = $\sum_{i=1}^{n}$ Probability of Loss$_i$ x Importance of Loss$_i$

Where

n = the number of types of loss *i*.

After a thorough investigation, no strong evidence could be found indicating the best overall perceived risk model; therefore it was decided to use the following

conceptual equation as a safe approach. The final decision on which model to use was taken after construct validation (readers are referred to Chapter 6 for further detail on perceived risk model choice) tests were done using both multiplicative and additive models.

Perceived Risk [Risk**(Loss***i***)**] = *Likelihood* ⊕ *Seriousness*
of Loss *of Consequence*

$$\text{Overall Perceived Risk} = \sum_{i=1}^{n} \text{Risk}(\textbf{Loss}i)$$

where

n = the number types of loss *i*.

⊕ = can be a multiplication-like or addition-like operator.

Cunningham (1967a) has also pointed out the weakness of this model that rests on the assumption of both factors in the equation being equally weighted. He suggested that the consequence dimension may be taken in consideration more seriously by buyers' than the uncertainty dimension. However, despite some effort to determine the weighting relationships between these two factors, the appropriate weight could not be determined.

Most of recent authors that have been investigating perceived risk in buying situations have been operationalising risk scales based on Cunningham's (1967a) formulation. His formulation was a composite of two indirect questions on certainty and danger. Both questions were rated initially on a 4-point scale that he later

converted to a 3-point one. These two scales combined in a multiplicative form to develop risk categories.

Generally, subsequent studies to Cunningham's (1967a) have been using Likert type and semantic differential scales with questions like: consider yourself involved in a buying situation (here IT brands; *i.e.*, computer servers or mid-range laser printers). Moreover, the possibility this acquisition did not satisfy the acceptance level of the firm you work for. What is the likelihood of the following losses occurring (at least one feasible loss situation must be described per risk type; *e.g.*, you will feel personal dissatisfaction) and how serious would it be if these losses actually did occur? Possibilities of answers varying from a continuum ranging from very certain to not at all certain and from very serious to not at all serious.

Guseman (1981) has used a 4-point scale as the one initially proposed by Cunningham; however other researchers have been measuring the components of risk on a variety of different ranging. Hisrich *et al.* (1972) used a 5-point scale, while Peter and Ryan (1976) preferred a 7-point one. Brooker (1984) amplified to a 9-point scale while Choffray and Johnston (1979) developed a 10-point scale for their study.

Mitchell (1991; 1994a), after analysing 120 different studies on risk, found that the overall risk measure is usually operationalised in a 7-point scale. This scaling technique has proved its validity in many studies (*e.g.*, Henthorne *et al.*, 1993; Stone and Grønhaug, 1993). For this reason, it was decided to operationalise this construct

using a 7-point semantic scale with a similar questioning to the described previously.

5.5.2. - Self and Brand Concepts Measurement

<u>Self-concept measure</u> - The self-concept construct aims to capture the respondent's own internal mirror. Many researchers to explain buying behaviour (*e.g.,* Braun and Wicklund 1989, Dolich 1969, Malhotra 1988, Onkvisit and Shaw 1987, Sirgy 1982, Sirgy and Danes 1981, Sirgy *et al.* 1991) have used self-concept theory. The theoretical foundations for developing the self-concept scale were derived directly from the work of Osgood *et al.* (1957). The semantic differential technique was employed to measure self-concept in this study. In the semantic differential technique, the respondent is asked to rate each of several concepts on each of a number of bipolar adjective scales. The use of this scale is a tradition in self-concept measurement (de Mello, 1995; Malhotra, 1981; Sirgy *et al.*, 1991).

From the in-depth interviews mentioned in the previous chapter, we elicited fifteen characteristics used by buyers to define brand-images. The items so generated as well as five from the study of Malhotra (1981) were used to construct the final 20-item scale used in this study. The items borrowed from Malhotra's scale were added at the discretion of the researcher who thought that their inclusion would benefit the scale. The items added were:

1.	ROBUST	....	FRAGILE
2.	EXCITABLE	....	DULL
3.	UP-TO-DATE	....	OUT-OF-DATE
4.	SOPHISTICATED	....	SIMPLE
5.	MODEST	....	AMBITIOUS

The 20-item scale was tested for reliability and validity (Readers are referred to Chapter 6 for the result of the tests).

Self-concept was measured with respect to the twenty image attributes. To determine the self-images, the following statement was made:

> People buy products and brands which reflect their self-image - in other words, products and brands that represent what their owners like to see on themselves and on their lives. These self-images can exist in two different dimensions: the _actual_ and the _ideal_. The actual dimension represents the concept that a person has of his or her present situation and the ideal dimension, the idealistic concept of a future and generally better situation. Now try to evaluate yourself in relation to the following variables in both dimensions.

A 7-point scale was used for two reasons. First, a tradition in self-concept measurement involves the semantic differential - usually in a 7-point scale as in Graeff's (1996) study. Second, in an attempt to maintain consistency with the scale used to measure perceived risk.

<u>Brand imagery measurement</u> - A brand is made up of a package of attributes representing values; some are core values and others are more peripheral (Levitt, 1983). These attributes can be described in terms of functional and/or

emotional imagery (de Chernatony and McDonald, 1992; Gordon, 1991; Gordon and Restall, 1992; Kapferer, 1986; 1992; Restall, 1990). The literature review and qualitative interviews exposed these attributes. However, if a brand's image is to be determined, buyers' beliefs about attributes must be measured. There are various techniques used in market research to achieve this sort of quantification (Hague and Jackson, 1994).

Barnard and Ehrenberg (1990) have reported on a field study comparing three very different techniques for measuring buyers' beliefs about brand attributes. They refer to the techniques as 'free choice,' 'scaling,' and 'ranking.' They collected belief responses from about 100 housewives for each 'scaling' and 'ranking' techniques and about 800 for the 'free choice' technique. The three techniques were found to place the competing brands in the same relative positions on each attribute dimension. Thus, for brevity purposes, we shall review only the scaling technique as this one is the most adequate technique to be used in the case of surveying special populations (de Leeuw and Collins, 1997) as we do in this study.

These attributes were operationalised using bipolar image adjectives in a semantic differential scale identical to those already described for the self-concept scale. An example of a functional adjective attribute would be 'versatile-non-versatile' and one of an emotional adjective attribute would be 'humble-prestigious.' Functional and emotional attributes can be scored by answering the following request:

Four brands of workgroup servers are presented to you on a colour print annexed. In relation to each brand, write in the appropriate line the number that corresponds to the point of the scale that, in your opinion, _best describes the image of that specific brand_. Please try to rate all brands according to the scale but if you do not feel confident in rating a specific attribute of a specific brand, write the number 8, but only use this option in a extreme situation.

To establish a pattern, as we used 7-point scales for risk and self-concept measurement, it was decided to use a similar scale to measure these variables.

Beliefs among users and non-users - Before getting into each phase of this system, it is necessary to account that some researchers (_e.g._, Barnard and Ehrenberg, 1990; Barwise and Ehrenberg, 1985; Bird and Ehrenberg, 1970; Ehrenberg _et al._, 1990; McPhee, 1963) have been reporting a usage factor existing amongst brand users. This reported factor has to do with a phenomenon first reported by McPhee (1963) almost 35 years ago that people tend to associate a positive attribute response more with larger brands than with smaller ones.

Considering the fact that larger brands normally have also a larger portion of the market (_i.e._, more claimed users) and that users are more likely to give a positive attribute response, larger brands receive much more positive attribute association than the smaller brands. To make things even worse for the small brands, McPhee (1963) also noted that in comparison to large brand users, small brand owners tended to be less loyal and also to like less

the brand they used. This phenomenon is known more generally as *'double jeopardy'* effect.

In order to soften this effect on this study, we decided to follow some advises from Barnard and Ehrenberg (1990) and from Barwise and Ehrenberg (1985). First a filter question asking the respondents whether they actually use, has ever used, or never used each brand was made. The answer to this question could help understand any abnormally high or low attribute score that appeared. Second, for attribute score ratings, an extra to the scale "no opinion" was offered. To ensure the good utilisation of this "no opinion" option, respondents were informed that if they did not feel confident to rate a specific attribute there was a non forced option of writing the number eight on the space provided. Taking precautionary measures, the above mentioned researchers were able to report evidence of a rather small and at the same time less regular double jeopardy effect.

Still regarding this topic, direct product experience was accessed as a control variable. If any bias emerged, respondents could be separated into different categories of users and non-users.

<u>Self-image/brand-image congruence models</u> - Several researchers have examined the mathematical models of self-image/brand-image congruity (*i.e.*, self-congruity) in relation to consumer choice. Hughes and Neart (1970) have reported an extensive analysis where they compared several different forms of self-image modelling. The models are depicted mathematically as follows:

$$\sum_{i=1}^{n} (Sij - Pij) \qquad \text{-Simple-difference model}$$

$$\sum_{i=1}^{n} Wij \ (Sij - Pij) \qquad \text{-Weighted Simple-difference model}$$

$$\sum_{i=1}^{n} \frac{(Sij - Pij)}{Sij} \qquad \text{-Simple-difference divisional model}$$

$$\sum_{i=1}^{n} Wij \left[\frac{(Sij - Pij)}{Sij} \right] \qquad \text{-Weighted Simple-difference divisional model}$$

$$\sum_{i=1}^{n} Wij \left(\frac{Sij}{Pij} \right) \qquad \text{-Weighted divisional model}$$

where

Sij = actual self-image (i) of individual (j)

Wij = importance weight of image (i) of individual (j)

Pij = product -image (i) of individual (j)

Hughes and Neart (1970) used regressions to test self-image models. The criteria they used for selecting the best model was to chose the model with the highest R^2 and that showed the largest number of variables with significant coefficients. The results showed the weighted simple-difference and the weighted divisional models were equally predictive of product choice. These two models were also found to be more predictive of product choice than the other models tested.

Later, Sirgy and Danes (1982) compared the predictive strength of a model (*i.e.,* interactive congruence) emanating

from self-image/product-image congruity theory (Sirgy, 1980) against some of the more traditionally used congruence models. These can be represented respectively as follows:

$$\sum_{i=1}^{n} (2Pij - Sij) \, Iij \qquad - \qquad \text{Interactive congruence model}$$

$$\sum_{i=1}^{n} |Pij - Sij|$$

$$\text{and} \quad - \quad \text{Absolute-difference model}$$

$$\sum_{i=1}^{n} |Pij - Iij|$$

$$\sum_{i=1}^{n} (Pij - Sij)^2$$

$$\text{and} \quad - \quad \text{Difference-squared model}$$

$$\sum_{i=1}^{n} (Pij - Iij)^2$$

$$\sum_{i=1}^{n} (Pij - Sij)$$

$$\text{and} \quad - \quad \text{Simple-difference model}$$

$$\sum_{i=1}^{n} (Pij - Iij)$$

where

Sij = actual self-image (i) of individual (j)

Iij = ideal self-image (i) of individual (j)

Pij = product -image (i) of individual (j)

$$\sqrt{\sum_{i=1}^{n} (Pij - Sij)^2}$$

and - Euclidian-distance model

$$\sqrt{\sum_{i=1}^{n} (Pij - Iij)^2}$$

$$\sum_{i=1}^{n} \frac{(Pij - Sij)}{Sij}$$

and - Simple-difference divisional model

$$\sum_{i=1}^{n} \frac{(Pij - Iij)}{Iij}$$

where

Sij = actual self-image (i) of individual (j)

Iij = ideal self-image (i) of individual (j)

Pij = product -image (i) of individual (j)

Sirgy and Danes's (1982) examination of these models was more thorough than Hughes and Neart (1970). First, they checked out the above formulae based on reported marketing studies involving congruence models (*e.g.*, Birdwell, 1968; Delozier, 1971; Delozier and Tillman, 1972; Dolich, 1969; Green *et al.*, 1969; Hughes and Neart, 1970; Maheshwari, 1974; Ross, 1971; Schewe and Dillon, 1978). Second, they checked

it out in two dimensions. That is: actual and ideal-self concepts.

The results showed the interactive congruence model performing slightly better than the other models in terms of product preference prediction. The absolute-difference and the Euclidian-difference models came second. However, Sirgy (1980) alerted to the fact that congruence modelling must be guided by theory. Furthermore, any argument for the use of a specific type of cognitive algebra involved in the congruity process should be theoretically positioned in the context of the decision rule selection and decision-making literature. (For the full development of the Interactive self-concept congruence model and the justification of its use in this research, readers are referred to Chapter 7 - 'Test of the Hypotheses').

The relative importance of brand attributes measure - Attributes can be measured by using a very simple questioning and analysis technique, like: presenting all the attributes to the respondents and asking them how important they perceive the attributes to be. Nevertheless, Collins (1969) has been advising to the fact that leaving the respondent free to claim a direct importance value to an attribute is sometimes not the best approach to measure importance. He compared three different approaches to measure importance to a same multi-dimensional problem and found three conflicting sets of research results and conclusions.

After extensive analysis of these results Collins (1969) still was not confident to indicate which was the best approach, nonetheless he was emphatic recommending

caution when using the direct questioning method. When assessing organisational buyers, it is logic to take his advice and pay close attention to the results because they could tend to over rationalise.

Respondents were asked to give their opinion on how important it is for an IT brand to be highly scored on each of these attributes. The list of attributes was the same as the one used for self and brands assessments. Answers varied on a spectrum from less important to very important.

The individual and the organisation - This part of the questionnaire addresses demographic and organisational variables. This data was collected for two main reasons. First, to provide some insight about the type of individuals that might influence the buying decision-making process and the organisations they work for. Second, it was used to test some hypotheses.

The demographic variables (age, education level, previous experience in the job and elsewhere) were collected using multiple-choice questions usually on ordinal or nominal scales. For example, the variable 'age' was operationalised as a multiple-choice question where the answering options were presented in intervals of 10 years starting at 20 years of age and finishing with an option for older than 69 years. Thus, when the respondent was questioned about its 'age', he or she had only to put an 'X' on the bracket aside the correct option.

Following the demographic measurements, an extra question asking the respondents to rank the set of brands presented to them according to their preference (overall) is made. Recognising only the ordered preference positioning does not provide us with a comprehensive (subjective similarity data) perceived position of the various brands', especially regarding their similarities and differences. Thus, the respondents were also asked to group the brands' according to their impressions of the similarities and differences from a performance standpoint. Confronting this data with the one collected at the 'brand measurement' section of the questionnaire (rankings on various attributes); we were able to have a more realistic picture of how people differentiate between brands, regarding attribute beliefs, and brand preference.

The organisational variables (_i.e._, size of the company) were collected by multiple-choice questions like: How may employees work in the same firm you do? For example, answers for this question at the pharmaceutical industry starts at 100 employees and continues in an increasing order.

5.6. - Data analysis procedures

The analysis and interpretation of quantitative data depend fundamentally on the employment of a whole range of techniques, especially those statistical in nature. Analysis is a scientific, systematic process, while

interpretation is closer to an art, based on the analysis output, market and product/brand knowledge, creative instinct, and a good dose of judgement skills (Moore, 1991). Previously to any analysis, the mass of data contained on the answered and usable questionnaires has to be tabulated and entered on a computer. After the data set is ready, one can now consider analysing it.

The use of current data analysis techniques varies across studies. Both commercial and academic studies range from the most sophisticated approaches (*e.g.,* of multivariate statistical techniques) to the conventional use of bivariate and univariate statistical techniques. Advances in organisational marketing research require more than a straightforward application of statistical techniques (Wind and Thomas, 1980). The interpretation of the data requires special care. Conceptual, measurement, and analytical limitations were recognised and taken into consideration when interpreting the results.

The first information obtained consists typically of frequency distributions for the different answer categories. For further processing, it was necessary to reduce the information to a single number per frequency distribution. This was done by dichotomising or by using a measure of central tendency, such as mean, median, or mode and measures of dispersion, such as standard deviation or even range. The choice of what procedure(s) to use depended on what was the scale level of the variable(s) in question.

The section of the questionnaire on brands is far the most complex, requiring greater attention and skill during

analysis. It is basically divided in distinct sub-sections. These sub-sections are multi-dimensional (*e.g.,* brand's functional and emotional attributes, buyer's self-concept) in nature and are to be analysed among a set different brands (4 per product field) within two product fields where the understanding and tracking of perceptual images is paramount to the analysis.

After an extensive analysis at the descriptive level, other analysis tools were taken in consideration. Before going any further, one should not forget that all risk measures involve a two-dimensional construct that must first be calculated and for the overall risk measure, these two-dimensional constructs must be added or multiplied as previously discussed on the section 'risk measurement.' Of these so-called 'other analysis tools,' the main characteristics of the statistical techniques used in this research are:

- <u>Distance and proximity measures</u>: Many different procedures can be used for the measurement of self-concept and brand-image (Ross, 1971; Sirgy, 1982). The various methods for comparing similarity/dissimilarity of profiles have been reviewed by Cronbach and Glesser (1953) and more recently by Sirgy and Danes (1981) which essentially indicate that these measures fall into two categories. Comparing the similarity of profiles can be achieved either using correlation procedures or some kind of distance measure like the absolute-difference measure. Correlational procedures tend to ignore mean (level) differences between profiles, while distance measures reflect both level as well as co-variance (shape) similarity between profiles. Following this advice, a distance measure (absolute-difference) was chosen to compare similarity of profiles (self◄───►brand) in this research.

- Spearman's correlation: Is a measure of association between two variables which require that both variables be measured in at least ordinal scale so that the objects or individuals under study may be ranked in two ordered series. For ordinal data or interval data that do not satisfy the normality assumption, Spearman's correlation is available as a measure of linear relationship between two variables (Castellan and Siegal, 1988). When testing the correlation for the different perceived risk profiles and brand imagery (hypotheses 2 and 3), small samples of perceived risk profiles emerged troubling the use of the most powerful parametric correlation – the Pearson product-moment coefficient.

- Pearson's correlation: The Pearson product-moment correlation is appropriate only for data that attain at least an interval level of measurement. Normality is also assumed when testing hypotheses about this correlation coefficient. Pearson's correlation coefficient indicates the degree of fit in a linear regression covered by two variables. Whenever possible, the Pearson's correlation was used as an association measure.

- Student's t statistic: Compares sample means by calculating Student's t and displays the two-tailed probability of the difference between the means; also known as the T-Test. By looking at the similarity/dissimilarity scores one can observe any discrepancy when comparing profiles (Cronbach and Glesser, 1953) . However, a significance test such as the T-Test can show a closer picture of self-congruence similarity/dissimilarity amongst product profiles (de Chernatony and de Mello, 1995; Ross, 1971).

- Freidman's test: When the data from k mathed samples are in at least an ordinal scale, the Friedman test can be used to test the null hypothesis that k samples have been drawn from the same population (Siegel and Castellan, 1988). The Friedman test calculates the mean rank for each varible over all cases, and then calculates a test statistic wit approximately a chi-square distribution. The Freidman test was used in this research to test

if there was any significant variance between early, middle and late respondents.

- Analysis of variance: This procedure is also known as ANOVA. It performs analysis of variance for factorial designs. Analysis of variance tests the hypothesis that the group means of the dependent variable are equal. The dependent variable is interval level, and one or more categorical variables define the groups. These categorical variables are termed factors. ANOVA also allows the analyst to include continuous explanatory variables, termed co-variates. It permits to test various orders of interactions between variables. Whenever variance was to be tested, for example see section 6.2.2 – Sub-Group Analysis in the next chapter, the ANOVA test was performed.

- Multitrait-Multimethod matrix: Also known as MTMM, this procedure is a table of correlations that enable the researcher to examine both the convergent and discriminant validity of a construct (Campbell and Fiske, 1959; Churchill, 1995). As recommended, part of the construct validation in this research was appropriately tested using the MTMM paradigm.

- Cross-lagged-panel correlation: Is a technique that enhances the explanatory power of correlational research by examining patterns of correlations. This complex correlation procedure is designed to extract causal statements from correlation coefficients (Eron _et al._, 1972). Even though there was no special requirement for analysing causal statements amongst the hypotheses posited in this research, by doing so we gained a deeper comprehension of the relationships advanced in hypotheses 2 and 3. According to some authors (_e.g._, Eron _et al._, 1972; Kantowitz _et al._, 1991), when the researcher does not know the direction of causality there is a strong possibility that some third, confounded variable is the cause of the obtained relation. In this case, causal statements are difficult to make on the basis of a single correlation coefficient. Thus, amongst the several other statistical procedures used to try to gain a better understanding of causation

in correlational research, the chosen technique was the so called Cross-lagged-pannel procedure because it facilitates the examination of patterns of correlations as compared to other statistical procedures (Kantowitz _et al.,_ 1991).

- Multiple regression: This is a general statistical technique through which the relationship between one dependent variable and a set of independent variables can be analysed. It calculates multiple regression equations which predicts relationships amongst variables (dependent ◄──► independent). This test was used as part of the internal consistency reliability test (see section 6.3.2.4 in the next chapter). A rich was of looking at the relationship between an individual item and the rest of the scale is to try to predict a score on the item based on the scores obtained on the other items (Norusis, 1993). In this research it was done by calculating a multiple regression equation with the item of interest as the dependent variable and all of the other items as independent variables. A poor R^2 score of an item could justify its exclusion form the final scale.

- Factor analysis: The purpose of factor analysis are actually two: data reduction and substantive interpretation. The first purpose emphasises summarising the important information in a set of observed variables by a new, smaller set of variables expressing that which is common among the original. The second purpose concerns the identification or even confirmation of the constructs or dimensions that underlie the observed variables (Churchill, 1995). The reason for using this statistical technique in this research regards predominantly the second purpose previously mentioned. The construct validity of a measure is inferred if the measure's score (variance) perform as substantive (and psychometric) theory postulates they should perform. For example, both the perceived risk and the self-brand-image constructs were hypothesised (Cox, 1967; Malhotra, 1981; Rossiter and Percy, 1987) to have two major dimensions, a factor analysis of the purported measure of the construct which produces two meaningful factors could be interpreted as supportive evidence of construct

validity (Peter, 1981) (for more information on construct validation see section 6.3.2.8 in Chapter 6) .

For substantive interpretation, principal components analysis provides a useful tool from the standpoint of data reduction, but it generally does not provide the optimal solution from an interpretative point of view (Churchill, 1995). Rarely a factor solution for complex situations (*e.g.,* perceived risk) is tidy. In this case, it is useful to rotate the initial principal component solution to facilitate substantive interpretation. Two major options are available for rotating the initial principal component solution: (a) an orthogonal rotation which is mathematically simple to handle and should be used when the research objective is to reduce the number of variables to a smaller number of variables which can then be used for further analysis, or (b) an oblique rotation which assume the original variables to be correlated and therefore generate similarly correlated factors. Thus, it seems safer to adopt the orthogonal procedure due to the possibilities of subsequent statistical analysis and also because there is no conclusive evidence that the original risk variables are correlated.

No specific rule have been developed to guide the analyst in selecting a particular orthogonal rotational procedure. According to Hair *et al.* (1992), there is no compelling analytical reason to favour one rotational method over another. For this reason, most analysts simply opt to use the rotational technique that has been programmed as default in the computer programme used. Another safe choice is to use to most popular method, the VARIMAX, which has proved to be very successful as an analytical approach to obtaining an orthogonal rotation of factors. For these reasons the VARIMAX solution was used to obtain the factors presented in Chapter 6.

The measurement of each part of this multi-phased system of investigation has provided sufficient information to test the proposed hypotheses. To analyse the data and explain the hypotheses, the researcher used

the SPSS statistical package available at the City
University Business School.

5.7. - Conclusion

This chapter has considered the research design, the
sampling plan, operationalisation of the variables, data
collection and analysis procedures. A detailed discussion
was given on each methodological aspect of this research.

Exploratory research was the initial step in the
research design framework. A descriptive research (*i.e.,*
cross-sectional) followed as the approach used to
statistically test the developed hypotheses. Due to the
complexity and importance of hypotheses 2 and 3, causal
relationships were also investigated for these hypotheses.

A structured self-completion mail survey
questionnaire was used to collect the data necessary to
test the hypotheses. The questionnaire was sent out on 19
February 1996. Following the questionnaire, one month
later, a first reminder letter was sent to all non-
respondents. Again, one month later, a second remainder
letter followed; this time with an extra questionnaire to
all individuals contacted that had not yet replied. Three
weeks after the last letter a fax was sent to all that did
not respond. This technique of making several contacts
proved to be effective on improving response rate.

Brazil has a broad, modern and dynamic industrial
base. The distinctive units of its industrial population

had first to be identified before sampling could be carried out. Thus, it was decided to carefully select an industrial population for this study according to some criteria and analysis of secondary data. A six-part analysis was conducted and this criterion led to the selection of two very distinctive industrial sectors - clothing & accessories and pharmaceuticals).

The next step was the determination of the relevant individuals or groups to be approached on each of these industries. In spite of the attempt for consistency to the decision-making unit (DMU) construct the approach used in this study builds the unit of analysis on independent individual respondents. This is due to the interest of learning the personal views of industrial buyers about brands and also to satisfy statistical strictness regarding the characteristics of the data required to test the proposed hypotheses.

The great majority of hypotheses in this thesis are in terms of co-variances and if there is any corporate effect (_e.g.,_ view, policy, tendency coming from the same firm) attached to the data, this effect is likely to produce an odd outcome on co-variances and even on variances undermining much of the statistical testing. We recognise that this means that individual probabilities of selection can be unequal depending on the size of the decision-making unit from which the person is drawn. We considered weighting the data to equalise the selection probability but again because we were concerned with correlation analysis we decided it would be unwise.

There are some different methods of determining whom these individuals respondents are in each organisation. From the array of different methods, the snowballing procedure was chosen as a first stage procedure to be used on this study. This procedure was chosen because it improves the probability of finding the desired individuals within the organisation with a lower variance and cost. All individuals contacted per firm were considered as members of that firm's DMU. After discovering how many and who were the DMU members of each of the 399 firms', a random selection of one individual took place and a questionnaire was sent to this individual only.

In order to test the proposed hypotheses, first some product fields had to be selected. After qualitative in-depth interviews it was possible to reduce the set of IT products to a manageable number that could encourage respondents to participate. The results of the interviews indicated that workgroup servers and mid-range laser printers as prominent product fields of the IT industry. These products were also recognised as common in our days to all middle and large businesses.

To compose each product field with a set of brands some qualitative depth interviews were undertaken. From these interviews it was possible to identify a set of competing brands within each of the product fields. For workgroup servers the chosen brands were **IBM, Hewlett-Packard, Compaq,** and **Fujitsu.** For mid-range laser printers, they were **Hewlett-Packard, Xerox, Epson,** and **Texas Instruments.**

The concepts embedded in this study's conceptual framework were exposed in the literature review and later tested for reliability and validity. Subsequent to the conceptualisation, we moved from a language of concepts to a language of variables. After selecting the variables, the final step in the measurement process was to delineate the procedures for sorting units into categories (*i.e.,* operationalisation).

In the perceived risk measure, uncertainty was conceptualised as the overall likelihood that losses would occur due to a poor brand choice and consequence; the seriousness attributed to the occurrence of each loss. We decided to conceptualise this measure in this way for several reasons. The major reason for using the two-component model is that such a measure has been successfully used by other researchers over a long period of time and has shown to be trustworthy.

The second reason is that a great number of studies which have employed the two component model in the past exists making possible any future comparison. The third reason is that after an extensive meta-analysis (over 100 studies compared), Gemunden (1985) concluded that separate measures of uncertainty and consequences is a better predictor of information search. Last, there has been a previous report (Lumpkin and Massy, 1983) of convergent and discriminant validity of the two component model.

From the in-depth interviews mentioned in the previous chapter, we elicited fifteen characteristics used by buyers to define brand-images. The items so generated as well as five from the study of Malhotra (1981) were

used to construct the final 20-item scale used in this study. The items borrowed from Malhotra's scale were added at the discretion of the researcher who thought that their inclusion would benefit the scale. The items added were: ROBUST - FRAGILE, EXCITABLE - DULL, UP-TO-DATE - OUT-OF-DATE, SOPHISTICATED - SIMPLE, and MODEST - AMBITIOUS. The 20-item scale was tested for reliability and validity.

The analysis and interpretation of quantitative data depend fundamentally on the employment of a whole range of techniques, especially those statistical in nature. Previously to any analysis, the mass of data contained on the answered and usable questionnaires was tabulated and entered on a computer. After the data set was ready, we started to analyse it. After an extensive analysis at the descriptive level, other analysis tools were taken in consideration. Of these so-called 'other analysis tools,' the main characteristics of the statistical techniques used in this research are: distance and proximity measures, Friedman's test, Spearman and Pearson's correlations, Students t statistic, analysis of variance, multitrait-multimethod matrix, cross-lagged-panel correlation, multiple regression, and factor analysis.

The measurement of each part of this multi-phased system of investigation has provided sufficient information to test the proposed hypotheses. The next chapter aims to present the results and discus the pertinence of the findings antecedent to the test of the hypotheses.

C H A P T E R   S I X

The Results

In the world of marketing we have generally failed to recognise fully the values of brands. We have failed too to recognise that names are the heart of a brand's personality.

JOHN M. MURPHY

6.1 - Introduction

The conceptual foundations and part of the methodology of this study have been introduced in previous chapters. The aim of the present chapter is to present some results and discuss the pertinence of the findings antecedent to the test of the hypotheses (readers are referred to Chapter 7 - 'Tests of the Hypotheses' for the analysis of each hypothesis). This chapter starts with a presentation of the responses to the mailed questionnaire followed by tests of the data such as perceived risk and brand concepts validation. The description of demographic characteristics of respondent firms and individuals are then described; and

the chapter concludes with a recapitulation of each section.

This study involved testing the degree to which buyers with varying profiles of risk perception tend to be responsive to different brand cues. A review of previous research undertaken in preparation for this work indicated the need for a study of this sort. No previous empirical research has dealt with this relationship between risk perception and appreciation of different brand cues in the same way as does this study. Thus, this study can be justified in academic terms as it aims to move existing research from separate fields, risk perception and branding, forward, into a new, integrative field.

This research involved a study of risk perception in terms of the amount and type of risk perceived (*i.e.*, soft and hard risks). Brands were assessed individually and later aggregated in terms of various perceived dimensions, especially functionality and emotionality. Risk perception and brand imagery were measured for each respondent. This research is grounded in two well-researched areas (*i.e.*, perceived risk and branding). Based on the theories that explain each of these areas, it was expected that an assessment of buyers' varying patterns of risk perception could lead to conclusions about how resources could be best used to support brand planning.

This chapter is primarily concerned with the presentation of testing results. The analysis and discussion of results is preceded by an overview of the response rate to the mailed questionnaire survey. The tests are considered separately with an explanation of the statistical procedure used.

The main types of statistical analysis used in this study were:

- descriptive statistics (such as frequency, means and standard deviation);

- distance/proximity measures (actual, ideal, and interactive congruity measures);

- non-parametric tests (Friedman's test and Spearman's correlation coefficient);

- bivariate analyses (Student's *t* statistic, analysis of variance - ANOVA and Pearson's correlation coefficient);

- complex correlational procedures (multitrait-multimethod matrix - MTMM and cross-lagged-panel correlation); and

- multivariate analyses (multiple regression and factor analysis - PCA).

6.2 - Survey response analysis

Response rate is the calculation of how many people were actually interviewed, as a percentage of all other possible respondents who were invited to respond. According to Block and Block (1995), someone who has actually refused to be interviewed is different from one who could not be reached. The first belongs to a response group and the second to a non-response group.

Therefore, a response group is composed of all items returned by post including undelivered, blank, erroneous or refused returns. It also includes any response in the form of letters and telephone calls, as well as completed questionnaires (Eborall, 1991). The non-response group would effectively be comprised of everyone given the opportunity to reply, but from whom no response was received. There is a third classification or sub-group. It

is called the usable response group. This last designation is one composed of all complete responses, which can be included in the final sample and are usable for analysis purposes.

'Usable response rate' is an important issue because, the higher the percentage of usable questionnaires, the more confident the researcher can be that his or her final sample is representative of the population under consideration (Kinnear and Taylor, 1996). Reaching busy business personnel, however, has become an increasingly difficult task. Response rates for all survey methods have been declining over the years (Yu and Cooper, 1983), probably due to increasing amounts of unsolicited mail and tele-marketing which cross an executive's desk. As a defence mechanism, many businesses (_e.g._, banks, industry) have developed communication screening procedures, such as disposal of second class mail by gatekeeping personnel, as a policy in order to save working time from their executives (Block and Block, 1995).

Mail surveys conducted by experienced researchers should achieve response rates of over 50% (Erdos, 1970), and some attain rates as high as 80%. Nevertheless, in practice, most fall substantially below this rate due to, among other things, the nature of the respondent, the culture of the country, the auspices of the research, the circumstances surrounding the contact, the nature of the subject, and interviewer effect (Churchill, 1995). Predicting the response rates to postal surveys aimed at a business sample is a difficult task. According Block and Block (1995) the average return is only about 10% to 15%, but with extensive pre- and post- procedures, multiple mailings and incentives, the return rate can double. In

Hague's (1992) opinion, however, it is not unusual for response rates in business research to vary from 5% to over 50%.

As can be seen, opinions diverge over what can be considered an acceptable response rate. Thus, a good guide is to look at empirical evidence and draw conclusions from it. Yu and Cooper (1983) undertook a comprehensive review of the marketing literature, collating 497 response rates in 93 journal articles of comparable methodology for data collection. They calculated a weighted average response rate of 81.7%, 72.3%, and 47.3% for, respectively, personal, telephone, and mail surveys.

For the purpose of this project, the data collected to test the research hypotheses was gathered between 19 February 1996 and 3 June 1996, through the use of a structured questionnaire delivered by post. In total, 399 questionnaires were sent out on 19 February 1996 as described in the previous chapter 'Methodological Issues.' One month later (19 March 1996) the response rates, according to industries consulted and product fields were assessed. This information is presented in Table 6.1, below.

Table 6.1 - Number of replies received by 19 March 1996,
presented in terms of industry represented
and product field involved.

product fields - number of replies	
computer	34
printer	<u>35</u>
total	69

industries - number of replies	
pharmaceutical	30
clothing	<u>39</u>
total	69

Of the initial sample, 57 returned undeliverable (*i.e.,* deadwood) due to company closure, address change or last minute respondent refusal. The following Table presents a breakdown of the response rate to the mailed survey on 19 March 1996.

Table 6.2 - Response rate of questionnaires received by 19 March 1996.

		rate
Total number of questionnaires mailed	399	
Number of questionnaires undeliverable	-57 =	14.3%
Total number of eligible respondents	342	
Total number of questionnaires returned -		
% of the 342 eligible respondents	69 =	20.2%
Number of unusable questionnaires	-1 =	0.3%
Total number of usable responses	68 =	19.9%

On 19 March 1996 a reminder letter was sent to all eligible respondents who had not yet answered (*i.e.,* 342 - 69 = 273).

Four weeks later (17 April 1996) the response rates were assessed according to industries consulted and product fields. The results are presented in Table 6.3.

Table 6.3 - Number of replies received by 17 April 1996,
presented in terms of industry represented
and product field involved.

product fields - number of replies

computer	44
printer	42
total	86

industries - number of replies

pharmaceutical	36
clothing	50
total	86

Of the initial sample, five additional questionnaires were returned undeliverable, now increasing the total to 62. The following Table presents a breakdown of the response rate to the mailed survey up to 17 April 1996.

Table 6.4 - Response rate of the questionnaires received by 17 April 1996.

		rate
Total number of questionnaires mailed	399	
Number of questionnaires undeliverable	-62	= 15.5%
Total number of eligible respondents	337	
Total number of questionnaires returned -		
% of the 337 eligible respondents	86	= 25.5%
Number of unusable questionnaires	-3	= 0.9%
Total number of usable responses	83	= 24.6%

On 17 April 1996 a second reminder letter was sent to all eligible respondents that had not been heard from (in this case, 337 - 86 = 251).

Three weeks later, on 12 May 1996, the response rates were once again assessed according to industries consulted and product fields, and the information is presented below.

Table 6.5 - Number of replies received by 12 May 1996, presented in terms of industry represented and product field involved.

product fields - number of replies

computer	**67**
printer	**73**
total	**140**

industries - number of replies

pharmaceutical	**72**
clothing	**68**
total	**140**

No more deadwood was received after 17 April 1996. The following Table presents a breakdown of the response rate to the mailed survey as of 12 May 1996.

Table 6.6 - Response rate of questionnaires received by 12 May 1996.

		rate
Total number of questionnaires mailed	399	
Number of questionnaires undeliverable	-62	= 15.5%
Total number of eligible respondents	337	
Total number of questionnaires returned -		
% of the 337 eligible respondents	140	= 41.5%
Number of unusable questionnaires	-10	= 3.0%
Total number of usable responses	130	= 38.5%

Finally, a reminder in the form of a fax was sent on 12 May 1996 to all eligible respondents who had not yet replied (*i.e.,* 337 - 140 = 197).

Three weeks after the reminder faxes were sent the field survey was concluded, and the final response rates were calculated, once again according to industries consulted and product fields. This final assessment is presented below.

Table 6.7 - Number of replies received by 3 June 1996, presented in terms of industry represented and product field involved.

product fields - number of replies	
computer	80
printer	82
total	162
industries - number of replies	
pharmaceutical	83
clothing	79
total	162

The following Table presents a breakdown of the final response rate to the mailed survey on 3 June 1996.

Table 6.8 - Final response rate, calculated on data received by 3 June 1996.

	rate
Total number of questionnaires mailed	399
Number of questionnaires undeliverable	-62 = 15.5%
Total number of eligible respondents	337
Total number of questionnaires returned -	
% of the 337 eligible respondents	162 = 48.0%
Number of unusable questionnaires	-11 = 3.2%
Total number of usable responses	151 = 44.8%

6.2.1 - Analyses of non-response

Given the importance of non-response error and the lack of consensus regarding what percentage of response rate can be considered adequate for a successful survey, it was decided to undertake some analyses of non-response. This included assessment of the target audience in a manner suggested and validated by other researchers. These were:

- a comparison between respondents and non-respondents (Mitchell, 1991); and

- a comparison of the responses of early, middle and late respondents (Frazier and Summers, 1984).

The first comparison, between respondents and non-respondents, is depicted below and indicates an uneven distribution between the respondents and non-respondents in the two industries represented.

Table 6.9 - Response rate calculated according to industry.

INDUSTRY	n (total)	n (eligible)	respondents	%
Pharmaceuticals	133	113	78	69
Clothing	266	213	73	34

The percentage of respondents in the pharmaceuticals industry sample is twice that of the clothing industry sample. Although the response rate for the clothing

industry could be considered within acceptable limits
established by authors previously mentioned, the results
for the clothing industry were different enough from the
pharmaceutical sample to warrant further investigation. It
was decided to collect additional information from a sub-
sample of clothing industry non-respondents, and compare it
with the already collected sample of respondents.

According to Malhotra (1996) the values obtained for
the sub-sample can be projected to all non-respondents and
this way, survey results will be adjusted to account for
non-response. This method can estimate the effect of non-
response on the characteristic of interest. Given the
response rate of 69% for the pharmaceuticals industry
sample, non-response error is not likely to be large. Thus,
no sub-sampling of non-respondents was undertaken for the
pharmaceuticals industry sample.

A random selection of non-respondent firms took place
and fifty firms were selected to be contacted for further
analysis of non-response. Of these, it was possible to
contact thirty-four. From mid-June to mid-July of 1996,
telephone interviews of individuals working at the firms
comprising the sub-sample were conducted, providing
information about the following questions:

_1) Including other placements, how many years have you
worked professionally in a similar capacity to your present
one? (Question 10.3 of the questionnaire)._

_2) Now image you have never bought a network server before.
When deciding to buy such a product, how certain do you
feel that your chosen supplier will perform satisfactorily?
(Seven-point scale - part 1 of question 1 of the
questionnaire)._

*3) Unfortunately the purchase of the network server you
chose turned out to be unsatisfactory and did not perform
as expected. How serious would the consequences of such a
choice be for you? (Seven-point scale - part 2 of question
1 of the questionnaire).*

The data provided by these 34 interviews was compared
to that generated by 73 respondents from the clothing
industry sample. To test for difference between respondents
from the original sample and respondents from the sub-
sample, a *t*-test for equality of means was applied. For
each of the three questions, none showed significant
difference between the two groups. This test provided
evidence that non-respondents do not differ significantly
from respondents.

For the second comparison, it was decided to perform
further tests on some crucial variables (*i.e.,* perceived
risk) and see how these variables behaved along the four
data collection periods. Before going any further, it is
important to justify why the perceived risk variables were
used to test if the four samples belong to the same
population. The first 28 variables of part 1 and the
scenario that describes the buying situation are the same
for all types of questionnaires. Thus, it might be
reasonable to expect all respondents to be responsive to
these questions in a similar way. If any of the four groups
of respondents diverge significantly from the others, some
type of bias towards that group can be expected, and
further investigation should take place.

The batch of questionnaires were divided into four
according to the time periods to which they belong. In time
period one the total number of usable responses was 68

while in time period two it was 15. The third group was equal to 47 and the last 21. The Freidman two-way ANOVA was used to examine the possibility that time period has no effect on perceived risk perception. This test is generally used to test the null hypothesis that the *k* samples have been drawn from the same population. The majority of perceived risk variables showed no significant variation between the four time period groups. In only one variable (*i.e.*, The substitution of the chosen supplier will be restricted due to contractual restraints – question 2.12 of the questionnaire), however, a significant variation was detected. The mean rank for the first time period of the above mentioned variable was 2.5 while in time period two it was 1.83. In time period three it was 3.07 and in time period four it was 2.6. The test for significance resulted in a Chi-Square of 7.48 D.F. 3 and significance of 0.05.

Statistically, there is no significant difference between respondents and non-respondents. This is also true for the four time period sub-samples that only showed difference in one variable. Thus, there is no reason to further analyse for non-response error, and it was concluded that the respondent group would represent the population.

The final sample after excluding the unusable responses is represented in Table 6.10. When splitting these groups of respondents by type and level of risk perceived, even smaller groups emerge. For example, the total of overall high risk perceivers is 66 while the overall low risk group is only 30. The 55 remaining cases represent the high Psychosocial/low Economic and the low Psychosocial/high Economic groups.

Table 6.10 - Response Rate Presented According to Industry and Product Field.

INDUSTRY	COMPUTER	PRINTER	TOTAL
Pharmaceuticals	**37** (24.5%)	**41** (27.2%)	**78** (51.7%)
Clothing	**34** (22.5%)	**39** (25.8%)	**73** (48.3%)
TOTAL	**71** (47.0%)	**80** (53.0%)	**151** (100%)

6.2.2. - Sub-group analysis

The different nature and size of both industries under consideration (*i.e.*, pharmaceuticals and clothing) raises doubt about the aggregation of data in this study. If aggregation is possible, this study would benefit. Instead of a sample composed of four small sub-groups, statistical analysis could be performed on two larger sub-groups, leading to more reliable results.

To test sub-samples from both industries for independence, an analysis of variance (ANOVA) was performed. The whole scale likelihood of loss (LL) in the pharmaceuticals industry was compared with its counterpart in the clothing industry. Similarly, the scale seriousness of consequences (SC) was applied to each sample. This analysis resulted in five significant differences being identified among the twenty-eight being compared, in Table 6.11.

With regard to the LL scale, two variables can be differentiated between. For the variable PowerU, the

pharmaceuticals industry respondents indicated more perceived risk than do their peers in the clothing industry. On the other hand, for the variable DiscontU, the opposite tendency is true. Concerning the SC scale, three variables show difference. For EmbarraC and DiscontC, respondents from the pharmaceuticals industry perceived more risk than did respondents from the clothing industry. Nevertheless, for the variable PowerC, pharmaceuticals industry respondents perceived less risk than their fellows from the clothing industry. The fact that only a few variables differentiate significantly between the two sub-groups, and that when they do it is impossible to establish a sub-group tendency towards high or low-risk perception, is evidence which supports the notion that the two sub-groups can be considered homogeneous. Thus, in the following analyses, data from both sub-groups will be aggregated into a single data set.

Table 6.11 - Variables Which Differ Between Industries.

VARIABLE NAME[1]	PHARMACEUTICALS		CLOTHING		PROB.
	LL[2]	SC[3]	LL[2]	SC[3]	
PowerU	4.39	-	3.69	-	**
DiscontU	5.59	-	6.28	-	**
EmbarraC	-	4.97	-	4.11	**
PowerC	-	4.04	-	4.79	**
DiscontC	-	5.46	-	4.79	**

** = $p<0.05$
1 = for variable definition see appendix 6 or 7
2 = likelihood of loss and 3 = seriousness of consequences

6.3 - Tests of the data

Prior to any test regarding the proposed hypotheses (readers are referred to Chapter 7 for the test of the hypotheses), two issues were examined in significant

detail. The first dealt with perceived risk concept validation, while the second dealt with brand concept validation. These two issues are addressed in the following sections.

6.3.1 - Perceived risk concept validation

The first point to clarify has to do with perceived risk measurement. There are many ways of establishing a perceived risk index. Another well accepted premise is that perception of risk varies from product category to product category.

Cunningham (1967a) assumes in his two component risk model of uncertainty and consequence both dimensions as equally important to risk. Nevertheless he recognises some technical problems when constructing the perceived risk scale. The rationale for using his conceptualisation rests on two assumptions: a) that both consequences and certainty are equally weighted and b) that the gradations are spaced equally on both scales. He also recognised that there is some evidence suggesting that the consequences component may be weighted more heavily than is the certainty component. However, the appropriate weight could not be determined and he concluded recommending that any attempt to measure perceived risk should involve both dimensions being given equal weight.

After Cunningham (1967a), Slovic *et al.* (1977) also pointed out the independence between the two risk components. Nevertheless, several researchers (*e.g.*, Bettman, 1973; Horton, 1976; Hughes, 1985; Laurent and Kapferer, 1985; Verhage *et al.*, 1990) have been advocating the opposite. As one can appreciate, the divergence amongst researchers about the independence between the two risk

components does not help clarify the perceived risk concept.

Table 6.12 exhibits the correlations between the two components of risk for the two product fields as well as for the whole sample (*i.e.*, overall group). Uncertainty and consequences are significantly correlated in all but one variable. These results corroborate the findings of some researches (*e.g.*, Laurent and Kapferer, 1985; Verhage *et al.*, 1990) in which the two components of risk confirmed a statistically significant association.

The results presented in Table 6.12 show a pattern common to both product fields, as well as to the whole sample. The correlations reveal the two risks constructs as related dimensions. The variable, which is indicated as non-correlated, is queried in the first part of the questionnaire. A possible explanation for the occurrence of non-correlation is due to the construction of the questionnaire. In the first part of question 1, the respondent is asked to imagine that he or she has never bought a product with the given specifications. In the second part of the question, the respondent is confronted with a problem: his choice turned out to be the wrong one. As one can appreciate from the two parts of this question, the respondent may have been unable to correctly separate uncertainty and consequence (*e.g.*, conceptual indistinctiveness), notwithstanding the particular nature of the constructs.

In a situation where a negative outcome is presented, consequences are very likely. On the other hand, as the group of respondents are IT professionals, they may have assumed that even without previous experience in purchasing a network server or mid-range laser printer, they possess

the skills necessary to satisfactorily participate in a buying process, and consequently expect make the correct choice. If the respondents felt confident in their decision-making ability while at the same time believed that the consequences of a bad decision would be very serious, this may have resulted in a situation where the constructs appeared unrelated to these individuals.

The second group of questions resulted from answers to question 2 of the questionnaire. In this case conflict was not evident and the respondents were perfectly able to visualise the "likelihood of a loss occurring" and "the seriousness of the consequences if such loss eventually happens" dimensions.

The second and third points to clarify were the reliability and validity of the scale used to evaluate, which perceived risk model, should be used in this study. As the main objective of this study is not to analyse the best perceived risk model in terms of its brand preference predictability, it was decided to operationalise the perception of risk in two ways (*i.e.*, certainty/seriousness scale in its additive form and in its multiplicative form) and determine which archetype measures with the highest level of validity. In this way, one model was selected to generate data for further analysis.

Table 6.12 - Correlations Between Uncertainty and Consequence Dimensions
of Perceived Risk.

VARIABLE	PRODUCT FIELD (PEARSON'S R)		
	OVERALL	COMPUTERS	PRINTERS
You will lose time to locate another source of supply.	.369***	.408***	.339***
You will feel personal discontent.	.602***	.507***	.680***
Your superiors will not be pleased.	.773***	.710***	.830***
The firm you work for will lose money.	.386***	.502***	.319***
The chosen supplier will not perform satisfactorily.	-.068 (n.s.)	-.190 (n.s.)	.016 (n.s.)
You will have a tighter budget to spend in the future.	.661***	.723***	.566***
Threaten your next promotion.	.761***	.750***	.770***
The buying decision will damage the opinion your peers hold of you.	.714***	.693***	.736***
You will feel embarrassed about your decision.	.778***	.799***	.754***
The buying decision will damage the relationship of your department with others.	.808***	.882***	.743***
Your buying decision will reduce your power to make future decisions.	.851***	.884***	.807***
The firm will lose competitiveness.	.670***	.575***	.747***
Restricts the substitution of the chosen supplier due to contract restraints.	.691***	.677***	.707***
Your buying decision will affect your job performance.	.741***	.764***	.729***

Note: *** = p < 0.01
n.s.= non significant.

6.3.2. - Measurement accuracy

A measure is a number that reflects a certain characteristic of objects, persons, states, or events according to specific rules (Malhotra, 1996; Tull and

Hawkins, 1993). The measurement task in marketing is complicated by the many concepts that permeate marketing thought. These concepts must be precisely defined and measured if useful information is to be provided (Kinnear and Taylor, 1996). A measurement is not a true value of the characteristic of interest, but rather an observation of it.

A diversity of factors can contribute to measurement error. There are many ways to describe and classify potential sources of error. According to Malhotra (1996, p.304) the following discussion outlines the more common sources of error in measurement. These are:

- Other relatively stable characteristics of the individual that influence the test score, such as intelligence, social desirability, and education.
- Short-term or transient personal factors, such as health, emotions, fatigue.
- Situational factors, such as the presence of other people, noise, and distractions.
- Sampling of items included in the scale: addition, deletion, or changes in the scale items.
- Lack of clarity of the scale, including the instructions of the items themselves.
- Mechanical factors, such as poor printing, overcrowding items in the questionnaire, and poor design.
- Administration of the scale, such as differences among interviewers.
- Analysis factors, such as differences in scoring and statistical analysis.

The total error of measurement is made up of two components. The first part is systematic measurement error and the second, random measurement error. Systematic measurement error is introduced by factors that systematically influence either the process of measurement or the concept being measured. Systematic errors are

recurring and can bias measurement. Random measurement error is unrelated to the concept being measured. It is the result of temporary, chance factors, such as transitory upswings and downswings in the health an mood of respondents, temporary variations in the administration or coding of a research measure, momentary investigator fatigue, and other transient factors (Singleton *et al.*, 1993).

According to what has been discussed above, accuracy of measurement can be better understood through the mathematical model below.

$$Om = Ts + Se + Re$$

where: Om = observed measurement
Ts = true score of the characteristic measured
Se = systematic error
Re = random error

There are several approaches to scale evaluation. To accurately measure a multi-item scale; the researcher should assess its reliability and validity. Reliability can be determined in several ways including the test-retest reliability, alternative-forms reliability, and internal consistency reliability. On the other hand, it is possible to assess validity through an examination of content validity, criterion validity, and construct validity. Distinctions between the various types of reliability and validity are now discussed.

6.3.2.1. - Reliability assessment

Reliability is defined by Judd *et al.* (1991, p.51) as the extent to which a measure is free from random error.

Peter (1979) adds to this description saying that a reliable scale should produce stable and consistent results if repeated measurements are made. Systematic sources of error do not have an adverse impact on reliability, because they affect the measurement in a constant way and do not lead to inconsistency. In contrast, random error produces inconsistency, leading to lower reliability (Malhotra, 1996). Reliability assessment is essentially a matter of checking for consistency; either over time or over slightly different but equivalent measures. Methods for assessing reliability include the test-retest, alternative-forms, and internal consistency as discussed below.

6.3.2.2. - Test-retest reliability

The simplest and most straightforward method for assessing reliability, the test-retest procedure, involves assessing identical sets of scales at two different times, from the same group of respondents under as nearly equivalent conditions as possible. Correlation is computed between the two measurements. The higher the coefficient of correlation calculated the greater the reliability of the group selected for testing.

The practical difficulty of this method is self-evident. Even if respondents were to submit themselves to repeat questioning, a comparison of the two sets of results would hardly serve as an exact test of reliability, since they could not be regarded as independent (Moser and Kalton, 1971). At the retest, the respondents may remember and simply repeat the responses provided buy them the first time, thereby inflating the reliability estimate. Another problem that may arise relates to the fact that the first

set of questions might stimulate the respondents to think about the survey subject, thus changing their attitude towards it either favourably or negatively.

Situational factors can introduce problems because they change, causing a modification in the second measurement. Research indicates those longer time intervals between the administration of test results in lower reliability (Bohrnstedt, 1970). As one can appreciate, this method is not without its problems and can bias the measurement of reliability. For this reason, Peter (1979) points out the weakness of this method and strongly recommends it to be used only as a supplementary source of information.

In order to administer the test-retest procedure it was decided to use the responses from the pilot test sample, and relate these to responses to the main questionnaire. As discussed earlier in the methodology chapter, seventeen people volunteered to pilot first the questionnaire, and later answer its final version. The pilot study took place in December 1995 and the data collection started on 19 February 1996. The first responses were received beginning 19 March 1996.

The time interval between piloting the questionnaire and actually answering its final version was approximately seven to eight weeks. Malhotra (1996) recommends a period of two to four weeks as a typical time interval between tests. Other authors such as Rust and Golombok (1989) go even further in restricting this period to only one week. With such a long interval between test and retest, memory effect is unlikely to have occurred; nevertheless the risk of situational factors influencing respondents to change their views cannot be ignored.

The results of the test-retest correlations are presented in Table 6.13. Because of the small pilot sample the Spearman correlation was performed. Twenty-eight variables meant to measure risk perception were tested. Of these, about three-quarters produced correlation coefficients of 0.6 or above and were significant at 10% (p<0.10) or less. Only two variables (PerformU and SubstitU) produced correlation coefficients of less than 0.5; values that can be considered dangerously low for most measurement purposes (Singleton *et al.*, 1993). To assess brand attributes, twenty variables were tested. Of these, sixteen produced correlation coefficients of 0.6 or above and were significant at 10% (p<0.10) or less. Again, only two variables (Impparti and Impideal) presented low correlation coefficients.

Table 6.13 - Test-retest Reliability for Individual Scale Items.

VARIABLE NAME[1] (perceived risk)	r_s	VARIABLE NAME[1] (brand attributes)	r_s
PerformU	0.43	Impambit	0.56
PerformC	0.57	Impcreat	0.80**
MoneyU	0.65*	Impecono	0.71*
MoneyC	0.63*	Impexper	0.81**
BudgetU	0.69*	Impconfi	0.86***
BudgetC	0.66*	Imppersu	0.59
PromotU	0.65*	Impcheer	0.73*
PromotC	0.79**	Impstren	0.78**
OpinionU	0.66*	Impdisti	0.65*
OpinionC	0.76**	Impparti	0.44
DptrelaU	0.66*	Impprest	0.83**
DptrelaC	0.58	Impeffic	0.65*
SuplesU	0.65*	Impversa	0.71*
SuplesC	0.56	Imphelpf	0.69*
EmbarraU	0.67*	Impideal	0.46
EmbarraC	0.92***	Impexcit	0.87***
JobperfU	0.73**	Impleade	0.60*

Table 6.13 - Continued.

variable name[1] (perceived risk)	r_s	variable name[1] (brand attributes)	r_s
JobperfC	0.89***	Impmoder	0.95***
PowerU	0.88***	Impsophi	0.83**
PowerC	0.68*	Impquick	0.71*
CompetiU	0.66*		
CompetiC	0.58		
SourceU	0.83**		
SourceC	0.97***		
SubstitU	0.40		
SubstitC	0.52		
DiscontU	0.65*		
DiscontC	0.66*		

Note: *   = p<0.10
      **   = p<0.05
      *** = p<0.01
      [1] For variable definition see appendix 6 or 7.

6.3.2.3. - Alternative-form reliability

The alternative-form method is one in which two supposedly equivalent versions of the scale are given to the same respondents and the results correlated (Moser and Kalton, 1971; Segal, 1984). There are two problems associated with this approach. First, there is the expense and delay associated with developing equivalent forms of the scale. Second, is the difficulty of constructing two truly equivalent measures. Due to these serious problems, this method was not adopted in this study. Moreover, as mentioned by Malhotra (1981), this form of reliability assessment is not popular in marketing. For example, Peter (1979) reviewed 400 marketing studies and could not find

one single study in which the alternative-form approach had been used.

6.3.2.4. - Internal consistency reliability

Internal consistency reliability is used to assess the reliability of a scale where the numerical assessment of several items is summed to form the total score. Each item represents a particular aspect of the construct measured by the entire scale, and the items should be consistent in what they indicate about the characteristic (Malhotra, 1996). This type of reliability measure is estimated by the inter-correlation among the scores of items on a multiple-item scale.

The simplest form of internal consistency is the split-half method. In this method, the multi-item measurement device is divided into two groups, the responses of which are later correlated to estimate reliability. A high degree of positive correlation between the two groups indicates high internal consistency. A criticism of this method is that the results obtained are dependent upon the method used to split the items in half. The scale items can be split based on odd-numbered and even-numbered items or randomly. One way to overcome this problem is to use the coefficient alpha.

The coefficient alpha was developed by Cronbach (1951) and is a calculation of the average of all possible split-half coefficients, which result from splitting the scale items in various ways. It can be represented in the manner of a positive correlation that ranges from 0 to 1. Researchers (*e.g.*, Craig, 1981; Malhotra, 1996; Nunnally,

1978) advocate that alpha values of less than 0.6 indicates unsatisfactory internal consistency reliability.

Table 6.14 presents the relationship between the individual items (*i.e.,* variables) and their composite score. The first and third columns of Table 6.14 presents the results of a multiple regression equation (R^2), where the item under analysis acts as the dependent variable and all other items as independent variables. This manner of looking at the relationship between an item and the rest of the scale is a tentative means of predicting how an individual will score an item given their scores on other items. Data in the table indicates that items 5 and 13 are poorly predicted, based on information obtained by the other items in both perceived risk constructs.

The information provided by Table 6.14 suggests that the average alpha score for the whole scale would rise to LL alpha = 0.86 and SC alpha = 0.88 if both items were excluded from the scale. To arrive at these numbers, items 5 and 13 were excluded from the scale and a new calculation for internal consistency performed. Both of these alpha scores are within the acceptable range of larger than 0.60 (Craig 1981, Malhotra 1996) or even larger than 0.80 as suggested by de Vaus (1996) which indicates a high degree of internal consistency and the reliability of the measure.

Table 6.14 - Internal Consistency Estimates of Perceived Risk Components.

ITEM	Likelihood of Loss (LL) R^2	Alpha if item deleted	Seriousness of Consequence (SC) R^2	Alpha if item deleted
1. You will lose time to locate another source of supply.	0.22	0.84	0.41	0.87
2. You will feel personal discontent.	0.25	0.83	0.50	0.86
3. Your superiors will not be pleased.	0.56	0.82	0.57	0.86
4. The firm you work for will lose money.	0.29	0.83	0.38	0.87
5. The chosen supplier will not perform satisfactorily.	0.13	0.85	0.18	0.87
6. You will have a tighter budget to spend in the future.	0.38	0.83	0.45	0.86
7. Threaten your next promotion.	0.62	0.81	0.60	0.85
8. The buying decision will damage the opinion your peers hold of you.	0.49	0.82	0.57	0.86
9. You will feel embarrassed about your decision.	0.46	0.82	0.51	0.86
10. The buying decision will damage the relationship of your department with others.	0.46	0.82	0.33	0.87
11. Your buying decision will reduce your power to make future decisions.	0.60	0.81	0.55	0.86
12. The firm will lose competitiveness.	0.30	0.83	0.36	0.86
13. Restricts the substitution of the chosen supplier due to contract restraints.	0.23	0.84	0.15	0.88
14. Your buying decision will affect your job performance.	0.48	0.82	0.46	0.86
Alpha for scale		0.84		0.87

Table 6.15 presents the internal consistency estimates of brand attributes. Following the same criteria for item

exclusion used in Table 6.14, one could suggest to exclude the item "cheerfulness" from the computer and printer scales. However, the same item scored highly in the importance scale that does not represent any specific brand. Another fact is the high alpha scores already present in all scales and the small benefit in terms of alpha score raise if the item is deleted. Thus, the item "cheerfulness" was maintained. The information provided by the table implies internal consistency for all scales.

Table 6.15 - Internal Consistency Estimates of Brand Attributes.

ITEM	BRAND ATTRIBUTE					
	importance R^2	alpha if item deleted	computers R^2	alpha if item deleted	printers R^2	alpha if item deleted
Ambition	0.43	0.83	0.58	0.85	0.53	0.87
Creativity	0.35	0.84	0.53	0.85	0.30	0.88
Economy	0.27	0.84	0.23	0.86	0.56	0.87
Experience	0.52	0.83	0.55	0.85	0.73	0.86
Confidence	0.34	0.84	0.38	0.86	0.37	0.87
Persuasion	0.52	0.83	0.58	0.85	0.59	0.87
Cheerfulness	0.43	0.83	0.06	0.87	0.15	0.89
Strength	0.59	0.82	0.43	0.86	0.30	0.88
Uniqueness	0.41	0.83	0.39	0.86	0.24	0.88
Broad-mindness	0.34	0.84	0.38	0.86	0.39	0.87
Prestige	0.51	0.83	0.55	0.85	0.60	0.87
Efficiency	0.40	0.84	0.65	0.85	0.77	0.86
Versatility	0.42	0.83	0.48	0.85	0.44	0.87
Helpfulness	0.41	0.83	0.40	0.86	0.70	0.86
Realism	0.44	0.83	0.32	0.86	0.42	0.87
Excitement	0.25	0.84	0.52	0.85	0.44	0.87
Leadership	0.43	0.83	0.57	0.85	0.67	0.86
Up-to-dateness	0.52	0.83	0.58	0.85	0.68	0.86
Sophistication	0.53	0.83	0.57	0.85	0.54	0.87
Quickness	0.50	0.83	0.65	0.85	0.59	0.87
Alpha for Scale		0.84		0.86		0.88

Two different reliability assessments were performed in this study as an attempt to overcome problems associated with each method. As satisfactory results were obtained using two reliability assessments, effort was turned to confirming the validity of the scale.

6.3.2.5. - Validity assessment

In the previous section, reliability assessment has been discussed. Even if a measure can be considered highly reliable, showing little effect of randomly varying measurements, there is no guarantee the scale is actually measuring the theoretical constructs under investigation.

According to Malhotra (1996), the validity of a scale may be defined as the extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured rather than systematic or random error. Testing validity is not a straightforward procedure. As Singleton *et al.* (1993, p.122) point out, *"if we knew a case's true value on a variable independent of a given measure - then there would be no need for the measure."*

To assess validity one must either: 1) subjectively evaluate whether an operational definition measures what it is intended to or 2) compare the results of an operational definition with the results of other measures with which it should or should not be related (Singleton *et al.*, 1993). As can be seen, the sort of subjective judgements and objective evidence, which result, depend on the purpose of the measurement.

Operational definitions include components which are not supposed to be included in calculations, yet at the same time exclude important facets of the construct under consideration. One can never be sure what portion of the construct is being tapped and what is being missed by the operational definition issue. Figure 6.1 depicts what happens to operational definitions in most cases.

Operational Definition 1   **Operational Definition 2**   **Operational Definition 3**

Underlying Construct ———→   ←——— **Underlying Construct**

ERROR
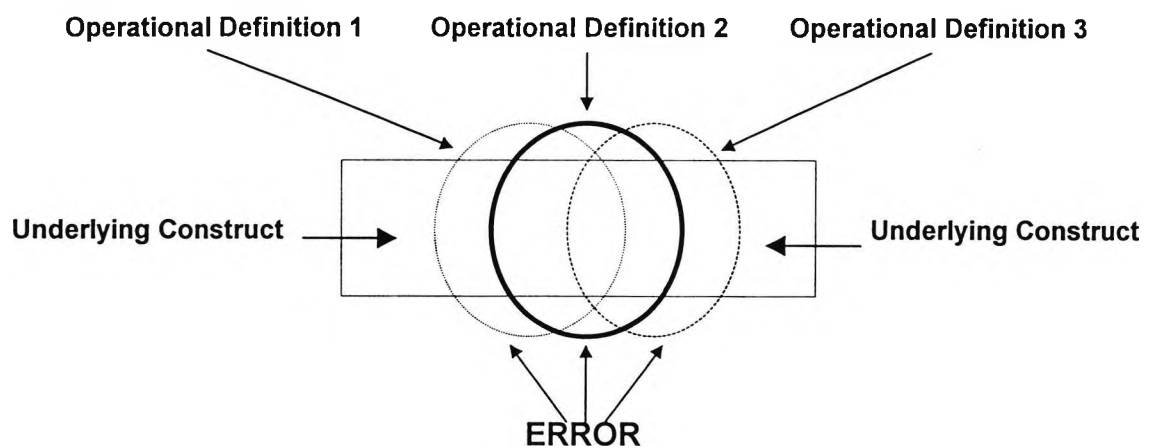
Figure 6.1 - Operational definitions include irrelevant components and fail to include all relevant portions of the underlying construct (source: Judd *et al.*, 1991, p.53).

The validity of a scale can be assessed in several ways. There are several categorisation systems used (*e.g.*, face, content, predictive, concurrent, criterion, construct, convergent, discriminant, and nomological), however most researchers assess validity of their scale through subjective (*i.e.*, face and content), criterion, or construct validation procedures (Singh and Rhoads, 1991).

Ultimately no one of them alone is entirely satisfactory; however, it is possible to have a fair idea of the validity of a scale through an assessment of it using two or more different means. For this study, information collected in the pilot study was considered when assessing content validity. Evidence from confirmatory

factor analysis and a form of the multitrait-multimethod matrix was used to assess construct validity.

6.3.2.6. - Subjective validation

There are two methods of assessing validity based on subjective evaluation of an operational definition. The first method is called *face validity* and consists of judgements of how well the content of a scale represents the measurement task at hand. Generally face judgements are carried out by a group of users (non-experts). The second method, known as *content validity*, is similar to the previously described method, except for the fact that the content judgements are undertaken by expert judges, and that the major concern of this procedure is to assess the extent to which a measure adequately represents all facets of a concept.

Content validity is fundamental to psychometrics and is the main basis by which any test construction programme is judged. This procedure has to be judged in qualitative terms more often than quantitatively, as the form of any deviation from validity is usually more important than the degree of divergence (Rust and Golombock, 1989).

In order to assess the content validity of the scale being used in this study, the pilot sample (seventeen people) was asked to comment on, and criticise the questionnaire after answering it. This was done by means of an annex added to their pilot questionnaire, in which nine questions were presented (see appendix 8). In seven of these questions they were asked to comment. The quantitative results to these questions can be seen on Table 6.16.

The written comments were very instructive, and several adjustments were made to the questionnaire before a second attempt was made to scrutinise it. Only five people volunteered to have a second look at the questionnaire. Most of them were academics who thoroughly re-evaluated the instrument. Only one respondent was a professional. Thus far only a few comments were noted, and as far as possible, all dealt with. The judge's final impression was to comment on the appropriateness of the scale content.

Table 6.16 - Results of the Pilot Sample Additional Information Questionnaire.

QUESTION	Totally confusing	1	2	3	4	5	Very Clear
1. How clear are the instructions of this questionnaire to you?		-	-	60%	20%	20%	
2. What is your general impression of this questionnaire?		-	-	20%	60%	20%	

	YES	NO
3. Are the questions and their format sufficiently varied to retrieve your interest and attention?	60%	40%
4. Are the options of choice clear and do they explore all possibilities?	90%	10%
5. Is the language being used compatible with the necessary sophistication to describe the phenomenon in question?	50%	50%
6. Is the coloured photo annexed practical and effective?	80%	20%
7. Is there any question on the questionnaire which you rather not answer?	-	100%
8. How long did it take you to answer the whole questionnaire?	Average:	35 minutes.

9. Any other comment you might want to add that might help us better this questionnaire, please write on the space below.

This type of validity is based solely on personal judgement rather than objective evidence. Moreover, the

great benefit of this procedure was in producing a much-improved final version of the questionnaire. However, as Singleton *et al.* (1993) mentioned, this method of validity assessment alone is generally not acceptable. Thus, other relevant types of validity assessment were also performed.

6.3.2.7. - Criterion-related validation

Criterion validity has to do with how well a new scale is expected to perform in relation to other well-accepted criterion variables. The term *"criterion"* means a trait or behaviour. The validation of a new scale would involve a high correlation between the new and the established measure.

Nevertheless, as de Vaus (1996, p.56) notes, there are two problems with this approach. First, there is an assumption that the well-accepted scale is valid. In this case, a low correlation would indicate that the new scale is invalid. However, what can be happening is the opposite. Often a new scale is developed because the researcher is somewhat unhappy with the existing one. Second, as with many concepts in social sciences, nothing can be considered a totally well established norm, appropriate for checking the new scale against. This is especially true in the marketing area where so much of what is studied is subjective in nature (Block and Block, 1995).

Singleton *et al.* (1993) also said that criterion-related validity applies to measuring instruments developed for some practical purpose other than testing hypotheses or advancing scientific knowledge. Ross (1974), critically

reviewing perceived risk, found numerous examples (*e.g.*, Arndt, 1968; Cox and Rich, 1964; Schiffman, 1972) of what he called *"criterion contamination"*. That is, the concept being measured is the context used to validate or interpret the affect of perceived risk. This can become a serious problem, rendering equivocal findings, at best. There is no common sense rule about which perceived risk scale is completely valid and at the same time it is not feasible to develop an external criterion against which the scores of the measure could be compared. Thus, criterion-related validation was not investigated in this study.

6.3.2.8. - Construct validation

Construct validity is an approach to evaluate a measure based upon how well the measure conforms with theoretical expectation (de Vaus, 1996). According to Singleton *et al.* (1993, p.125), the meaning of any scientific construct is implied by statements of its theoretical relations to other constructs. Thus, the validation process begins with an examination of the underlying theory of the concept being measured.

This type of validity is the main form of validation upon which the trait related approach to psychometrics is based (Rust and Golombock, 1989). The entity measured by the test is normally not directly measurable, and thus most of the time researchers are limited to evaluating its usefulness by making inferences from the relationship (*i.e.*, correlations) between the test and the various phenomena predicted by the theory. For example, if a particular "Hierarchy of Effects Model" theorises that in order for someone to

buy a product he or she must first like the product better than others, then this preference is expected to be the case. If instead it is discovered that people don't know if they liked the purchased brand better than others before buying the product, then either the theory is wrong, or the results of the study are invalid according to this theory (Block and Block, 1995).

Rust and Golombock (1989) purpose that construct validation is never complete, but is cumulative over the number of studies available, and in many respects is similar to Popper's (1969) idea of verification in science. It is thus a reflection of a particular view of the scientific process, and is integrated within the positivist and hypothetico-deductive view of science.

This study conforms with this view of cumulative validation, have fitting from two previous studies which tested for construct validation empirically, using similar scales to the ones utilised in this research. Lumpkin and Massy (1983) examined alternative perceived risk scales for convergent and discriminant validity (*i.e.,* construct validity) while Malhotra (1981) tested several scales to measure self-concept, person concepts, and product concepts. Nevertheless, some doubts remain concerning the best method to assess risk perception, and further investigation into construct validation was carried out to seek clarification on this issue. These further tests on the perceived risk scale will be discussed in detail later on this section.

Construct validity is the most sophisticated and difficult validation to establish (Malhotra, 1996). According to Cohen (1979), if testing for construct validity, one should examine the scale being used by means

of convergent, discriminant and nomological testing of validity. *Convergent validity* involves measuring a construct with independent measurement techniques and demonstrating a high correlation among the measures. *Discriminant validity* is exactly the opposite; it involves demonstrating a lack or a very low correlation among different constructs (Kinnear and Taylor, 1996). Last, *nomological validity* is tested by relating measurements to a theoretical model that leads to further deductions, interpretations, and tests (Spiro and Weitz, 1990).

Even if one decides to examine its scale by assessing all three types of construct validation, in the end there is no ideal way of determining the validity of a scale. The most appropriate method will depend on the situation. As de Vaus (1996, p.57) suggests:

> *"if a good criterion exists use it; if the definition of the concept is well defined or well accepted use this approach; if there are well-established theories which use the concept which we wish to validate, use this approach. If all else fails we have to say this is how the concept is defined and these measures, on the face of it, seem to cover the concept, and to give the measure to other people (referred to as panel of judges) to see what they think."*

In the last thirty-seven years, many researchers (*e.g.*, Bauer, 1960; Cox, 1967a; Cunninham, 1967a; Dowling, 1986; Greatorex and Mitchell, 1993; Lumpkin and Massey, 1983; Ross, 1974; Yates, 1992; to list only a few) have been engaged in discussions about the perceived risk concept (readers are referred to Chapter 2 - "Review of the Literature" for a more complete description of perceived risk concept). Neither total agreement nor disagreement can be discerned in this literature; however, there is a consensus among some (*e.g.* Peter and Tarpey, 1975; Peter and Ryan, 1976) that perceived risk is a multidimensional-multifaceted construct. Nevertheless, what researchers fail

to agree on, is a sound operational definition for perceived risk. Another point of disagreement is with regards to the precise nature of the construct (_e.g.,_ Bettman, 1973; Horton, 1979).

In view of such conceptual fuzziness, construct validation should be an important part of any attempt to advance knowledge in perceived risk (Dowling, 1986). The perceived risk literature provides evidence of many attempts to validate this concept. Studies such as Bettman's (1973) original and its validation Bettman (1975) proposed a dichotomous perceived risk concept; where two types of risk (_i.e.,_ inherent and handled) were operationalised. Jacoby and Kaplan (1972) and later its validation study Kaplan _et al._ (1974) designed and tested the perceived risk concept as a multifaceted (_e.g.,_ performance, financial, physical, social, and psychological) construct. In one study among many Hoover _et al._ (1978) measured the association between an outside criterion (_e.g.,_ information search) and risk perception.

Research exists which attempts a type of scale validation. For example, Bettman (1973, 1975) analysed the relationship between his dichotomous scale and Cunninham's (1967a) certainty/seriousness scale, and found similarities supported by a significant analysis of variance. Woodside (1972) correlated his risk-taking scale with the choice dilemma scale of Kogan and Wallach (1964) and also found support for his scale.

Several investigators (_e.g.,_ Hirish _et al.,_ 1972; Zikmund and Scott, 1973) have been exploring the discriminant relationship of perceived risk with other related constructs (_e.g.,_ self-confidence). These studies have been

successful in providing evidence regarding the observed relationships proposed in the predicted direction. However, after digging the literature for this research, only two studies (Lumpkin and Massey, 1983; Mitchell 1991) were uncovered which furthered an extensive construct validation of the perceived risk concept.

Lumpkin and Massey (1983) employed the multitrait-multimethod matrix approach proposed by Campbell and Fisk (1959) which provides evidence for both convergent and discriminant validity. They explored two different perceived risk scales (the riskiness scale as the one used by Spence *et al.*, 1970) and Cunningham's (1967a) certainty/seriousness scale and found both methods to be valid.

The multitrait-multimethod (MTMM) matrix is a table of correlations that enables simultaneous assessment of both the convergent and discriminant validity of a construct. Dowling (1986) and Churchill (1979, 1995) have recommended this procedure as a convenient way of establishing the convergent and discriminant validity of a measure. The matrix is based on the principle that the more features two measurements have in common, the higher their correlation will be. According to Judd *et al.* (1991), measurements can share two types of features. They are 1) *traits* and 2) *methods*. Traits can be understood as the underlying construct the measurement is supposed to tap and methods are the form of the measurement. Ideally, scores should reflect only the intended trait and not be influenced by the method.

In this study a form of the MTMM was used to check if the traits under consideration, here risk perception - network servers and risk perception - mid-range laser

printers, could be measured by different measuring methods. At first glance one might notice that the traits under consideration are different and that different people were asked about servers and printers. However, to overcome this problem the seventeen pilot sample responses were used. The pilot questionnaire, among other things, obtained the perceived risk associated with all eight IT brands across the different traits under consideration.

The first method was an additive form of Peter and Tapey's (1975) likelihood of loss/seriousness of consequences scale presented in a seven-point semantic differential form where the likelihood of loss dimension was measured by a scale ascending from "unlikely" (1) to "likely" (7) and the seriousness of consequence dimension by a scale ascending from "not serious" (1) to "very serious" (7).

The other method was a complete replication of the second method, with the exception being that this time, the method of interacting between two dimensions was done in a multiplicative manner. The respondents were asked to consider themselves responsible for buying a workgroup server and/or a mid-range laser printer (for a fuller discussion on scaling, readers are referred to Chapter 5 - 'Methodological Issues'). In this study, scores generated by both methods should be very similar because both models posit a relationship between the components and perceived risk. However, by submitting both methods to a MTMM matrix one method should correlate higher on both of the trait conditions, and thus provide evidence to substantiate the choice of a method to be used on further analyses in this study.

Table 6.17 presents the mean perceived risk score for both perceived risk scales. It indicates a very similar pattern of risk perception among methods as anticipated.

Table 6.17 - Mean Perceived Risk Across Traits and Methods.

TRAITS	$PR = \sum_{i=1}^{n} LL+SC$ (Additive)	$PR = \sum_{i=1}^{n} LL \times SC$ (Multiplicative)
Perceived risk - workgroup server	4.64	4.53
Perceived risk - mid-range laser printer	4.85	4.77

To construct a MTMM matrix, one must have at least two traits measured with at least two methods. Because every score is made up of two systematic elements (*i.e.*, a trait and a method), the correlation between two sets of scores depends on how much they share both the trait and the method. Convergent validity coefficients are correlations between scores that reflect the same trait measured by different methods. The MTMM matrix introduces two additional correlation coefficients to assess the validity of an instrument. These are both correlations between different traits. One is a discriminant validity correlation between different traits measured by the same method, and the other is a nonsense correlation between different traits by different methods. The convergent coefficients are expected to be high and the discriminant low. If the discriminant coefficients are as high as the convergent ones, it means the two traits are highly similar (Judd *et al.*, 1991). The MTMM correlations were calculated using Spearman's coefficent because of the small number of cases and are shown in Table 6.18.

Table 6.18 - Multitrait-Multimethod Matrix of Correlations[1] Between Risk Perception from Workgroup Server Buyers and Risk Perception from Mid-range Laser Printer Buyers.

		$PR = \sum_{l=1}^{n} LL+SC$		$PR = \sum_{i=1}^{n} LL \times SC$	
		Computer	Printer	Computer	Printer
$PR = \sum_{l=1}^{n} LL+SC$	Computer	1			
	Printer	0.32*	1		
$PR = \sum_{l=1}^{n} LL \times SC$	Computer	0.97***	0.23	1	
	Printer	0.26*	0.90***	0.30*	1

*   = p<0.10
*** = p<0.01

The correlations in Table 6.18 show, in the diagonal box, the same-trait-different-method (convergent validity) correlation coefficients (.97 and .90) being highly significant. It is also possible to see that these two scores are much higher that all other correlations presented above, obviously excluding the same-trait-same-method situation for obvious reasons. This is justification for saying the tests measure two different traits.

The results from the MTMM analysis indicates that all methods are valid to assess risk perception (for further discussions on risk models refer back to Chapter 5 - 'Methodological Issues'). Nevertheless, it failed to provide strong evidence about which of these methods is better in distinguishing among traits. Thus, several facts were considered before deciding about what method to use in this research. These were:

1)   The two component model of certainty/consequences has been used for over thirty years by many perceived risk investigators (*e.g.,* Cunningham, 1967a; Greatorex and Mitchell, 1991; Peter and Ryan, 1976; Yates, 1992; to list several). The long-lasting history and tradition of this conceptualisation is evidence in itself that this form of measure has proved to be of some worth.

2)   Another long-lasting discussion about the advantages and disadvantages of each of the two major component models (*i.e.,* additive or multiplicative) have been dividing researchers. Most of the work in perceived risk (mainly in psychology and decision-making) has proposed some sort of multiplicative formulation (Sieber and Lanzetta, 1964), nevertheless such mathematical representation for consumer decision processes may be overly complicated (Wright 1973). Finally, Lanzetta and Driscoll (1968) after empirically testing; supported the liner model. They found a positive correlation between certainty and consequences and inferred that this relationship might lead to an additive model being better by hindering the performance of multiplicative models. Peter and Ryan's (1976) study has concluded that the additive model was correlated more highly with brand preference than the multiplicative form.

A positive correlation between the two risk components was already found in this research (see Table 6.12). Thus, given the research evidence and the characteristics of this study, in which perceived risk and different brand portrayals are compared, an additive model was used to combine likelihood of loss and seriousness of consequence in this study.

As construct validity is the most complex form of validation, a second statistical approach to establish the

validity of the measure was performed. This time it was decided to follow Mitchell's (1991) lead in the tradition of Peter's (1981, p.134) suggestion that:

"if a construct were hypothesised to have three dimensions, a factor analysis of a purported measure of the construct which produces three meaningful factors could be interpreted as supportive evidence of construct validity".

Mitchell (1991) factor analysed the perceived risk scale and found three factors being produced which corresponded to three dimensions of loss (financial, time and psychosocial).

For the purpose of this research, a principal component analysis is to be performed and according to the theory it is expected (Cox, 1967a; Rossiter and Percy, 1987) that two major components of risk will emerge from this procedure. These are performance or economic risk, and psychosocial risk. The reason for not pursuing all different risk types (*i.e.*, performance, financial, time, physical, psychological, social, opportunity) reported by previous studies (*e.g.*, Jocoby and Kaplan, 1972; Perry and Hamm, 1969; Roselius, 1971; Zikmund and Scott, 1973) is that such risk representations of buyer decision processes are overly complicated and can be aggregated and simplified by Cox's (1967f) original proposition of performance and psychosocial risks.

Principal components were extracted on all risk statements[1] by factor analysing the data. To better appreciate the meaning of the factors, the factor matrix was rotated orthogonally using the VARIMAX procedure and the extractions had to display an eigenvalue of greater

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[1] The values considered for factor analysis are based on perceived risk operationalization as having two dimensions – uncertainty and consequences.

than one to be included. The rotated factor matrix
facilitates interpretation. Table 6.19 presents the results
of the factor analysis. Two factors were formed and they
explained 57% of the variance.

Table 6.19 - The Rotated Factor Matrix of Risk Perception Variables.

Variable	factor I[1]	factor II[2]
Your buying decision will reduce your power to make future decisions.	.85051	.05870
Your superiors will not be pleased.	.75916	.27753
You will feel embarrassed about your decision.	.75572	.19544
Your buying decision will affect your job performance.	.74777	.02695
Threaten your next promotion.	.69449	.40202
The buying decision will damage the opinion your peers hold of you.	.66712	.31834
The buying decision will damage the relationship of your department with others.	.60112	.29410
You will feel personal discontent.	.45991	.39662
You will lose time to locate another source of supply.	-.03987	.78675
The firm you work for will lose money.	.19045	.76083
You will have a tighter budget to spend in the future.	.32949	.63440
The firm will lose competitiveness.	.37193	.62648
Percentage of variance	45.1	11.8
Cumulative percentage of variance	45.1	56.9

Underlying dimensions: [1] = **Psychosocial dimension** and
[2] = **Economic dimension.**

According to the evidence provided by Table 6.19, the
two factors that emerged, here named as *economic factor* and
psychosocial factor in Rossiter and Percy's (1987) system of

nomenclature, corroborate with existing theory (Cox, 1967f) which enumerates certain types of risk. Here, the economic factor is clearly an aggregation of time, financial and performance risks while the psychosocial factor is a comprehensible representation of psychological and social risks. No attempt was made to operationalise the other types of risk due to the specific products and buying situation used in this research. As presented, the factor analysis empirically validates the perceived risk construct.

6.3.3. - Perceived risk values

From Table 6.20 it is possible to visualise perceived risk values in three different orders. A column of scores represents the answers from computer buyers, a second column provides the same information collected from printer buyers, and a final column gives an overall view. It serves as a representation of both computer and printer columns and presents the data collected in descending order. The table indicates the most important risk for computer buyers is that of loosing *"time"* to locate another supplier. Next in importance, for the same group of respondents, was the risk of losing money by the firm (*i.e.*, financial). At the same time, the most important risks for printer buyers were: feeling personal discontent and displeasing of superiors (*i.e.*, psychosocial).

These results show contradictory patterns. With regard to the third and fourth statements, the computer group chose the same statement as the printer group as the most important (*i.e.*, psychosocial). Still focussing on the third and fourth statements, in order of importance, the printer group chose the same statements, as did the computer group

as most important. The two groups seemed to agree on their fifth most important statement (*i.e.*, tighter budget in the future – financial and time risks).

The computer group tended to value economic risks more highly than their counterparts the printer group. Nevertheless, they did value psychosocial risks third and fourth in their assessment of importance. The opposite occurred in the printer group, that valued psychosocial risks over *economic* risks. However, economic risks were placed as third and fourth options. With very similar scores in the first five statements, the two groups indicate a tendency to highly value similar aspects of both economic and psychosocial dimensions of risk. This is probably due to the multidimensional nature of the concept (Zikmund, 1973; Zikmund and Scott, 1977).

There is no expressive difference among groups regarding the middle section of the scale. However, a very interesting fact is that agreement can be seen in respondent's classification of the statements, "future power reduction", "the firm will loose competitiveness" and "affect job performance" at the bottom of their value scale. This indicates that both groups are soundly self-confident. They are unable to imagine any thing going wrong with them and consequently with the firm. The relative importance of risk is valuable information which has direct marketing implications, however it does not provide a generalisable order of risk importance nor tells much about which risks are crucial in deciding which IT brand to buy. Some risks may fall below the perceptual threshold and not even be considered during the decision process.

To even consider the possibility of a generalisable order of risk importance is naive. General buying situation is not easy to find in the real world (Mitchell, 1991). Each buying situation should be considered distinctively.

Table 6.20 - Perceived Risk Values.

TYPE OF RISK		VARIABLE[2]	PRODUCT FIELD (MEAN[1])		
			OVERALL	COMPUTERS	PRINTERS
Time	(C)	SOURCE (U and C)	5.55 (149)	5.57 (71)	5.54 (78)
Psychosocial	(P)	DISCONT (U and C)	5.55 (150)	5.13 (70)	5.87 (80)
Psychosocial	(P)	SUPLEAS (U and C)	5.43 (151)	5.27 (71)	5.57 (80)
Financial	(C)	MONEY (U and C)	5.37 (149)	5.36 (70)	5.37 (79)
Financial and Time	(C)	BUDGET (U and C)	4.99 (149)	4.94 (70)	5.04 (79)
Psychosocial and Financial	(P)	PROMOT (U and C)	4.87 (151)	4.82 (71)	4.91 (80)
Psychosocial	(P)	OPINION (U and C)	4.78 (149)	4.71 (70)	4.84 (79)
Psychosocial	(P)	EMBARRA (U and C)	4.65 (149)	4.27 (70)	4.99 (79)
Psychosocial	(C)	DPTRELA (U and C)	4.37 (150)	4.31 (71)	4.42 (79)
Psychosocial	(P)	POWER (U and C)	4.25 (151)	3.87 (71)	4.59 (80)
Financial and Performance	(C)	COMPITI (U and C)	4.21 (151)	4.32 (71)	4.11 (80)
Psychosocial and Performance	(P)	JOBPERF (U and C)	3.62 (151)	3.50 (71)	3.73 (80)

Note: [1] = Mean perceived risk (PR) scores after adding the two components of PR and dividing by two.
  [2] = For variable definition see appendix 6 or 7.
  C = at the company level.
  P = at the personal level.

Based on the information presented here, what could be said is that even different product fields within a same industry may present a slight different value order. However, the best approach to a situation such as the one

in this study, may be to produce values of importance individually for each product field to identify key points of agreement and disagreement among groups facing different buying situation and/or brands.

The "scenario" described for this study was identical for both groups of respondents, except, obviously with regard to the product fields. Similarity also exists due to the fact that both product fields belong to the same industry (*i.e.,* IT industry). This situation enables the aggregation of data without significant compromise, while some real benefit can be expected from the drawing of factors from these perceptions and using them later to help analysis of other phenomena.

Collins (1969) raises warnings that these multi-variate techniques are basically tools of description which can help to increase the understanding of a market, its structure and its segmentation, whilst providing a basis for the next stage of investigation. Nevertheless, they are not themselves explanatory or predictive. In the context of this study after seeing these results, what must be emphasised is that the factors generated here emerged from a specific situation and should be considered as such.

6.3.4. - Brand concept validation

Following de Vaus's (1996, p.57) advice on scale validity (readers are referred to the section "*construct validation*" in this chapter to see the full passage), an adaptation of the self-concept and brand-image scale validated by Malhotra (1981) was used. Malhotra himself

warned that in some situations the researcher could consider it appropriate to modify his scale or to even develop another scale more suitable to the specific problem. In order to benefit the most from Malhotra's scale, the fifteen adjective bipolar variables proposed by him were added to fifteen other variables that emerged from the exploratory research done previously (readers are referred to Chapter 4 - 'Exploratory Research' for a detailed discussion) and submitted to content validation of four experts. The final version of the scale used in this research consists of twenty adjective bipolar variables measured by a semantic differential scale resembling Malhotra's proposed and validated scale.

Brand experts (*e.g.*, Aaker, 1996; de Chernatony, 1993; de Chernatony and McWilliam, 1990; Hankinson and Cowking, 1993; 1996; Lannon and Cooper, 1983; Murphy, 1990; Sirgy, 1983) advocate that brands should be described by the extent to which they satisfy performance needs and personal expression needs. In other words, the underlying dimensions of brands are characterised by two factors: the functional and the emotional. Nevertheless, few researchers made an attempt to verify this assertion empirically.

De Chernatony (1993) was one of these researchers. He demonstrated support for his ideas however through exploratory research; his study lacks strong evidence concerning scale reliability (*e.g.*, test-retest and internal consistency) and validity (*e.g.*, content, criteria, and construct). Sampling was another problem in his work, as he did not provide concrete explanations, leaving the impression of a non-representative sample.

A recent and comprehensive study (Aaker, 1997) on brand personality developed and tested the brand

personality scale (BPS). This scale is a compact set of traits designed to both measure and structure brand personality. After analysing more than one thousand responses, nationally (U.S.A), concerning sixty different well-known brands, five personality factors emerged. Named sincerity, excitement, competence, sophistication, and ruggedness, these factors are also known as the *Big 5*. These five factors were found to explain 93% of the observed differences between the brands.

Aaker's (1997) version of the *Big 5* can be understood as having a dimension (*i.e.*, competence) that represent the performance need factor (functional) and also dimensions (*i.e.*, excitement, sophistication, and ruggedness) that represent the personal expression need factor (emotional). The sincerity factor is close to the functional factor however, as it covers similar aspects of what Sheth *et al.* (1991) define as social value and emotional value, giving rise to a dimension that may well be a fusion of other dimensions.

With only a few empirical evidences to rely on, it was decided to verify whether or not the brand dimensional construct was valid. First, principal components were extracted on all brand attributes (importance variables – respondents were asked to rate their ideal brand) by treating the data to factor analysis. To more completely appreciate the meaning of the factors, the factor matrix was rotated orthogonally using the VARIMAX procedure and to be included the extractions had to have an eigenvalue of greater than one. The rotated factor matrix facilitates interpretation. Table 6.21 presents the results of the factor analysis. Three factors were formed and they explained 48% of the variance.

Table 6.21 - The Rotated Factor Matrix of Brand Attributes - Importance Variables.

ATTRIBUTE	factor I[1]	factor II[2]	factor III[3]
Efficiency	.81422	.02091	-.05258
Up-to-dateness	.79199	.13310	.07882
Versatility	.76512	.06163	-.01393
Quickness	.72975	.06620	.18491
Experience	.65604	.13653	.23931
Confidence	.64854	.08447	-.04917
Helpfulness	.62399	.16587	-.01058
Leadership	.55828	-.05664	.45774
Economy	.26011	.19996	.08296
Ambition	.01561	.75356	.03163
Cheerfulness	-.09357	.70987	.23487
Realism	.18592	.69692	-.09955
Persuasion	.08995	.65092	.27910
Creativity	.04357	.51513	.16665
Strength	.33334	.50904	.33627
Sophistication	.24428	.45048	.37781
Excitement	.12555	.27781	.10005
Broad-mindness	-.03931	.12558	.76298
Uniqueness	-.00004	.25989	.68341
Prestige	.18052	.30566	.61748
Percentage of variance	27.3%	14.1%	6.5%
Cumulative percentage of variance	27.3%	41.4%	47.9%

Note: Underlying dimensions:
[1]   = Functional dimension (competence factor from Big 5)
[2]   = Emotional dimension I (merge of excitement and sincerity factors from Big 5)
[3]   = Emotional dimension II (sophistication factor form Big 5)

Support exists for the idea that brands can be characterised by a two dimensional representation of functional and emotional components. Three factors were formed in this procedure. Because of the lack of an objective item descriptor, it should be recognised that the

characterisation of a scale item as being part of the functional or the emotional components is subjective. Nevertheless, it is possible to give this subjective decision a great deal of objectiveness by comparing it to Aaker's (1997) BPS scale.

Results presented in Table 6.21 indicate that the first factor closely resembles Aaker's (1997) competence factor. The first factor is formed by brand attributes such as "efficiency", "experience", "confidence", "versatility", among others, which fit well into the theoretically described functional brand dimension. The second factor describes a much more symbolic/emotional dimension. With brand attributes such as "cheerfulness", "excitement", and others, it ties quite well into the described personal expression need dimension (*i.e.,* emotional brand dimension). Likewise the last factor is about the emotional brand dimension. A blend of variables such as "broad-mindness", "uniqueness", and "prestige" relates to Big 5's sophistication factor that is very much part of what has been defined as personal expression need dimension. Thus, for the idealised brand, there is support of the theoretically conceived idea of brands being characterised by functional and emotional dimensions.

Focusing on the set of brands (computers and printers) to be tested, one major type of questionnaire was developed for each product field (see appendixes 6 and 7). Both questionnaires consisted of a battery of twenty adjective bipolar items describing the personality of four brands. Respondents were asked to rate in a seven-point semantic differential scale their perception of each of the twenty scale items concerning each brand.

In the network server product field, four factors were drawn which explained almost 60% of the variance according

to Table 6.22. The first factor is the most intriguing as it represents two distinct dimensions of the Big 5; competence and sophistication. Efficiency, quickness, sophistication, and prestige are scale items that are included in factor 1. A close look at these items reveals that seven items in this first factor are members of the top nine brand attributes in this product field. Readers are referred to Table 6.24 in the next section of this text called "brand attribute importance" for a list of brand attributes in descending order. Factor 1 is a blend of functional and emotional aspects of the brand. It also contains the most important of brand attributes. These facts give rise to speculation that factor 1 may well be a new dimension, and at the same time relevant to brand choice.

Factor 2 describes a more emotional dimension. With scale items such as "ambition", "excitement", "realism", and others, it matches well with the description of an emotional component. The third factor is predominantly a functional dimension. With variables like "strength", "creativity", and "versatility", among others, it suits the description of a functional component. The last factor is a single item and as so should not be considered a dimension. Once again evidence could be found to support the idea of brands being characterised by a functional and emotional dimensions. Nevertheless, another factor, here called "fusion factor", was also found which gives rise to speculation that instead of a two-dimensional brand categorisation, in practice what really happens is a three-dimensional categorisation.

An analysis comparable to the directed at the computer sector was performed on the mid-range laser printers sector. The data presented in Table 6.23 is very similar to that in Table 6.22. Four factors were once again formed and they explained 63% of the variance. Of these, the first

factor represented a combination of Big 5's competence, sincerity, and excitement factors. Again, its eight items scored high on the brand attribute importance rating (see Table 6.24). They were among the eleven top attributes, which again gives rise to similar speculation as in the computer analysis. This is, that factor 1 may be a new dimension, and one that is significant to brand choice.

Table 6.22 - The Rotated Factor Matrix of Individual Scale Items - Network Servers.

SCALE ITEMS	factor I[1]	factor II[2]	factor III[3]	factor IV[4]
Out-of-date ...Up-to-date	.75542	.24047	.07506	-.02378
Follower ....Leader	.74442	.14463	.27519	-.11855
Inefficient .....Efficient	.73520	.30015	.02799	.11719
Slow ....Quick	.72450	.21206	.16410	.17827
Naive ....Sophisticated	.67696	.30041	-.00904	.03478
Humble ....Prestigious	.64760	.14629	-.01519	.40001
Unhelpful ......Helpful	.61559	-.03962	.10272	.19532
Modest ....Ambitious	.12890	.82947	.19498	.07062
Unconvincing ...Persuasive	.11107	.80659	.10320	.22109
Inexperienced ..Experienced	.33245	.71073	.11356	-.11263
Dull ....Excitable	.21043	.53241	.05835	.44423
Idealistic ......Realistic	.15947	.48681	-.10444	.13146
Extravagant .....Economical	.24816	.45533	-.19801	-.23461
Broad-minded ....Biased (-)	.07982	.41479	.16005	.37703
Confident .....Insecure (-)	.12652	.07949	.85697	.05112
Robust ....Fragile (-)	.08997	.17929	.76120	.14281
Creative ....Unimaginative (-)	.17909	.27553	.75105	.08407
Serious ....Cheerful	.07044	.30248	-.71038	.12947
Versatile ....Non-versatile (-)	.42572	-.10741	.59610	.36154

Table 6.22 - Continued.

SCALE ITEMS	factor I[1]	factor II[2]	factor III[3]	factor IV[4]
Common ......Unique	.17521	.11468	.08745	.79926
Percentage of variance	31.3%	13.2%	8.9%	5.9%
Cummulative percentage of variance	31.3%	44.6%	53.4%	59.3%

Note: (-) = specification of reverse coding.
Underlying dimensions:
[1]   = Fusion dimension (merge of competence and sophistication factors from Big 5)
[2]   = Emotional dimension   (merge of excitement and sincerity factors from Big 5)
[3]   = Functional dimension (competence factor from Big 5)
[4]   = One principal variable should not be considered a dimension.

Factor 2 from Table 6.23 is a dimension with variables like "sophistication" and "prestige" which clearly represents the Big 5's sophistication factor that itself can be classified as a personal expression need component (*i.e.*, emotional component). Factor 3 is a good representation of Big 5's excitement factor, which again can be classified as an emotional component. Factor 4 is a portrayal of Big 5's competence factor (*i.e.*, functional component). Thus, it seems the rotated factor matrix of individual scale items for the printer sector is almost a replica of the same matrix for the computer sector. Once more evidence points to a three-dimensional brand categorisation.

Brand concept validation would require the confirmation of a two-dimensional construct (*i.e.*, functional and emotional dimensions). When tested, the hypothetical brand attributes formed the expected two-dimensional construct. Nevertheless, neither the computer nor the printer brands fully confirmed the two-dimensional concept. Instead, both produced a three-dimensional construct in

which both functional and emotional components are present. The third component looks very much like a fusion of the two components (*i.e.,* functional + emotional) instead of a totally different one. Thus, this data not only supports the idea that brands can be categorised in two major dimensions but also opens the door to extend this categorisation to a three-dimensional construct.

Table 6.23 - The Rotated Factor Matrix of Individual Scale Items - Mid-Range Laser Printers.

SCALE ITEMS	factor I[1]	factor II[2]	factor III[3]	factor IV[4]
Out-of-date .....Up-to-date	.81639	.36854	.00198	.00400
Unhelpful ....Helpful	.76254	.02483	.33785	.16991
Inexperienced .....Experienced	.75819	.10075	.16751	.34777
Inefficient ....Efficient	.75177	.33100	.24925	.09163
Follower ....Leader	.73362	.02067	.25265	.24077
Slow .....…......Quick	.73253	.26099	.06890	-.03660
Extravagant ....Economical	.70453	.33109	-.11174	.05550
Modest ....Ambitious	.46059	.08859	.45987	.13283
Idealistic ....Realistic	.21705	.77452	.01917	.01991
Naive .....….......Sophisticated	.32803	.75152	.11427	.03820
Humble ....…....Prestigious	.37721	.62300	.29933	.07684
Dull ....Excitable	.06633	.22263	.73178	.19318
Serious ....Cheerful	.06242	-.20255	.68510	-.10003
Common ....Unique	.11157	.09803	.58467	-.19653
Broad-minded .....Biased (-)	.11080	.47049	.52008	-.02401
Unconvincing ......Persuasive	.43812	.18860	.50619	.15733
Creative .....…......Unimaginative (-)	.09131	-.03498	.00072	.80790
Confident ....Insecure (-)	.18378	.07241	.00456	.73762
Robust ....Fragile (-)	-.04029	.48173	-.16274	.71305
Versatile ....Non-versatile (-)	.46209	-.25623	.08866	.62303

Table 6.23 - Continued.

SCALE ITEMS	factor I[1]	factor II[2]	factor III[3]	factor IV4
Percentage of variance	35.3%	11.3%	9.0%	7.2%
Cumulative percentage of variance	35.3%	46.6%	55.6%	62.8%

Note: (-) = specification of reverse coding.

<u>Underlying dimensions</u>:

[1]   = Fusion dimension (merge of competence, sincerity and excitement factors from Big 5)

[2]   = Emotional dimension I (sophistication factor from Big 5)

[3]   = Emotional dimension II (excitement factor from Big 5)

4   = Functional dimension (competence factor from Big 5).

6.3.5. - Brand attribute importance

Through Table 6.24 its possible to identify perceived brand attribute values. A hypothetical brand attribute importance is listed in the first column of values in a descending order. It is interesting to note that in the first column, the first ten attributes ranked as most important all refer to a functional dimension of the brand. The second half of the scale is the attributes that relate to the brand's emotional dimension. This finding corroborates with the information provided by Table 6.21.

The second and third columns represent the same brand attribute valuation regarding the brands form each product field. Here, the data from these two groups notes most interestingly, that the five best-evaluated attributes among both product fields are: "efficiency", "up-to-dateness", "experience", "prestige", and "ambition". Coincidentally these

attributes are part of what has been called earlier in this text, the fusion dimension.

Just as a reminder, the fusion dimension was the first factor in the factor analysis of both groups and as so explains the largest part of the variance. Thus, the information extracted from Table 6.24 coincides with that extracted from tables 6.22 and 6.23. Another intriguing finding was that agreement exists among all columns regarding the least important attributes. Each contributes to the brand's emotional dimension. Based on brand attribute valuation analysis, it can be said that this reconfirms the results reported previously in section 6.3.3. of this text.

Table 6.24 - Brand Attribute Values.

ATTRIBUTE	brand attribute importance mean		product field computer mean		printer mean	
Efficiency	6.68	(150)	5.49	(71)	5.07	(80)
Quickness	6.57	(150)	5.07	(70)	4.76	(80)
Confidence	6.55	(150)	4.74	(71)	4.31	(80)
Up-to-dateness	6.55	(150)	5.59	(71)	5.10	(80)
Versatility	6.41	(150)	4.30	(70)	4.06	(80)
Experience	6.32	(150)	5.44	(71)	5.14	(80)
Creativity	6.29	(150)	4.34	(71)	4.29	(80)
Helpfulness	6.25	(150)	4.96	(71)	4.82	(80)
Economy	6.09	(149)	4.34	(71)	4.49	(80)
Leadership	5.87	(150)	5.16	(71)	4.83	(80)
Prestige	5.61	(150)	5.12	(71)	5.23	(80)
Strength	5.60	(150)	4.87	(71)	4.49	(80)
Ambition	5.49	(150)	5.25	(71)	5.12	(80)
Sophistication	5.26	(150)	5.00	(71)	4.94	(80)
Broad-mindness	5.05	(150)	4.55	(70)	4.46	(80)
Realism	4.89	(149)	4.53	(71)	4.81	(80)
Persuasion	4.83	(150)	5.00	(71)	4.81	(80)
Uniqueness	4.57	(150)	4.05	(71)	4.09	(80)
Cheerfulness	4.42	(150)	3.61	(71)	3.83	(80)
Excitement	3.83	(150)	4.27	(71)	4.22	(80)

6.4. - Demographic Characteristics of Individuals and Organisations

Demographic data was collected for two reasons. First, it provides a profile of the group of respondents and the companies for whom they work. Secondly, it helps test hypotheses four through seven and enables the researcher to explain some findings. The demographic data was collected through two groups of questions. The first group is aimed at the individual respondent. The second group collects information about the companies where the respondents work.

Information regarding the first group of questions (*i.e.*, aimed at the individual respondent) is presented initially. For the question "What is your current job title?" the results are given in Table 6.25 below.

Table 6.25 - Job Title of Respondents.

Job Title	frequency	valid %
IT director	01	00.7
Commercial director	13	08.7
Financial manager	09	06.0
Computer department manager	34	22.8
Administrative manager	17	11.4
IT manager	24	16.1
Systems/technical support analyst	23	15.4
Production/process analyst	06	04.0
Supply analyst	02	01.3
IT manager's assistant	08	05.4
Computer programmer	08	05.4
Computer operator	04	02.7
total	149	100

The technique of randomly selecting a member of the buying team proved successful as a way of guaranteeing access to a wide spectrum of people with various job positions. The result of this is to alleviate any bias introduced to the study based on job position.

The results of the second question "How many years have you been in this job?" are presented in Table 6.26.

Table 6.26 - Length of Employment in the Present Job.

Number of years	frequency	valid %	mean	std dev
1. 5 years of less	67	44.4		
2. 6 - 10 years	52	34.4		
3. 11 - 15 years	19	12.6		
4. 16 - 20 years	09	06.0		
5. 21 - 25 years	02	01.3		
6. more than 25 years	02	01.3		
total	151	100	1.89	1.07

Data in the table is clearly divided between individuals working for less than sixteen years (91.4%) and those who have been employed for longer (8.6%). While those in the previous group might appear to represent a stable group of employees, this is not uniformly true. Of this group of respondents, almost half (44.4%) were employees who had worked at the same firm, in the same position for five years or less. This leads to speculation that an important part of the respondent group is composed of professionals who are relatively new to the jobs. Before discussing the professional experience of the group

further, the next question, which complements this one, will be introduced.

Another demographic question aimed at collecting information about job experience was asked. This was "Including other jobs, how many years have you worked in a position with a similar capacity to your present one?" Responses to this question are tabulated in Table 6.27.

Table 6.27 provides more information about the respondents described in Table 6.26. Its findings indicate that these individuals have previous experience in their present positions. This information leads to the conclusion that the majority of respondents can be classified as stable and experienced.

Table 6.27 - Overall Length of Experience in a Similar Capacity to the Present One.

Number of years	frequency	valid %	mean	std dev
1. 5 years of less	50	31.1		
2. 6 - 10 years	55	36.4		
3. 11 - 15 years	25	16.6		
4. 16 - 20 years	12	07.9		
5. 21 - 25 years	06	04.0		
6. more than 25 years	03	02.0		
total	151	100	2.19	1.12

The next question asked was "Are you affiliated with any professional association?" The response to this question is presented in Table 6.28.

Table 6.28 - Professional Association Affiliation of Respondents.

Respondent's status	frequency	valid %
Yes	025	16.9
No	120	81.1
In process of affiliation	003	02.0
total	148	100

The results to this question indicate that in general respondents are not affiliated with any professional association. While this information may represent a disregard for professional associations, it also presents the researcher with a group likely to be free from the influence of professional association rhetoric and bias.

Question 10.11 of the questionnaire asked, "What is your age group?". The responses to this question are provided in Table 6.29.

Table 6.29 - Age of Respondents.

Age	frequency	valid %	mean	std dev
1. 20 - 29 years	50	33.6		
2. 30 - 39 years	67	45.0		
3. 40 - 49 years	27	18.1		
4. 50 - 59 years	04	02.7		
5. more than 59 years	01	00.7		
total	149	100	1.93	0.86

The majority of respondents (78.6%) are young professionals aged 39 years or less.

Respondents were asked "Please indicate your sex". Their responses are indicated in Table 6.30.

Table 6.30 - Sex of Respondents.

Sex	frequency	valid %
Male	135	90
Female	015	10
total	150	100

Almost all respondents are men. This can be explained by what has been defined as the *'sexual domination dimension'* (Marques, 1987; Moura *et al.*, 1984; Moysés, 1985) in Brazilian society. To summarise, feminine oppression begins with the physical discipline imposed upon women in the home, and is continued by a lack of diffusion of knowledge about contraceptive methods and the imposition of cultural and religious values on women by society. Women find professional advancement particularly difficult in an environment where most managers are men (Costa and Bruschini, 1992).

According to Marques (1987), the same social characteristics typical of Brazilian patriarchal society are re-created in the organisational structure of Brazilian firms giving rise to what Saffioti (1984) calls *'feminine submission'*. A longitudinal research project focusing on the female work force in Brazil was recently published in a

Brazilian mainstream news periodical in an incomplete form (SEADE, 1997). However, the results of this study show an increase in female management positions over the last seven years. In 1989 female managers accounted for 9.7% of all management positions and by 1996 this figure has risen to 13%. The share of female managers in the Brazilian market is still very discrete compared to other markets.

Finally, a question was asked which aimed at assessing respondents' educational attainment. It asked, "What is the highest school level you have ever reached?" Responses to this question can be found in Table 6.31.

Table 6.31 - Highest Education Attainment of Survey Respondents.

Highest school level	frequency	valid %
Attended high school (unfinished)	01	00.7
Graduated from high school	19	12.7
Attended university (unfinished)	28	18.7
Bachelor degree	61	40.7
Post-graduation specialisation	34	22.7
Master degree	05	03.3
Doctoral degree	02	01.3
total	150	100

The bulk of respondents (68.0%) have an undergraduate degree from a University and of these, 27.3% also have some type of post-graduate experience.

The second group of demographic questions was aimed at the company level. First, respondents were asked to 'Mark the type of firm you work for'. The responses are presented in Table 6.32.

Table 6.32 - Type of Firm Employed With.

Type	frequency	valid %
Private	143	95.3
State owned	002	01.3
Joint ownership	005	03.3
total	150	100

The type of ownership of firms in Brazil raises questions about the level of commitment of buying employees. This stems from Brazilian legislation guaranteeing tenure to employees working for State owned firms. Speculation is that the stability granted by tenure status diminishes the perceived level of consequence from something "going wrong." However, this issue is non-important as almost all firms represented in this study were not State owned.

The next question "How many employees work in the same firm you do?" was asked to help assess company size. The answers to this question can be found in Table 6.33.

The distribution of figures in this scale shows tendencies towards both extremes. This can be explained due to the characteristics of the two industries consulted. Half of the respondents (51.8%) came from firms with 249 employees or less. The majority of this group of respondents is likely to have come from the pharmaceutical industry where the high technological production lines require fewer workers than does the clothing industry.

Table 6.33 - Number of Employees Employed in Your Company.

Number of employees	frequency	valid %	mean	std dev
1. less than 100	23	16.1		
2. 100 - 249	51	35.7		
3. 250 - 499	11	07.7		
4. 500 - 999	36	25.2		
5. more than 999	22	15.4		
total	143	100	2.69	1.54

On the other side of the spectrum are the 40.6% of respondents who work at firms with 500 employees or more. This group is likely to represent the clothing industry where many workers are required to operate machines. However, since data from both industries is to be aggregated, it is useful to see "number of employees" as a mean (2.69), representing a number in the continuum of 100 - 249 employees.

Finally, the question "What was the 1995 turnover of the firm you work for?" was asked. Table 6.34 presents the answers to this question.

The scale representing the 1995 turnover of the firm respondents' work for shows even distribution. With the exception of option 3 (R$ 5 - 10 million) and option 7 (over R$ 500 million), all other options are evenly represented. It is not surprising that option 7 be under represented due to its very high value. No logical explanation as to why option 3 was slightly under represented can be offered. Nevertheless, this under representation is not significant enough to symbolise an anomaly to the distribution as a whole.

Table 6.34 - 1995 Turnover of Companies Respondents Employed At.

Turnover	frequency	valid %	mean	std dev
1. less than R$* 1 million	22	16.2		
2. R$ 1 - 5 million	27	19.9		
3. R$ 5 - 10 million	09	06.6		
4. R$ 10 - 50 million	37	27.2		
5. R$ 50 - 100 million	16	11.8		
6. R$ 100 - 500 million	19	14.0		
7. over R$ 500 million	06	04.4		
total	**136**	**100**	**3.58**	**1.80**

* R$ 1 is approximately US$ 1.

6.5. - Conclusion

The aim of this chapter was to present the reader with the results of preliminary data analyses in preparation for hypotheses testing. It opened by showing the response to the postal survey. After an extensive four-stage data collection, 162 questionnaires were returned. These represent 48% of the total number of 399 questionnaires mailed out. After compiling for unusable responses, 151 questionnaire remained as the total number of usable responses (response rate of 45%).

Given the importance of non-response error, a two stage assessment of non-respondents was performed. In the first stage, a comparison between answers provided by respondents and non-respondents was undertaken after several interviews with a set of non-respondents who agreed to an interview. A t-test for equality of means was applied and no significant difference was detected. The second

comparison consisted of verification of variance between responses of early, middle and late respondents. A Friedman's analysis of variance was performed after aggregating the different groups of respondents; however, the different time-period sub-samples indicated no differences.

Another analysis concerning the sample was carried out to test for sub-group differences. To test sub-samples from both industries for independence, an ANOVA was done and only five scale items showed any difference. Thus, the data from both sub-groups were considered to be homogeneous.

After analysing the sample, the next step was to examine both perceived risk and brand concepts for validation. At this stage, data was transformed into factors that are essential for the hypotheses testing. Both scales were tested for reliability. The first type of test was the test-retest correlations. The perceived risk scale performed well in this test with three-quarters of its items producing coefficients of 0.6 or above and significance of $p<0.10$ or less. The brand attribute scale was also successful in this test with 80% of its items also producing coefficients of 0.6 or above and significance of $p<0.10$ or less.

The second type of test for reliability was the internal consistency procedure. In this test the perceived risk scale provided alpha scores of 0.86 and 0.88 for their components (*i.e.*, likelihood of loss and seriousness of consequences). As both of these scores were within the acceptable range this scale was considered to be internally consistent. Turning to the brand scales, brand attribute importance and brand scales applied to both product fields;

all three produced high alpha scores (0.84, 0.86, and 0.88) and were also considered to be internally consistent.

After reliability testing, a further effort was made to assess the validity of all scales. Content validation helped improve the scales to their final stage while construct validation confirmed their theoretical appropriateness. At this stage some factors were generated and saved for future analysis.

Demographic data was compiled for two reasons. First, it helped create a profile of the group of respondents and companies summarised in Table 6.35. Secondly, it provided data, which allowed certain hypotheses to be tested, and enabled the researcher to collect information which will help explain certain findings.

Table 6.35 - Profile of Buyers.

characteristics	frequency
INDIVIDUALS	
Job title - Computer Department Manager	34
Years worked in the same job - 5 years of less	67
Years worked in a similar job - between 6 and 10 years	55
Professional association affiliation - No	120
Age group - between 30 and 39 years	67
Sex - Male	135
Highest education - Bachelor degree	61

Table 6.36 - Profile of Buying Companies.

characteristics	frequency
COMPANIES	
Type of firm - Private	143
Number of employees - between 100 and 249	51
Turnover - between R$ 10 and R$50 million	37

Having considered these preliminary results, the next chapter considers the test of the hypotheses.

C H A P T E R   S E V E N

Tests
of
the
Hypotheses

The great tragedy of Science -
the slaying of a beautiful hypothesis
by an ugly fact.

T.X. HUXLEY   1825 - 1895

7.1. - Introduction

In chapter 3 a conceptual framework was proposed that would result in a better understanding of risk perception and the varying patterns of brand portrayal. This was tested using the data collected from an industrial sample by way of a mail survey. This chapter considers the

empirical results for each of the seven research hypotheses.

7.2. - Perception of Risk and Brand Preference (Hypothesis 1)

H1- *Buyers who perceive high levels of risk will display a preference for brands that are most closely associated with their own set of values, as compared to buyers who perceive low levels of risk.*

If this hypothesis is to be supported, buyers perceiving high-risk (for the computer profile as well as for the printer profile) should present closer congruence between their self-image and perceived brand image than do their counterparts; buyers who perceive low-risk. The congruence value for the first preferred brand should be closer than that of their second in preference, which in turn should be closer than that of their third in preference and consequently closer than their last preferred brand.

In order to test this hypothesis, a multi-stage analysis took place. First, a simple graphical and mean average deviation (MAD) comparison of actual self, ideal self, first preferred brand (FPB), and last preferred brand (LPB) was examined. Second, congruence scores were calculated. Third, a graphical comparison of these congruence scores, ordered by preference, was performed. Finally, a significance test was considered.

Figure 7.1 shows the average scores for actual self, ideal self, first preferred brand (FPB), and last preferred brand (LPB) for the sub-group of buyers perceiving high-

risk asked about computer brands. The comparison is made across the twenty seven-point semantic differential scales that describe both self-profiles and brand profiles. The general pattern is that scores for the first preferred brand tend to be closer to the <u>ideal</u> self-values than those for the last preferred brand. This is not true for only three of the scales. For the comparison with <u>actual</u> self-image, however, little difference can be seen between the most and least preferred brands.

computer profile - high-risk group

		actual self mean	ideal self mean	first pref. brand mean	last pref. brand mean
1. Modest	Ambitious	5.5	5.9	5.8	4.7
2. Creative[a]	Unimaginative	4.9	6.0	4.8	4.2
3. Extravagant	Economical	5.0	5.2	3.7	5.1
4. Inexperienced	Experienced	5.3	6.7	6.3	4.6
5. Confident[a]	Insecure	4.5	5.7	5.7	4.8
6. Unconvincing	Persuasive	4.9	5.9	5.7	4.6
7. Serious	Cheerful	4.3	4.9	2.8	3.3
8. Robust[a]	Fragile	5.1	6.2	5.9	5.0
9. Common	Unique	3.7	4.3	4.0	4.6
10. Broad-minded[a]	Biased	6.2	6.5	5.5	4.5
11. Humble	Prestigious	5.3	6.5	5.6	4.6
12. Inefficient	Efficient	5.9	6.8	5.8	5.2
13. Versatile[a]	Non-versatile	5.2	6.1	4.7	4.6
14. Unhelpful	Helpful	6.2	6.4	5.5	4.8
15. Idealistic	Realistic	4.9	5.3	4.7	4.6
16. Dull	Excitable	4.1	5.1	4.5	4.0
17. Follower	Leader	5.2	6.5	5.9	4.2
18. Out-of-date	Up-to-date	5.8	6.8	5.9	5.1
19. Simple	Sophisticated	3.8	4.4	5.6	4.8
20. Slow	Quick	5.4	6.5	5.5	4.6

note: [a] = inverse coding.

Figure 7.1. - Comparison of Average Actual Self, Ideal Self, First and Last Preferred Brands by Perceived Risk Level - Computer - High-risk Group.

The pattern described above can also be seen in Table 7.1. This table presents the mean average deviations (MAD)

for the scores shown in figure 7.1. MADs were calculated using an Absolute-difference method, *i.e.,*:

Absolute-difference:

$$\sum_{i=1}^{n} |Bij - ASij| \quad \text{and} \quad \sum_{i=1}^{n} |Bij - ISij|$$

where

Bij = brand-image (i) of individual (j)

$ASij$ = actual self-image (i) of individual (j)

$ISij$ = Ideal self-image (i) of individual (j).

Perfect association between a brand's image and an individual's own set of values, when using a seven-point semantic differential scale would be represented by $|7-7|$, *i.e.*, zero. This means that the smaller the scores, the more similar are the profiles. The first MAD score in the table represents the mean difference between <u>actual</u> and <u>ideal</u> self-image. This difference has been calculated at 0.82 and serves as a standard for purposes of comparison. The remaining scores relate to the mean difference between one type of self-image and a brand's image depending on its preference level.

Table 7.1 indicates that in terms of <u>actual</u> self-image little difference exists between the MAD scores calculated for the brands most and least preferred. However, in the case of <u>ideal</u> self-image this difference is marked. Another way of looking at this data is to compare MAD scores regarding most and least preferred brands for <u>actual</u> and <u>ideal</u> self-image. There is not much difference between <u>actual</u> and <u>ideal</u> self-image for the most preferred brand. But a substantial difference exists between <u>actual</u> and <u>ideal</u> self-image for the least preferred brand.

Table 7.1 - Mean Average Deviations for Computer Respondents Who Were High in Risk Perception.

actual self vs ideal self	actual self vs most pref. brand	actual self vs least pref. brand	ideal self vs most pref. brand	ideal self vs least pref. brand
0.82	0.65	0.74	0.81	1.36

Figure 7.2 replicates the previous figure for respondents who were high in risk perception and answered the printer assessment questionnaire. The overall pattern follows that of the previous table: the FPB values are closer to the 'self' values than are the LPB values.

printer profile - high-risk group

		actual self mean	ideal self mean	first pref. brand mean	last pref. brand mean
1. Modest	Ambitious	5.5	5.9	5.8	4.5
2. Creative[a]	Unimaginative	4.8	6.0	4.9	4.1
3. Extravagant	Economical	4.9	5.2	5.0	4.8
4. Inexperienced	Experienced	5.2	6.7	5.8	4.4
5. Confident[a]	Insecure	4.5	5.7	4.8	4.2
6. Unconvincing	Persuasive	4.9	5.9	5.5	4.1
7. Serious	Cheerful	4.3	4.9	4.1	3.7
8. Robust[a]	Fragile	5.0	6.2	5.1	4.7
9. Common	Unique	3.6	4.3	4.2	3.9
10. Broad-minded[a]	Biased	6.2	6.5	4.3	4.3
11. Humble	Prestigious	5.2	6.5	6.1	4.2
12. Inefficient	Efficient	5.9	6.8	5.7	4.6
13. Versatile[a]	Non-versatile	5.1	6.1	4.9	4.1
14. Unhelpful	Helpful	6.1	6.4	5.2	4.5
15. Idealistic	Realistic	4.8	5.3	5.2	4.8
16. Dull	Excitable	4.0	5.1	4.6	3.8
17. Follower	Leader	5.2	6.5	5.7	4.3
18. Out-of-date	Up-to-date	5.8	6.8	5.8	4.4
19. Simple	Sophisticated	3.8	4.4	5.5	4.5
20. Slow	Quick	5.4	6.5	5.3	4.3

note: [a] = inverse coding.

Figure 7.2. - Comparison of Average Actual Self, Ideal Self, First and Last Preferred Brands by Perceived Risk Level - Printer - High-risk Group.

Table 7.2 presents the mean average deviations (MAD) for the scores shown in figure 7.2. This table shows a similar pattern to that of Table 7.1. Again, in terms of <u>actual</u> self-image, there is not much difference between MAD scores from most and least preferred brands. <u>Ideal</u> self-image once more showed a substantial difference between MAD scores from most and least preferred brands. The difference between <u>actual</u> and <u>ideal</u> self-image for the most preferred brand was quite small; much larger for the least preferred brand.

Table 7.2 - Mean Average Deviations for Printer Respondents Who Were High in Risk Perception.

actual self vs ideal self	actual self vs most pref. brand	actual self vs least pref. brand	ideal self vs most pref. brand	ideal self vs least pref. brand
0.85	0.52	0.80	0.82	1.59

For both product fields, therefore, buyers high in risk perception tend to prefer brands that more closely match their own set of values or aspirations. This pattern may not be exclusive to the high-risk group.

Figure 7.3 presents data about the low-risk group who answered the computer assessment questionnaire. This figure records the same tendency to prefer brands that are closer to one's own set of values as seen in the other risk group. However, in this grouping, brand-images tend to be farther apart from self-images, as compared to the results from the high-risk group. The FPB values are not positioned half-way between the two 'self' profiles as they were for the high-

risk group. Instead, they are much closer to the <u>actual</u> self profile than to that of the <u>ideal</u> self profile. Further proof of this can be found in Table 7.3.

computer profile - low-risk group

		actual self mean	ideal self mean	first pref. brand mean	last pref. brand mean
1. Modest	Ambitious	5.4	5.7	5.2	3.9
2. Creative[a]	Unimaginative	4.7	5.5	3.9	4.0
3. Extravagant	Economical	5.1	5.3	4.6	4.2
4. Inexperienced	Experienced	5.1	6.6	5.8	4.1
5. Confident[a]	Insecure	4.8	5.9	4.3	3.9
6. Unconvincing	Persuasive	5.1	6.0	4.8	4.2
7. Serious	Cheerful	4.5	5.0	3.7	3.5
8. Robust[a]	Fragile	5.0	5.7	4.2	4.0
9. Common	Unique	4.0	3.9	3.6	4.5
10. Broad-minded[a]	Biased	4.0	4.0	4.1	3.6
11. Humble	Prestigious	5.4	6.5	5.3	3.4
12. Inefficient	Efficient	5.8	6.8	5.6	4.3
13. Versatile[a]	Non-versatile	5.0	6.1	3.5	4.2
14. Unhelpful	Helpful	5.9	6.5	4.8	3.8
15. Idealistic	Realistic	4.7	4.7	4.5	3.9
16. Dull	Excitable	4.0	3.4	4.2	3.8
17. Follower	Leader	5.0	6.3	5.6	3.5
18. Out-of-date	Up-to-date	5.7	6.7	5.7	4.6
19. Simple	Sophisticated	3.5	4.2	4.8	3.8
20. Slow	Quick	5.4	6.5	5.0	3.9

note: [a] = inverse coding.

Figure 7.3. - Comparison of Average Actual Self, Ideal Self, First and Last Preferred Brands by Perceived Risk Level - Computer - Low-risk Group.

Table 7.3 indicates that in extending this analysis to buyers with low-risk perception who answered the computer questionnaire, we find a quite different pattern from that found for buyers high in risk perception. This group showed a widespread difference between most and least preferred for both <u>actual</u> and <u>ideal</u> self-images. A large difference can also be observed between <u>actual</u> and <u>ideal</u> self-images for both most and least preferred brands. Most preferred

brand was closer to <u>actual</u> than <u>ideal</u> self-image; as was the case in the high-risk group. The brand with lowest preference was more remote from <u>actual</u> and <u>ideal</u> than the most preferred brand; this is also true for <u>ideal</u> self-image in the high-risk group.

Table 7.3 - Mean Average Deviations for Computer Respondents Who Were Low in Risk Perception.

actual self vs ideal self	actual self vs most pref. brand	actual self vs least pref. brand	ideal self vs most pref. brand	ideal self vs least pref. brand
0.72	0.56	1.03	1.06	1.71

Finally, for buyers questioned about printers who rated low in risk perception, Figure 7.4 shows a very similar pattern to that seen in the previous figure. The FPB values practically overlap the actual self-values while the LPB values are slightly lower than both. The ideal self values stand farther apart from the perceived brand images giving the perspective of an aspiring position yet to be achieved (Sirgy, 1983). This is not true for the high-risk group, which positions the brand they prefer in the same area as their 'self' perceived values.

printer profile - low-risk group

	actual self	ideal self	first pref. brand	last pref. brand
	mean	mean	mean	mean
1. Modest / Ambitious	5.3	5.7	5.7	3.7
2. Creative[a] / Unimaginative	4.6	5.5	4.0	4.0
3. Extravagant / Economical	5.0	5.3	4.3	4.1
4. Inexperienced / Experienced	5.1	6.6	5.6	4.1
5. Confident[a] / Insecure	4.8	5.9	4.6	4.0
6. Unconvincing / Persuasive	5.0	6.0	5.2	4.0
7. Serious / Cheerful	4.4	5.0	3.5	3.4
8. Robust[a] / Fragile	4.9	5.7	4.6	4.5
9. Common / Unique	4.0	3.9	4.4	4.0
10. Broad-minded[a] / Biased	3.9	4.0	4.9	3.8
11. Humble / Prestigious	5.3	6.5	5.9	4.1
12. Inefficient / Efficient	5.7	6.8	5.5	4.5
13. Versatile[a] / Non-versatile	5.0	6.1	3.7	3.5
14. Unhelpful / Helpful	5.8	6.5	5.0	4.1
15. Idealistic / Realistic	4.6	4.7	4.9	4.9
16. Dull / Excitable	4.0	3.4	4.0	3.5
17. Follower / Leader	4.9	6.3	5.2	3.5
18. Out-of-date / Up-to-date	5.6	6.7	5.5	4.1
19. Simple / Sophisticated	3.5	4.2	5.5	3.9
20. Slow / Quick	5.3	6.5	5.2	4.2

note: [a] = inverse coding.

Figure 7.4. - Comparison of Average Actual Self, Ideal Self, First and Last Preferred Brands by Perceived Risk Level - Printer - Low-risk Group.

Table 7.4 presents the mean average deviations (MAD) for the scores shown in figure 7.4. Buyers questioned about printers and low in risk perception show a similar pattern to that of their counterparts who answered the computer questionnaire. Here again, the most preferred brand was closer to <u>actual</u> self-image than to <u>ideal</u> self-image. The least preferred brand is farthest away from <u>actual</u> and <u>ideal</u> self-images than is the most preferred brand.

Table 7.4 - Mean Average Deviations for Printer Respondents Who Were Low in Risk
Perception.

actual self vs ideal self	actual self vs most pref. brand	actual self vs least pref. brand	ideal self vs most pref. brand	ideal self vs least pref. brand
0.73	0.54	0.91	1.10	1.61

In order to evaluate these values in terms of what
hypotheses 1 postulates, a summary mean average deviation
(MAD) table was created to facilitate comparisons among the
different MAD scores discussed previously. This summary is
presented in Table 7.5. By looking at these average scores,
it is possible to confirm the results that with regard to
actual self-image, there is not much difference between MAD
scores from the most and the least preferred brands for the
high-risk group. However, for the low-risk group, a
moderate difference exists. In relation to ideal self-
image, differences are greater in each of the risk groups.

The average scores also confirm a tendency for buyers
high in risk perception to present tighter brand
associations than do their counterparts, buyers low in risk
perception. This is true in all cases except when comparing
actual self against most preferred brand.

Table 7.5 - Summary Mean Average Deviations of Actual and Ideal Self-images for Most and Least Preferred Brands among Computer and Printer Respondents.

profiles	mean average deviations			
	actual self vs most pref. brand	actual self vs least pref. brand	ideal self vs most pref. brand	ideal self vs least pref. brand
high-risk perception				
computers	0.65	0.74	0.81	1.36
printers	0.52	0.80	0.82	1.59
average	0.58	0.77	0.81	1.48
low-risk perception				
computers	0.56	1.03	1.06	1.71
printers	0.54	0.91	1.10	1.61
average	0.55	0.97	1.08	1.66

What this analysis offers thus far is that both groups, high and low in risk perception, indicate a tendency towards preference for brands that are closer to their own set of values. And, apart from the comparison of most preferred brand against actual self-image, the perceived brand values for the high-risk group tend to be closer to their 'self' values than are the same values for the low-risk group. These figures lend general support to hypothesis 1 but more information is needed if the hypothesis is to be fully confirmed.

Even though these results offer interesting information, the comparisons are based upon average data. An appropriate test of hypothesis 1 requires that self-

image of individuals from each different respondent group be compared for similarity or dissimilarity to the various brand profiles (*i.e.*, buyer-brand-image congruence) according to brand preference value and by level and type of risk perceived.

The various methods of comparing buyer-brand-image congruence have been reviewed and criticised on at least two occasions (*e.g.*, Hughes and Naert, 1970; Sirgy and Danes, 1982). Self-concept consumer researchers have been using different methods to measure congruence between self-image and brand-image (*i.e.*, the self-congruity hypothesis). Birdwell (1968) has attempted to use a generalised Euclidian distance model to test the self-congruity hypothesis. Dolich (1969) tested the same hypothesis using a generalised Absolute-difference model. Ross (1971) preferred to use a generalised Difference-squared model while Schewe and Dillon (1978) employed a Simple-difference model. (Readers are referred to Chapter 5 - 'Methodological Issues' for further information on self-image/brand-image congruence models).

The traditional congruence methods used by early researchers have, according to Sirgy and Danes (1982), proved to be effective but are atheoretical. This criticism is based on the fact that no theoretical self-concept rationale was advanced to justify the use of any of the methods of calculation. Sirgy (1980), however, puts forward a model based on self-image/product-image congruence theory developed from social cognition theory. This theoretically-based model is known as the Interactive model.

The Interactive model is based on a psychological phenomenon known as self-esteem and self-consistency motives. The self-esteem motive refers to an individual's

tendency to seek experiences that enhance his or her self-concept. The self-consistency motive denotes the tendency of an individual to behave consistently with his or her 'self' impression (Epstein, 1980). According to Sirgy (1983), the interaction between a person's self-images and a brand's image evokes self-esteem motivation.

The theory behind this model advances the notion that every self-image has a value association that determines the degree of positive or negative affect felt when the particular self-image is activated. Correspondingly, every brand-image has a component value reflective of the affective intensity associated with its perceived attributes. Self-image then, interacts with brand-image and the results from these interactions occur in the form of: *positive self-congruity* (a comparison between a positive brand-image and a positive self-image), *positive self-incongruity* (a comparison between a positive brand-image and a negative self-image), *negative self-congruity* (a comparison between a negative brand-image and a negative self-image), and *negative self-incongruity* (a comparison between a negative brand-image and a positive self-image).

Based on self-esteem need dynamics, Sirgy's (1984) self-image/product-image congruence theory predicts that an individual will experience more approach motivation toward a particular brand given a positive self-incongruity than a positive self-congruity condition to increase his or her self-esteem. In contrast, *negative* self-perception is expected to motivate avoidance of the brand in question. However, based on the motivational dynamics behind self-consistency motivation, it is predicted that individuals will be motivated more strongly to approach the brand under

positive or negative self-congruity than under conditions of incongruity.

Thus, according to Sirgy (1984), the resultant motivation towards brand approach or avoidance is postulated to be the linear combination of self-esteem and self-consistency motivation. From these combinations, positive self-congruity emerges as the only solution capable of generating brand approach. Following Sirgy's reasoning, the degree of self-esteem motivation activated in relation to a particular brand is a primary determinant of purchase motivation (*e.g.,* brand preference) towards that brand. (Readers are referred to Chapter 2 - 'Review of the Literature' - for a comprehensive discussion of self-image/product-image congruity theory).

A continuous mathematical function has been put forward by Sirgy and Danes (1982, p.558) to describe the Interactive congruence model. The mathematical construction is replicated from the original as follows:

$$\text{PM}_{ij} = F(\text{EM}_{ij}) = f\ (2\text{PIV}_{ij} - \text{SIV}_{ij}),$$

where:

PM_{ij} = purchase motivation as induced by image (i) of individual (j).

EM_{ij} = self-esteem motivation as induced by image (i) of individual (j).

PIV_{ij} = product(brand)-image value of image (i) of individual (j).

SIV_{ij} = self-image value of image (i) of individual (j).

According to congruence theory, PIV_{ij} (*i.e.,* a positive or negative product-image) is a function of the product-image belief (P_{ij}) and the desirability weight placed on

that image as reflected by the <u>ideal</u> self-image (IS_{ij}). This is represented by:

$$PIV_{ij} = P_{ij} \ IS_{ij}.$$

Similarly, self-image value (SIV_{ij}) (*i.e.,* a positive or negative self-image) is a function of both <u>actual</u> (AS_{ij}) and <u>ideal</u> (IS_{ij}) self-images. *i.e.:*

$$SIV_{ij} = AS_{ij} \ IS_{ij}$$

therefore,

$$PM_{ij} = f \ (EM_{ij}) = f \ (2 \ P_{ij} \ IS_{ij} \ - \ AS_{ij} \ IS_{ij}).$$

The constant **"2"** was introduced in the function to support the theoretical argument that a positive congruity state contributes more to self-esteem motivation than does a negative congruity state. Positive self-congruity is argued to induce a moderate level of approach motivation while negative self-congruity elicits a moderate level of avoidance motivation. Without this constant, this theoretical distinction would not be reflected. Thus, in factored form this formula can be seen as:

$$PM_{ij} = f \ (EM_{ij}) = f \ (2 \ P_{ij} \ - \ AS_{ij}) \ IS_{ij}$$

including all activatable images, results in an interactive model mathematically represented as:

$$PM_{j} = f \ (EM_{j}) = f \ \left[\ \sum_{i=1}^{n} (2 \ P_{ij} \ - \ AS_{ij}) \ IS_{ij} \ \right].$$

Sirgy and Danes (1982) extensive test of congruence models showed the Interactive congruence model to be more significantly predictive of brand preference than the Absolute-difference, Simple-difference, Difference squared, Euclidian distance, and Divisional model, in this order. Based on these findings, the Interactive model was chosen to be used as the main congruence measure in this study.

The data generated in this study were explored in two ways in terms of congruity measures. First, both <u>actual</u> and <u>ideal</u> self-scores are considered in a traditional way. Second, they are integrated into the Interactive model. In order to thoroughly test hypothesis 1, thirty-two dissimilarity scores were computed. Interactive scores between self-images and the eight brand-images were generated, *i.e.*, IN_s. Each profile contained the same twenty attribute dimensions. A perfect congruence between the same profiles would be represented by $IN = 20 \times [(2 \times 7) - 7]7$, *i.e.*, 980. Conversely, a total incongruent situation would be: $IN = 20 \times [(2 \times 1) - 7]7$, *i.e.*, -700. That is, the higher the scores, the closer are the profiles.

Table 7.6 shows the numeric expression of "*IN*" scores ordered by preference value. To better test hypothesis 1 a second order difference test was suggested. The difference between *IN1* and *IN4* for buyers high in risk perception minus the same discrepancy for buyers low in risk perception should allow us to evaluate whether a difference in congruence discrepancy exists between buyers high and low in risk perception, according to brand preference.

From the *IN* scores for buyers perceiving <u>psychosocial</u> risk, it is possible to observe a marked tendency for the preferred brand to be more congruent than the rest in all groups. Another verifiable tendency is that buyers high in

risk perception tend to exhibit a closer association (*i.e.*, tighter congruence) between self-image and brand-image ordered by preference, than do their counterparts buyers low in risk perception. This is true for all but the *IN4* in the printer profile.

By looking at the dissimilarity scores of first preferred brands and least preferred brands *(IN1 - IN4)* a tendency for the high-risk group to show a greater discrepancy than the low-risk group can be observed. A second order difference score (*i.e.*, *(IN1 - IN4)high-risk* - *(IN1 - IN4)low-risk)* reflects numerically the discrepancy between buyers high and low in risk perception. For the printer profile this difference was much greater than for the computer profile. The small difference between risk groups in the computer profile raises a concern that the difference we are looking for may not be significant. If this were so, there would be only limited (*i.e.*, only the printer profile) support for hypothesis 1.

When comparing *IN* scores of buyers who perceive economic risk, with buyers that perceive psychosocial risk, the patterns are basically the same. There is a marked tendency in all of the four groups for the preferred brand to be more congruent than the other three brands. Once more there is a tendency for the high-risk group to show a greater discrepancy amongst dissimilarity scores of *(IN1 - IN4)* than is true in the low-risk group. The only observable difference in pattern is with regard to the *IN4* scores, which were greater for buyers who perceive low-risk than for buyers perceiving high-risk, in both product profiles.

The second order difference scores showed the same pattern as for the psychosocial risk group. While this is

so, the difference between risk groups in the computer profile is now twice as large as it was for the group of respondents who perceived psychosocial risk. Larger second order difference scores may indicate that the difference we are looking for is significant. If this happens, it would provide ample support for hypothesis 1, amongst buyers who perceive economic risk.

Table 7.6. - Dissimilarity Scores on Self-image and Brand-image Varying
in Preference Value and Perceived Risk Type and Level.

dissimilarity	computer profile		printer profile	
	high risk	low risk	high risk	low risk
Psychosocial risk				
1. IN1 (first preference)	698	595	603	522
2. IN2 (second preference)	610	512	562	500
3. IN3 (third preference)	557	456	448	387
4. IN4 (fourth preference)	414	355	312	333
5. (IN1 - IN4)	284	240	291	189
6. (IN1 - IN4) - (IN1 - IN4) high-risk low-risk	44		102	
Economic risk				
7. IN1 (first preference)	644	601	584	536
8. IN2 (second preference)	610	481	559	503
9. IN3 (third preference)	526	475	377	369
10. IN4 (fourth preference)	331	373	297	353
11. (IN1 - IN4)	311	228	287	183
12. (IN1 - IN4) - (IN1 - IN4) high-risk low-risk	83		104	

Note: Ordered by brand preference.
IN_i = Interactive congruence score between self-image and brand image.
(IN1 - IN4) = difference between IN1 and IN4.
(IN1 - IN4) - (IN1 - IN4) = second order difference score.

Figures 7.5 through 7.8 display graphically the contents of Table 7.6. Considering the changing magnitudes and the direction followed by the *IN*s at each profile allows hypothesis 1 to be evaluated. Figure 7.5 presents the congruence discrepancy for buyers who perceive psychosocial risk in respect of computer purchasers. This figure indicates that the high-risk group is positioned above the low-risk group. This means that the group high in risk perception presents a closer self-congruence than does the group low in risk perception. This is true for all brand preferences. H1 denotes the high-risk group will seek congruence for their preferred brand. This is true, but congruence also exists for their least preferred brands
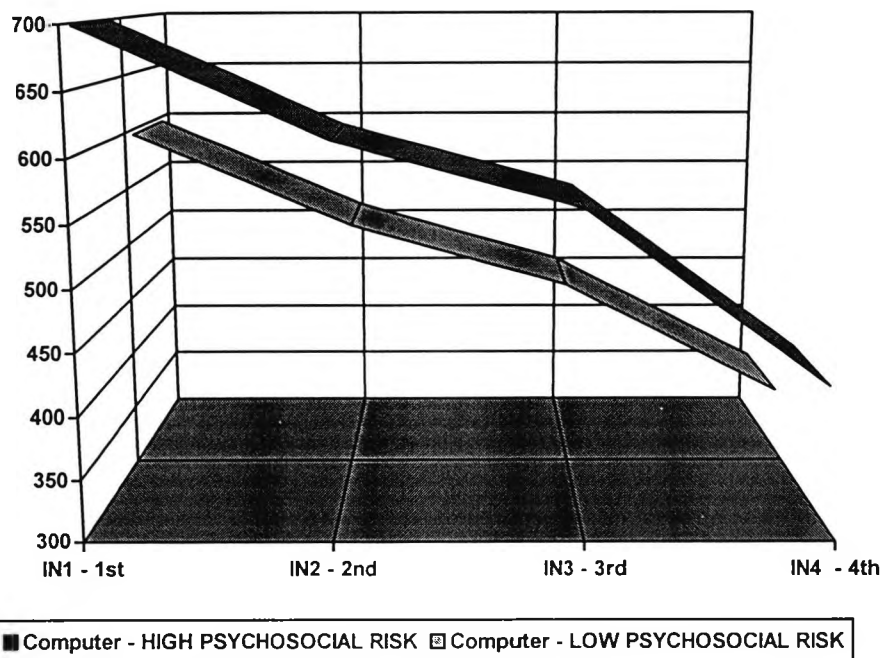
Figure 7.5. - Mean discrepancy between self-image and computer brand-image varying in preference value and perceived psychosocial risk level.

Figure 7.6 shows the self-congruence discrepancy for buyers perceiving psychosocial risk in respect of printers. The pattern generated in the figure is similar to the previous one except, in the case of the least preferred

brand which presents closer congruence for the low-risk group. In the other three preference options, the high-risk group exhibited a closer self-congruence than the low-risk group. The greatest difference amongst risk groups occurs for the most preferred brands. H1 postulates that buyers high in risk perception will seek congruence for their preferred brand. In this case, they did. However, buyers low in risk perception also sought congruence.
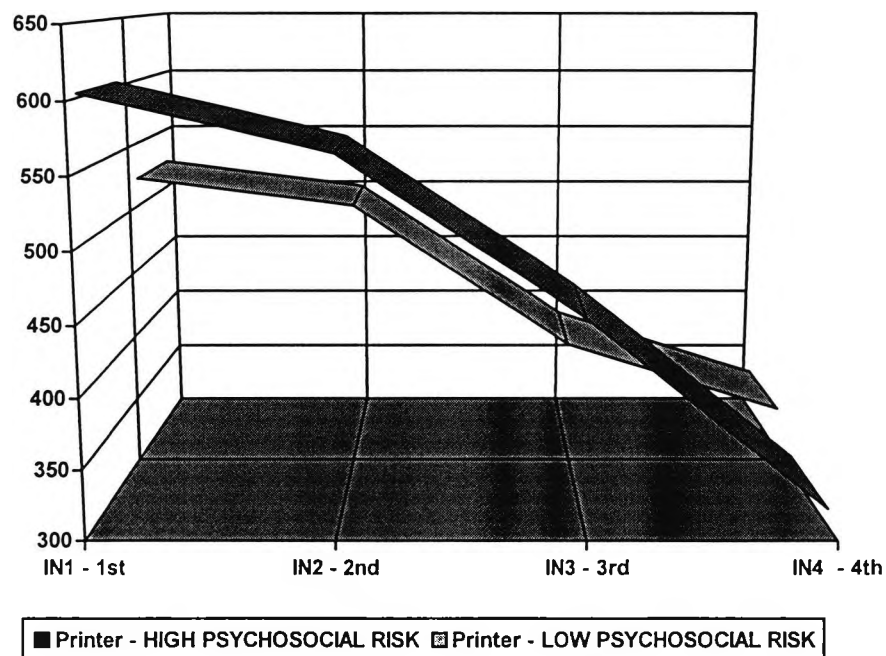
Figure 7.6. - Mean discrepancy between self-image and printer brand-image varying in preference value and perceived psychosocial risk level.

Figure 7.7 presents the congruency discrepancy for buyers perceiving economic risk in respect of computers. The pattern shown in this figure is not much different from what has been already presented for buyers perceiving psychosocial risk. Once again, the high-risk group presented a closer congruence for their three first preferred brands as compared to the low-risk group. Only the least preferred brands have different results, with the low-risk group displaying a tighter congruence than the high-risk group. Both risk groups showed a pattern which

supports the self-congruity hypothesis, with the high-risk group presenting a slightly closer congruence for three out of four brands compared to the low-risk group. This pattern supports H1, but not as strongly hoped for.
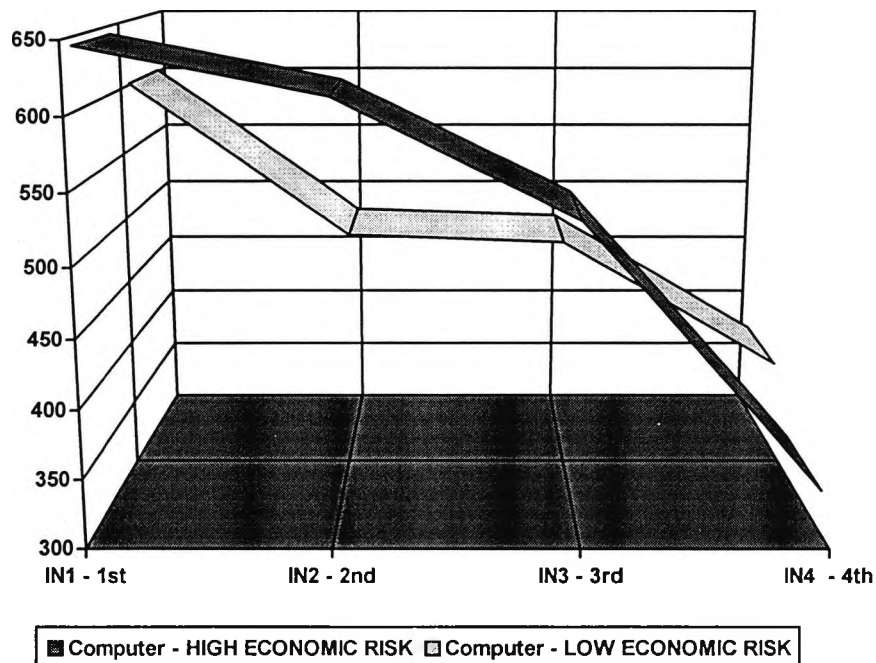
Figure 7.7. - Mean discrepancy between self-image and computer brand-image varying in preference value and perceived economic risk level.

Figure 7.8 shows the self-congruency discrepancy for buyers perceiving economic risk in respect to printers. The pattern in this figure is almost a perfect replica of the one generated for computer buyers. It supports for this group of respondents the same results as for the previous group (i.e., computer respondents). Thus, Figure 7.8 supports H1.
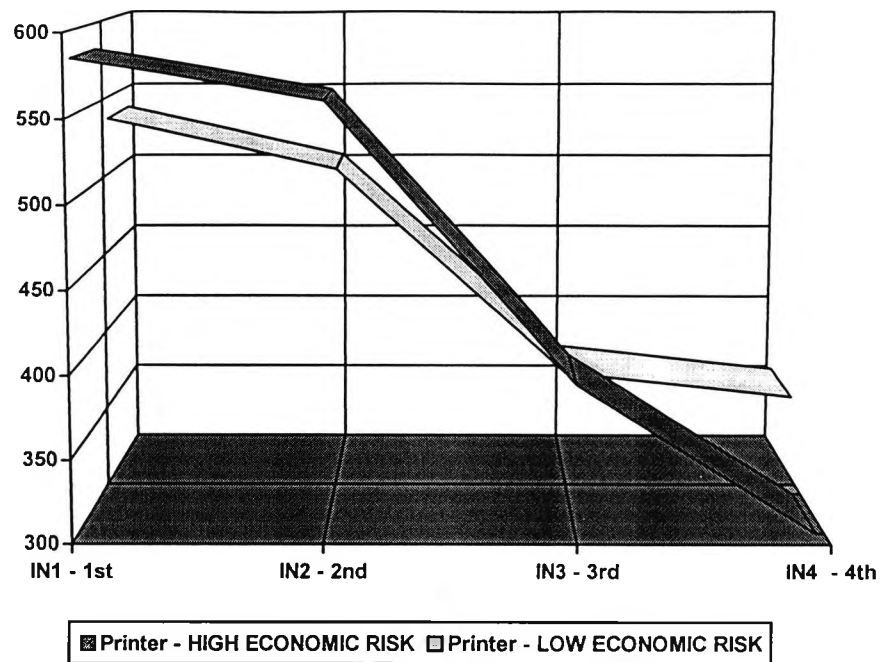
Figure 7.8. - Mean discrepancy between self-image and printer brand-image varying in preference value and perceived economic risk level.

To rely solely on graphical representations to test a hypothesis is the academic equivalent of walking on thin ice. On the other hand, a graph provides an easy and eye catching method of displaying information that can help evaluate in a qualitative way if the desired pattern is there or not. It is for this reason that a series of different and complementary ways of looking at H1 have been presented to the reader, but they do not represent the supporting evidence in its entirety.

From graphical representations, it can be seen that both risk groups sought self-congruence. The high-risk groups generally presented a closer congruence with their preferred brands than the low-risk groups. It also became clear that the difference in congruence level between buyers high and low in risk perception was not great. However, it is not possible to measure this difference graphically. This is why a significance test is presented

in Table 7.7, where comparisons have been computed between *IN*s for the first and second preferred brands, the second and third preferred brands, the third and fourth preferred brands, and the first and last preferred brands.

The difference in the congruence spectrum for the four brands was also compared between risk groups. For this to happen, the data was levelled to the same dimension. Positive coefficients are expected when using the Interactive congruence model because a high congruity level (*i.e.*, <u>high</u> score) is expected to go with a <u>high</u> preference (Sirgy and Danes 1982).

The significance tests show a clear picture of self-congruence dissimilarities amongst product profiles analysed by perceived risk type and level. For buyers who perceive <u>psychosocial</u> risk who assessed the computer profile, comparisons were statistically significant for both high and low-risk groups. This means that both risk groups tended to seek congruence for their <u>preferred</u> brands. However, no statistical significance could be demonstrated for the second order difference. That is, no significant difference in congruence seeking patterns was found between high and low-risk groups. This finding does not support hypothesis 1.

Comparisons assessing printer profile for buyers perceiving <u>psychosocial</u> risk result in a different pattern to that from the computer profile. First, the high-risk group showed a clear tendency of pursuing congruence for their <u>preferred</u> brands. The same can not be said for the low-risk group. Comparisons *IN1 : IN2* and *IN3 : IN4* were non-significant, which indicates the absence of a clear pattern of pursuing congruence across the brand preference spectrum. The second order difference comparison indicates

statistical significance. This suggests that a difference exist between risk groups. The results of these tests are consistent with the hypothesis.

In relation to economic risk, results of comparisons from the high-risk group who assessed the computer profile were all statistically significant. This result indicates that there exists a clear tendency to seek congruence for preferred brands. This tendency was not clear for the low-risk group. Comparing *IN2 : IN3* did not show statistical significance and produced an irregular pattern of congruence. The second order difference comparison did show statistical significance, which indicates that a difference exists between risk groups. This finding supports hypothesis 1.

For buyers perceiving high economic risk who assessed the printer profile, all comparisons were statistically significant. This means that they tended to seek congruence for their preferred brands. This tendency was only partially true for the low-risk group. Comparison *IN3 : IN4* did not show statistical significance. However, the low-risk group did seek congruence for the top three preferred brands. The second order difference comparison did show statistical significance which again suggests that a difference exists between risk groups. The results of these tests are again, supportive of Hypothesis 1.

Table 7.7. - Significance Tests on Dissimilarity Scores Varying in Preference Value and Perceived Risk Type and Level.

comparison	COMPUTER PROFILE		PRINTER PROFILE	
	high-risk	low-risk	high-risk	low-risk
	t score	t score	t score	t score
Psychosocial risk				
IN1 : IN2	2.2**	3.4***	1.7*	1.2 (n.s.)
IN2 : IN3	1.7*	2.1**	3.9***	3.4***
IN3 : IN4	2.7**	3.7***	4.5***	1.5 (n.s.)
IN1 : IN4	6.3***	5.7***	6.2***	5.4***
(IN1 - IN4)- (IN1 - IN4) high-risk low-risk	0.9 (n.s.)		2.1*	
Economic risk				
IN1 : IN2	2.0*	3.9***	1.7*	2.3**
IN2 : IN3	2.7***	0.3 (n.s.)	3.8***	3.4***
IN3 : IN4	3.7***	2.5**	2.1**	1.2 (n.s.)
IN1 : IN4	6.4***	5.3***	6.2***	5.4***
(IN1 - IN4)- (IN1 - IN4) high-risk low-risk	1.7*		2.5**	

note:
IN*i* = Interactive congruence score between self-image and brand image by preference
(IN1 - IN4) = difference between IN1 and IN4.
t = t-test.
* significance at or beyond $p < 0.10$
** significance at or beyond $p < 0.05$
*** significance at or beyond $p < 0.01$.

After the extensive analysis performed to test hypothesis 1, the reader may have lost track of which tests supported and which did not H1. Therefore, an overall comment on the findings will now be presented. There is a marked tendency for the brand of preference to be more congruent than the other brands in the set. Another clear tendency is that the high-risk group shows a closer

congruence for their preferred brands than does the low-risk group. The high-risk group also exhibits a greater discrepancy in terms of congruence, along the brand preference spectrum than does the low-risk group. Finally, we find evidence of a difference between buyers perceiving high-risk and buyers perceiving low-risk in terms of self-congruence appreciation. Thus, based on the information provided it is not possible to refute hypothesis 1. Indeed, with the exception of psychosocial risk in respect of computers, significant second-order differences support the hypothesis.

Before moving on to the next set of hypotheses, it is necessary to clarify points which may have emerged from the reading of this section. First, one may query why the high-risk group shows more congruence than does the low-risk group? The first point worth bearing in mind is that the risk under discussion is what Bettman (1973) calls *'inherent'* risk (*i.e.,* the risk endemic to a certain product class). Brand risk, on the other hand, is what the same author calls a *'handled'* risk, and is expected to be inversely related to brand closeness. This approach will be explained in the next section of this text where H2 and H3 are tested.

According to Randall (1997), a brand name is normally most relied upon when buyers are unfamiliar with the product field, or perceive risk. As the respondents in this research survey were all IT professionals, it is expected that they are familiar with both of the product fields in this research (*i.e.,* computers and printers). This leaves only one option; risk perception in the purchase. This agrees with Senn and Gibson (1981), who consider purchase of IT products to be high-risk even when they are being replaced. Greatorex and Mitchell (1991) support Senn and

Gibson's assertion saying that this situation results from the fast pace of development in the IT industry.

Another important point is that this study does not deal with the entire brand spectrum in the market. Nor does it look at good versus bad brands; instead marginal effects between four good brands are focussed on. Brands were selected after exploratory research which aimed to uncover prominent brands in the market, most likely to be selected in a real purchase situation (*i.e.*, brand approach).

According to Sirgy (1984), the resultant motivation towards brand approach or avoidance is postulated to be a linear combination of self-esteem and self-consistency motivation. From this combination, positive self-congruity is the only solution capable of generating brand approach. To achieve a positive self-congruence situation, the set of brands must be at least familiar to all respondents. Thus, when four prominent brands are put together in a set, it is likely that they will transmit a trustworthy image to all types of buyers minimising differences in perception.

Finally, if H1 is true, as it seems to be, then self-congruence ought to influence the final choice decision. In other words, it should have an impact on the order of brand preference and differently for the high-risk group than for the low-risk group. The differences found were not as large as we would like them to have been. It could be that the hypothesis is asking too much, or even congruence is a too complex concept. Nonetheless, differences were still statistically significant to a point where H1 can not be refuted.

7.3. - Perception of Risk and the Brand Value Proposition (Hypotheses 2 and 3)

> *H2- Buyers who perceive high levels of psychosocial risk will tend to value highly emotional brand signals, as compared to buyers who perceive low levels of psychosocial risk.*

> *H3- Buyers who perceive high levels of economic risk will tend to value highly functional brand signals, as compared to buyers who perceive low levels of economic risk*

If these hypotheses are not to be refuted, the pattern anticipated and described in Table 7.8 must be true. H2 and H3 were developed taking into account variations among different risk patterns, specifically in terms of the level of appreciation of psychosocial and economic risks. Thus, the different risk groups had to be segmented and separated. Using factors, which emerged in chapter 6, the variables that integrated each factor were re-coded into two groups. The first group represents buyers perceiving psychosocial risk and the second group represents buyers perceiving economic risk.

After re-coding each factor (*i.e.,* economic and psychosocial factors), the *'mean'* score was used as a division line to separate buyers perceiving high and low-risk. Thus, four distinct groups were identified. They were:

- high economic and psychosocial risk group;
- high psychosocial and low economic risk group;
- low psychosocial and high economic risk group; and
- low psychosocial and economic risk group.

Classifying and identifying the above four groups made it possible to anticipate buyer perception in a way coherent with H2 and H3. However, before describing the anticipated patterns in Table 7.8, the same procedure to identify and integrate the variables that made up each brand factor (*i.e.*, emotional and functional dimensions) was performed.

Table 7.8. - Conditions for Confirming Hypotheses 2 and 3.

comparisons n=151	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk n=66	high P.S. risk low Eco. risk n=29	low P.S. risk high Eco. risk n=26	low P.S. risk low Eco. risk n=30
brands, importance, and overall score:				
- emotional dimension (mean)	High	High	Low	Low
- functional dimension (mean)	High	Low	High	Low
r (closeness by emotional dimension)	High	High	Low	Low
r (closeness by functional dimension)	High	Low	High	Low
r (riskiness by emotional dimension)	High	High	Low	Low
r (riskiness by functional dimension)	High	Low	High	Low

note:
P.S. = psychosocial risk
Eco. = economic risk
r = spearman correlation.
High (mean scores or correlation coefficients) should be higher than the ones marked with a **Low**.

A three-stage analysis tested the conditions anticipated in Table 7.8. First, a comparison based on mean

scores was performed to ascertain whether or not the conditions in Table 7.8 had been met. Second, a correlational analysis was undertaken to verify the direction of the coefficients as well as statistical significance. Last, a correlation procedure known as the cross-lagged-panel was carried out using the overall scores in both product profiles. The results from all three stages must agree with conditions anticipated in Table 7.8.

Tables 7.9 and 7.10 explore mean comparisons among different groups, with regard to their emotional and functional brand imagery perception, moderated by their perception of risk. The results of these tables are shown in two dimensions: the <u>emotional</u>, representing the emotional portion of each brand's image and the <u>functional</u>, representing the functional portion of each brand's image.

Moreover, an average brand score has been calculated to provide an overall brand score. Another piece of information in both tables is the importance score, a representation of the importance scale on the questionnaire. This scale was developed to collect data about brand attribute importance. Respondents were asked to imagine a brand and how important it was for it to score highly on each of the twenty attributes that constituted the scale.

Table 7.9 presents the computer profile comparisons. Regarding the <u>emotional</u> dimension, all brands except HP exhibit the pattern anticipated in Table 7.8. Both the overall brand and the importance scores fit the expected pattern. In terms of the <u>functional</u> dimension, all brand scores are consistent with Table 7.8 and again the overall brand and the importance scores sustain the anticipated pattern. With only one comparison of the six performed in

the <u>emotional</u> dimension not supporting H2 and all six comparisons in the <u>functional</u> dimension supporting H3, Table 7.9 shows evidence in support of both hypotheses.

Table 7.9. - Mean Comparisons Amongst the Different Perceived Risk Profiles Regarding Emotional and Functional Brand Imagery - Computer Respondents.

comparisons computer profile (n = 71)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
emotional dimension:				
Compaq	5.34	5.58	4.70	4.71
IBM	5.01	5.03	4.01	4.51
Fujitsu	4.52	4.15	3.94	4.05
HP	<u>5.06</u>	<u>4.44</u>	<u>4.42</u>	<u>4.61</u>
overall brand score	4.98	4.80	4.26	4.47
importance score	5.32	5.20	4.90	4.56
functional dimension:				
Compaq	5.76	4.78	5.29	4.79
IBM	5.62	4.35	4.96	4.70
Fujitsu	4.97	4.40	5.28	4.14
HP	<u>5.60</u>	<u>4.88</u>	<u>5.32</u>	<u>4.91</u>
overall brand score	5.49	4.60	5.21	4.63
importance score	6.29	6.18	6.50	6.12

note:
P.S. = psychosocial risk
Eco. = economic risk

Comparisons similar to those shown in Table 7.9 can be found in Table 7.10 with regard to the printer profile. The scores reported in Table 7.10 all support of H2 and H3, although the discrepancy among buyers high and low in

psychosocial risk perception in the emotional dimension is small. This can give rise to doubts about whether or not these emotional brand-images are really being perceived differently by the various groups of buyers and if so, how different they are. Based on the information provided by Table 7.10, if emotional brand-image is to be considered as a differentiating brand device (de Chernatony, 1993), further investigation must take place.

Table 7.10- Mean Comparisons Amongst the Different Perceived Risk Profiles
 Regarding Emotional and Functional Brand Imagery -
 Printer Respondents.

comparisons printer profile (n = 80)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
emotional dimension:				
Epson	4.74	4.23	4.02	4.04
Texas	4.35	4.16	4.00	3.88
HP	4.97	4.87	4.31	4.60
Xerox	<u>4.94</u>	<u>4.97</u>	<u>4.28</u>	<u>4.56</u>
overall brand score	4.75	4.56	4.15	4.27
importance score	5.23	5.52	4.95	5.01
functional dimension:				
Epson	5.27	4.01	5.59	4.10
Texas	4.68	3.79	5.16	3.79
HP	5.51	4.36	6.32	4.69
Xerox	<u>5.15</u>	<u>4.26</u>	<u>6.05</u>	<u>4.42</u>
overall brand score	5.15	4.10	5.78	4.25
importance score	6.55	6.36	6.63	6.30

note: P.S. = psychosocial risk
         Eco. = economic risk

Although the importance scores in both tables 7.9 and 7.10 support H2 and H3, the differences in scores between buyers high and low in risk perception do not show convincing evidence of the usefulness of perceived risk type and level as a segmentation approach. However, since these scores are mean representations, further analysis is needed before any conclusive assertion can be made.

The overall brand score brand scores show a clearer representation of the anticipated pattern with a larger difference between high and low-risk perception, as compared to the importance scores, especially in the functional dimension. The data presented in tables 7.9 and 7.10 indicate that buyers both high and low in economic risk perception show greater difference in perception when confronted with functional signals, than buyers high and low in psychosocial risk perception faced with emotional brand signals.

According to Levitt (1983), a brand is made up of a bundle of values; some are core values and others more peripheral. Exploratory research has identified what these values are (*e.g.*, they can be emotional and/or functional in nature). However, to test H2 and H3 thoroughly the relative importance of brand values is needed, particularly in relation to brand closeness and riskiness since these perceptions are believed to affect buying decisions (Gordon 1991, Cox 1967f).

In tables 7.11 and 7.12 correlations between both brand-image dimensions (*i.e.*, emotional and functional) and brand closeness and riskiness are reported for the different perceived risk profiles. Up to this point, the perceived risk construct used to segment respondents in this research is that characterised by Bettman (1973) as

inherent risk (*i.e.*, the risk endemic to a certain product class). Brand riskiness, on the other hand, is what the same author has called a handled risk measure (*i.e.*, the risk associated with choosing a certain brand).

An individual may feel there is a great deal of risk associated with a certain product class. This is true for computers, for example. Due to a high inherent risk perception, this same individual may have a favourite brand, which he or she may buy with confidence. Thus, having a high inherent risk perception does not mean someone must also have a high handled risk perception towards all market offerings. It follows then, that it is possible to understand that a thorough analysis involving perceived risk should explore both risk perspectives. For this reason, perceived risk was operationalised in various forms in this research. (Readers are referred to Chapter 5 − 'Methodological Issues' for a detailed discussion of perceived risk operationalisation).

Gordon (1991) has described the concept of closeness to a brand as a complex emotion made up of past and/or present experiences of the brand, strength of feeling and inclination to use, buy or try. Based on this definition, it is reasonable to expect brand closeness to be negatively correlated with brand risk perception. (For a detailed discussion of the concept of risk, readers are referred to Chapter 2 − 'Review of the Literature'). In other words, the closer the buyer feels to a brand, the less risky the brand is perceived to be. Thus, by correlating emotional and functional brand-images with such variables related to buying decisions (*i.e.*, closeness and riskiness), it is possible to verify direction and statistical significance, and see whether the results of these correlations follow the patterns predicted in Table 7.8.

Table 7.11 exhibits a wide range of correlations that aim to compare brand closeness and riskiness with emotional and functional brand imagery for the different groups of respondents segmented by level of psychosocial and economic risk perception. These respondents were those who answered the computer assessment questionnaire. Besides the four computer brand-images, each comparison set will also have an overall brand score that is a representation of the four brands in question. The overall brand score was calculated by integrating all variables from the four brands as if they belonged to one brand only.

Before moving on to the correlations *per se*, the use of the Spearman's correlation coefficient (r_s) should be noted. The Spearman correlation was chosen instead of Pearson's because this method does not necessitate the observations to be sampled from a bivariate normal distribution, as does the Pearson's method (Siegal and Castellan 1988). Here, the sub-samples (*i.e.*, high P.S. risk/high Eco. risk, low P.S. risk/high Eco. risk, high P.S. risk/low Eco. risk, and low P.S. risk/low Eco. risk) originate from the computer respondents' profile and are small; thus a normal distribution is unlikely to exist. Moreover, the efficiency of the Spearman correlation coefficient is about 91% when compared with the most powerful parametric correlation (*i.e.*, Pearson's product-moment correlation coefficient), making it very reliable (Siegal and Castellan 1988).

The first comparisons concern correlations between brand closeness and <u>emotional</u> brand-image. Among these comparisons, the one related to the Compaq brand did not show the expected pattern. All four risk groups show significant correlation at the same level. This is inconsistent with what was anticipated by Table 7.8.

Coefficients from IBM and HP brands however, are within the anticipated parameters. The groups high in psychosocial risk present a significant correlation, while the low psychosocial risk groups do not. For the Fujitsu brand, only the high psychosocial risk group exhibited a significant correlation while for the overall brand the only non-significant score was the one concerning the low psychosocial/high economic risk group. This set of correlations partially supports H2.

The second set of comparisons is between brand closeness and <u>functional</u> brand-image. Compaq, HP, and overall brand yielded the pattern predicted in Table 7.8. Coefficients for IBM were also supportive, with the exception of the score from the low psychosocial/high economic risk group. Fujitsu scores were inconsistent. This set of correlations was generally supportive of H3.

The third set has to do with correlations between brand riskiness and <u>emotional</u> brand-image. According to risk-taking theory (MacCrimmon and Wehrung, 1986), brand risk perception should be inversely related to a positive brand-image. Thus, a negative score is expected from all correlations involving brand risk perception. In the third set of comparisons all coefficients are negative; this fact corroborates with theory. Another point to be made is that all comparisons except the one concerning the Compaq brand are supportive of H2. With four out of five comparisons supporting H2, this set of comparisons is in line with the predicted pattern.

The last set of comparisons in Table 7.11 makes correlations between brand riskiness and <u>functional</u> brand-image. Again, the scores in this set are expected to be negative, and are. Comparisons generated by data on Compaq,

HP, and overall brand are coherent with H3. Fujitsu also presented a positive pattern, supporting H3, as both coefficients from the high economic risk groups were more statistically significant than were those from the two low economic risk groups. The IBM brand was only partially supportive of H3 as it produced two scores within the expected pattern and two which were not. Again, with four out of five comparisons in this last set comparing favourably with Table 7.8, H3 is supported.

Correlations between overall brand closeness and riskiness, as well as between overall emotional and functional brand imagery, are also presented in Table 7.11. The pattern of these correlations is that expected. These scores were used in a further analysis of H2 and H3.

Table 7.11- Correlations for the Different Perceived Risk Profiles Regarding Brand Closeness, Brand Riskiness, Emotional and Functional Brand Imagery - Computer Respondents.

comparisons computer profile (n = 71)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
r_s closeness by emotional-image: Compaq	0.59***	0.66**	0.52**	0.44**
IBM	0.63***	0.79**	0.21	0.37*
Fujitsu	0.21	0.64**	0.34	0.27
HP	<u>0.59***</u>	<u>0.61*</u>	<u>0.30</u>	<u>0.24</u>
overall brand score	0.50**	0.54*	0.37	0.36*

Table 7.11. - Continued.

comparisons computer profile (n = 71)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
r_s closeness by functional-image:				
Compaq	0.60***	0.30	0.66***	0.26
IBM	0.55***	0.05	0.58**	0.52***
Fujitsu	0.31	0.32	0.35	0.34*
HP	0.71***	0.38	0.75***	0.25
overall brand score	0.53***	0.18	0.58**	0.25
r_s riskiness by emotional-image:				
Compaq	-0.57***	-0.59*	-0.45*	-0.43**
IBM	-0.60***	-0.54*	-0.10	-0.29
Fujitsu	-0.46**	-0.87***	-0.17	-0.38*
HP	-0.47**	-0.64**	-0.03	-0.24
overall brand score	-0.65***	-0.70**	-0.29	-0.36*
r_s riskiness by functional-image:				
Compaq	-0.59***	-0.25	-0.59**	-0.32
IBM	-0.53***	-0.12	-0.42	-0.43**
Fujitsu	-0.48**	-0.54*	-0.72***	-0.37*
HP	-0.59***	-0.42	-0.50*	-0.12
overall brand score	-0.59***	-0.16	-0.53**	-0.32
r_s closeness by riskiness: overall score	-0.87***	-0.80***	-0.95***	-0.77***
r_s emotional-image by functional-image: overall score	0.76***	0.73***	0.61**	0.60***

note: P.S.   = psychosocial risk and Eco. = economic risk
*   = p<0.10
**   = p<0.05
***   = p<0.01.

Table 7.12 replicates the structure of Table 7.11 but contains information about respondents who answered the printer assessment questionnaire. The first set of comparisons has to do with correlations between brand closeness and emotional brand-image. Among these

comparisons, only that related to the Texas brand did not show the expected pattern with, none of the four risk groups showing significant correlations. Coefficients for Epson, HP, Xerox, and overall brand are within the anticipated pattern. That is, buyers who perceive high psychosocial risk present a significant correlation while buyers perceiving low psychosocial risk correspond with a smaller correlation or none at all. This set of comparisons is supportive of H2.

The second set of comparisons is made between brand closeness and <u>functional</u> brand-image. Epson, HP, and overall brand followed the pattern predicted in Table 7.8. Coefficients for Texas and Xerox were partially supportive of the predicted pattern, with the exception of a score from one of the low economic risk groups, which correlated better than expected. This set of correlations supports H3.

Table 7.12- Correlations for the Different Perceived Risk Profiles Regarding Brand Closeness, Brand Riskiness, Emotional and Functional Brand Imagery - Printer Respondents.

comparisons printer profile (n = 80)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
r_s closeness by emotional-image: Epson Texas HP Xerox overall brand score	0.71*** 0.22 0.48*** 0.41** 0.41**	0.65*** 0.31 0.47** 0.73*** 0.48**	0.38 0.42 0.36 0.44 0.37	0.38* 0.22 0.27 0.35* 0.32

Table 7.12. - Continued.

comparisons printer profile (n = 80)	PERCEIVED RISK PROFILES			
	high P.S. risk high Eco. risk	high P.S. risk low Eco. risk	low P.S. risk high Eco. risk	low P.S. risk low Eco. risk
r_s closeness by functional-image:				
Epson	0.64***	0.05	0.79***	0.37*
Texas	0.39**	0.18	0.52*	0.34*
HP	0.52***	0.18	0.83***	0.30
Xerox	0.31*	0.58**	0.64**	0.23
overall brand score	0.56***	0.12	0.72**	0.08
r_s riskiness by emotional-image:				
Epson	-0.66***	-0.54**	-0.30	-0.55***
Texas	-0.41**	-0.31	-0.61**	-0.19
HP	-0.45**	-0.50**	-0.37	-0.22
Xerox	-0.31*	-0.64***	-0.63**	-0.42**
overall brand score	-0.46***	-0.65***	-0.43*	-0.31
r_s riskiness by functional-image:				
Epson	-0.65***	-0.08	-0.73**	-0.44**
Texas	-0.56***	-0.22	-0.34	-0.29
HP	-0.44**	-0.35	-0.72**	-0.41**
Xerox	-0.42**	-0.46*	-0.76***	-0.18
overall brand score	-0.59***	-0.17	-0.58*	-0.21
r_s closeness by riskiness: overall score	-0.70***	-0.50***	-0.99***	-0.30
r_s emotional-image by functional-image: overall score	0.80***	0.48***	0.80***	0.74***

note: P.S.   = psychosocial risk and   Eco. = economic risk
*   = p<0.10
**   = p<0.05
***   = p<0.01

The third set of comparisons in Table 7.12 has to do with correlations between brand riskiness and emotional brand-image. All coefficients in this third set of

comparisons are negative, as expected. HP and overall brand present the foreseen pattern. The Epson brand was generally supportive, as three of its four scores exhibited the expected pattern, but the score for the low psychosocial and economic risk group correlated too well as compared to the high-risk groups. This is inconsistent with what had been anticipated. Scores from Texas and Xerox were mostly incompatible with H2. With two comparisons in favour and two against supporting H2, and only one generally supporting this hypothesis, it is safer to say that no specific decision could be drawn in favour or against H2 by the third set of comparisons made in Table 7.12.

The last set of comparisons in Table 7.12 relates to correlations between brand riskiness and <u>functional</u> brand-image. Again, the scores in this set are expected to be negative, and are. Comparisons regarding Xerox and overall brand were coherent with H3. Epson, Texas and HP also present a pattern supporting H3. For these three brands, three out of four scores were consistent with the predicted pattern. With the majority of comparisons comparing favourably to what has been anticipated in Table 7.8, support for H3 is evident.

Correlations between overall brand closeness and riskiness as well as between overall <u>emotional</u> and <u>functional</u> brand imagery were also demonstrated in Table 7.12. These scores were calculated for further analysis of H2 and H3.

Up to this point in the analysis, all comparisons were performed based on differences among the various perceived risk profiles. From this point on, the analysis moves to a different perspective. Examining patterns of correlations may enhance the explanatory power of correlational

research. One technique is called the *cross-lagged-panel* correlation procedure. The general strategy of this procedure is to obtain several correlations within the same respondent group (*i.e.*, here, the same perceived risk profile), and then, based on coefficient level and direction, determine what might lead to what (Eron *et al.*, 1972; Kantowitz *et al.*, 1991).

Empirical evidence, which supports hypotheses 2 and 3, has been presented and discussed in earlier parts of this chapter. However, this analysis could be improved by determining whether or not either brand closeness or riskiness are affected by <u>emotional</u> or <u>functional</u> brand-image and if so, which causes most effect? By learning which type of image most influences brand perception (*i.e.*, at the level of closeness and riskiness), it might be possible to develop brand strategies in order to communicate better with target customers. In addition, comparing the patterns and levels of statistical significance in the various cross-lagged-panels can test H2 and H3.

Figure 7.9 shows the cross-lagged correlations for the group of buyers perceiving overall high-risk (*i.e.*, high psychosocial <u>and</u> high economic risks) asked about computers. The figure shows all six comparisons correlating in the right direction and significantly. Functional brand-image and emotional brand-image affect both brand closeness and brand riskiness. These results are expected, as this group of respondents perceives simultaneously high psychosocial and economic risk.

brand
closeness ——————— -0.87*** ——————— brand riskiness

-0.65***

0.50**

-0.59***

0.53***

emotional ——————— 0.76*** ——————— functional
brand-image   brand-image

Figure 7.9. -   Correlations amongst brand closeness, brand riskiness, the emotional
portion of brand-image, and the functional portion of brand-image for
individuals perceiving high psychosocial and economic risk
who responded to the computer assessment questionnaire.

Figure 7.10 shows the cross-lagged correlations for the group of buyers perceiving high psychosocial and low economic risks who answered the computer questionnaire. This figure exhibits a clear tendency towards emotional brand-image being the important factor affecting perception (*i.e.,* in terms of brand closeness and riskiness) for this group. Functional brand-image did not show any significant association. Again, this is the pattern expected for the group of buyers perceiving high psychosocial and low economic risks.

brand
closeness ——————— -0.80*** ——————— brand riskiness

-0.70**

0.54*

-0.16

0.18

emotional ——————— 0.73*** ——————— functional
brand-image   brand-image

Figure 7.10.-   Correlations amongst brand closeness, brand riskiness, the emotional
portion of brand-image, and the functional portion of brand-image for
individuals perceiving high psychosocial and low economic risks
who responded to the computer assessment questionnaire.

Figure 7.11 presents the cross-lagged correlations for buyers perceiving low psychosocial and high economic risks who responded to the computer assessment questionnaire. The results of correlations exhibited in Figure 7.11 show the strong influence of <u>functional</u> brand-image in brand closeness and riskiness for this group of respondents. Once more, these results agree with the characteristics of the respondents low in psychosocial and high in economic risk perception.

Even though the correlations with regard to <u>emotional</u> brand-image were smaller and statistically non-significant as compared to the correlations concerning <u>functional</u> brand-image, they still exhibit a reasonable score suggesting that for this group of respondents, they may affect brand perception. This is particularly true when this data is compared to the extremely low <u>functional</u> brand-image scores in the previous figure, which suggested no influence whatsoever.
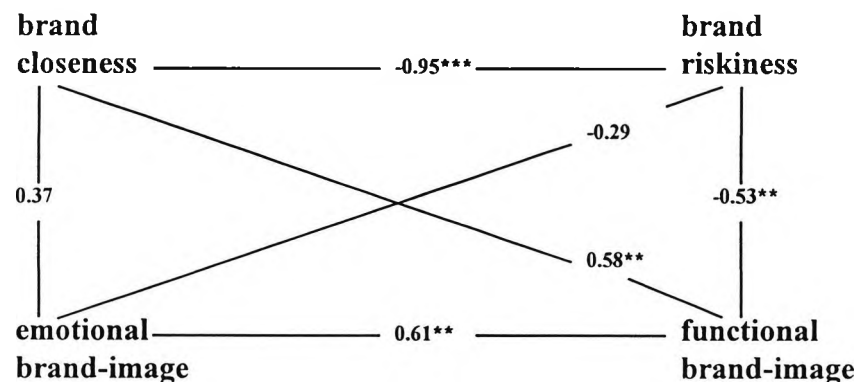
Figure 7.11.- Correlations amongst brand closeness, brand riskiness, the emotional portion of brand-image, and the functional portion of brand-image for individuals perceiving <u>low psychosocial and high economic risks</u> who responded to the computer assessment questionnaire.

Figure 7.12 portrays cross-lagged correlations for buyers who perceive overall low-risk and were asked about computers. Their scores are lower than the overall high-

risk group, but it is possible to see that both brand-images, especially the <u>emotional</u>, continue to offer evidence of influence on brand perception (*i.e.*, in terms of brand closeness and riskiness).
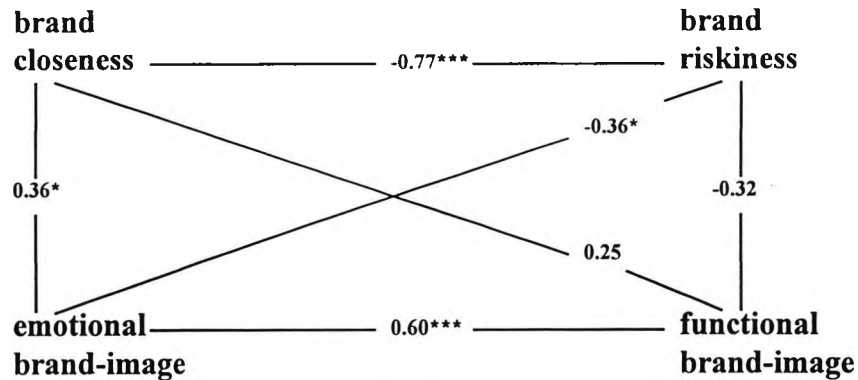
Figure 7.12.- Correlations amongst brand closeness, brand riskiness, the emotional portion of brand-image, and the functional portion of brand-image for individuals perceiving <u>low psychosocial and economic risks</u> who responded to the computer assessment questionnaire.

Data presented in the four figures above offers several insights. First, brand closeness and riskiness are closely related, in a inverse form. That is, the closer someone feels to a brand, the less risk they associate with that brand. A second point is that <u>emotional</u> and <u>functional</u> brand-images show strong correlation. This suggests, as has already been mentioned in Chapter 6, that both brand-images may fuse with or at least strongly interact with each other.

When brand closeness and riskiness were correlated with both brand-images, (*i.e.*, emotional and functional) in all four perceived risk profiles for the computer respondent group, the patterns which emerged were coherent with the sub-samples from which they originated and when figures were compared. They therefore support H2 and H3.

For the computer questionnaires, the information provided by the above figures is that <u>emotional</u> brand-image seems to play an important overall role across all four groups of respondents, while the same can not be said about <u>functional</u> brand-image. The same procedure was performed on the group of respondents who answered the printer questionnaire.

Highly significant correlations are evidenced in Figure 7.13. These correlations emanate from answers given by respondents who assessed the printer questionnaire and perceived an overall high-risk. All six coefficients were in the expected direction. The pattern presented in the figure below is highly predictable for the overall high-risk group.
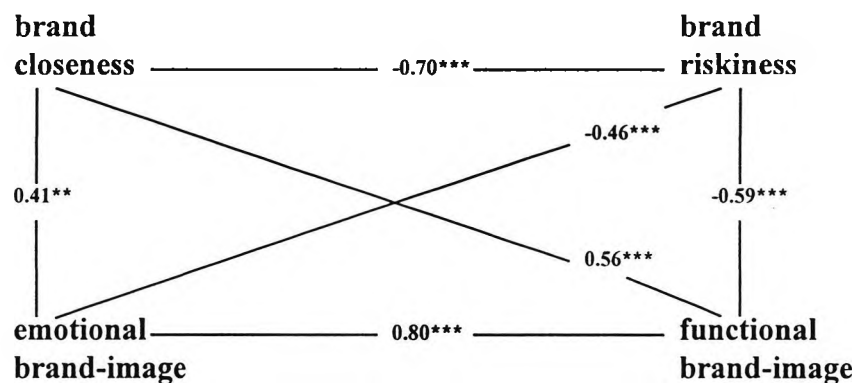
Figure 7.13.- Correlations amongst brand closeness, brand riskiness, the emotional portion of brand-image, and the functional portion of brand-image for individuals perceiving <u>high psychosocial and economic risks</u> who responded to the printer assessment questionnaire.

Figure 7.14 shows the correlations for respondents to the printer questionnaire who perceive a high level of psychosocial risk and a low level of economic risk. The results of these correlations show the expected pattern, where brand closeness and riskiness were influenced by <u>emotional</u> brand-image and not by <u>functional</u> brand-image. Even though, at the closeness and riskiness levels, brand

perception correlated highly with <u>emotional</u> brand-image, brand riskiness presents a significantly higher score then does its counterpart, brand closeness. This means that here, <u>emotional</u> brand-image is influenced more by brand risk perception then perception of affinity towards a brand. Once more, the pattern of response is compatible with characteristics of the respondent group that was high in psychosocial and low in economic risk perception.
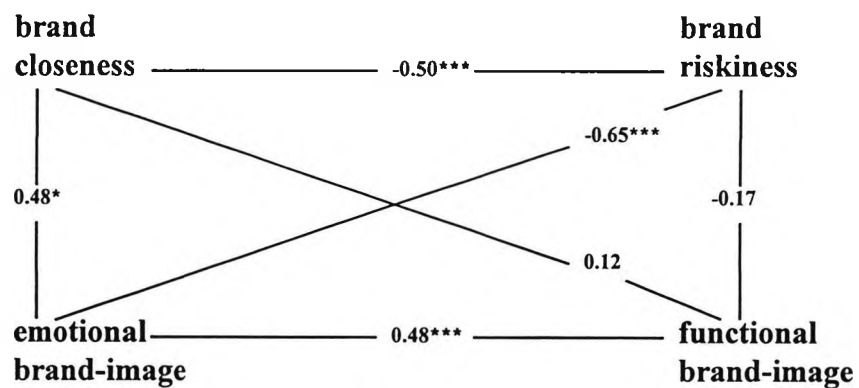
Figure 7.14.- Correlations amongst brand closeness, brand riskiness, the emotional portion of brand-image, and the functional portion of brand-image for individuals perceiving <u>high psychosocial and low economic risks</u> who responded to the printer assessment questionnaire.

Buyers perceiving low levels of psychosocial and high levels of economic risk showed the anticipated pattern of favouring <u>functional</u> brand-images rather than <u>emotional</u> brand-images, as can be seen in Figure 7.15. Coefficients are also in the expected direction. Nevertheless, <u>emotional</u> brand-image did play a role for this group. They valued the relationship between brand riskiness and <u>emotional</u> brand-image significantly, and also presented a moderate correlation between <u>emotional</u> brand-image and brand closeness. Coincidentally, <u>emotional</u> brand-image showed the same modest effect in this analysis, as it did during the computer profile analysis.

brand
closeness ——————— -0.99*** ——————— brand
riskiness

-0.43*

0.37   -0.58*

0.72**

emotional——————— 0.80*** ——————— functional
brand-image   brand-image
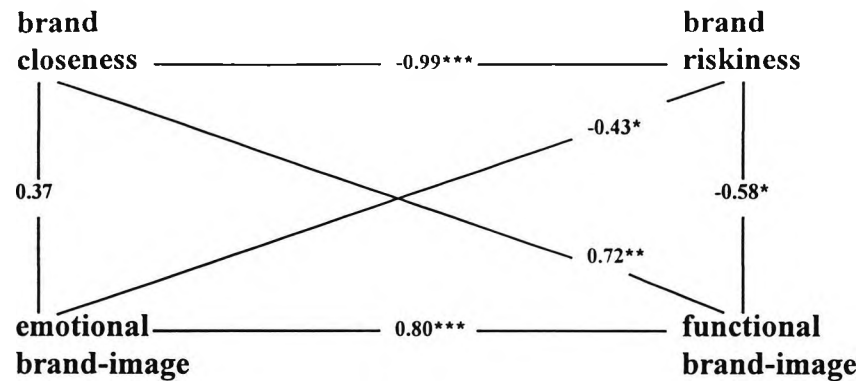
Figure 7.15.- Correlations amongst brand closeness, brand riskiness, the emotional
portion of brand-image, and the functional portion of brand-image for
individuals perceiving <u>low psychosocial and high economic risks</u>
who responded to the printer assessment questionnaire.

Figure 7.16 presents the cross-lagged correlations of
the overall low-risk group asked about printers. This last
figure is the most unusual of all. For the first time in
this analysis a moderate correlation appeared representing
the relationship between brand closeness and riskiness.
Even with the knowledge that these correlations emanated
from answers provided by the overall low-risk group,
closeness and riskiness were still expected to be closely
associated. One explanation is that this overall low-risk
group may have a very high "risk" threshold and/or may have
perceived the set of printer brands as not at all risky.
Another interesting point is that <u>emotional</u> brand-image
tend to affect brand perception (*i.e.*, in terms of closeness
and riskiness) more than <u>functional</u> brand-image. In this
case, <u>functional</u> brand-image did not even correlate with
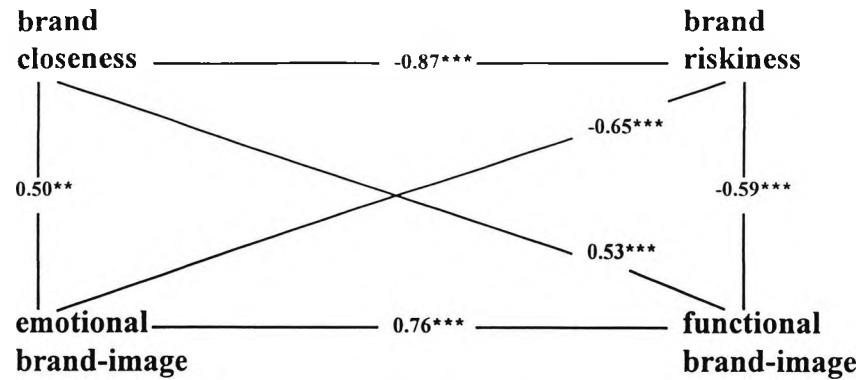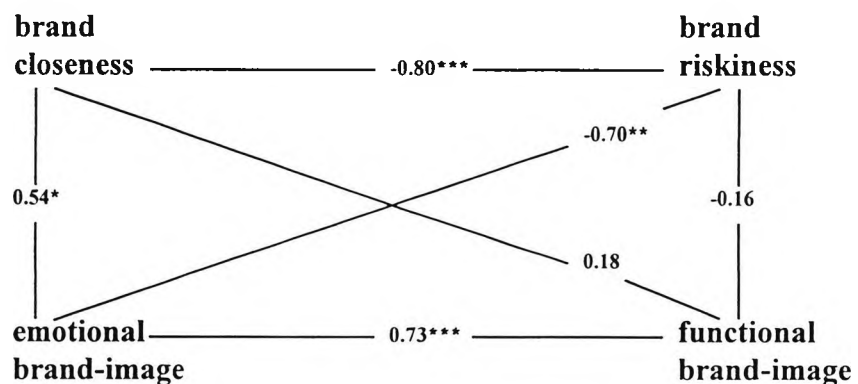brand closeness.
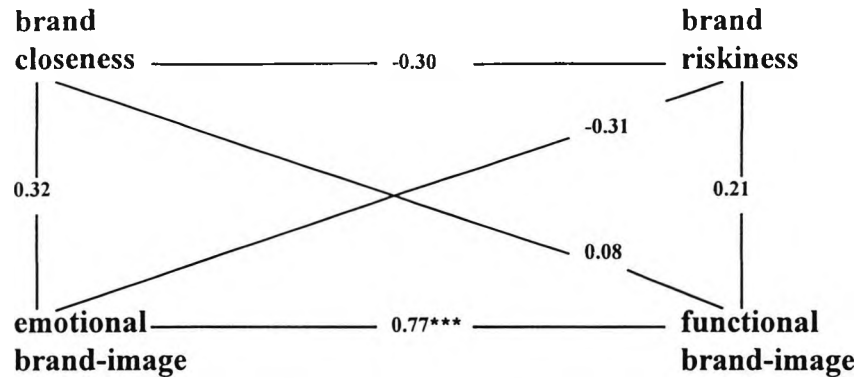
Figure 7.16.- Correlations amongst brand closeness, brand riskiness, the emotional portion of brand-image, and the functional portion of brand-image for individuals perceiving <u>low psychosocial and economic risks</u> who responded to the printer assessment questionnaire.

When brand closeness and riskiness were correlated with both <u>emotional</u> and <u>functional</u> brand-images in all four perceived risk profiles for the printer respondent group, the patterns which emerged were coherent with the characteristics of the sub-samples from which they originated and therefore support H2 and H3.

The printer respondent group was sensitive to <u>emotional</u> brand-image across all four sub-samples. They were also responsive to <u>functional</u> brand-image where expected (*i.e.*, in the high economic risk groups). Just as in the case of the computer group, respondents to the printer assessment questionnaire show a clear tendency to value <u>emotional</u> brand-image even where this is not expected.

Business marketing authors have generally accepted the assumption of classical economic theory that business buyer behaviour is basically motivated by rational-economical considerations (Bingham and Raffield, 1995; Haas, 1992; Webster, 1965; Webster and Wind, 1972b). However, another school of marketing experts recognises the emotional non-economical influences that affect perception and

consequently behaviour (Dichter, 1973; Duncan, 1940; 1965; James, 1966).

The results of tests reported in this chapter are obviously related to a specific market (*i.e.*, Brazilian pharmaceutical and clothing industrial buyers), and to two sets of four brands of computer servers and mid-range laser printers. Nevertheless, these analyses suggest a tendency for <u>emotional</u> brand-image to have ample effect on brand perception (*i.e.*, in terms of brand closeness and riskiness) compared it with its counterpart <u>functional</u> brand-image, across all types of buyers.

This finding goes against the dominant thought of the business buyer as a non-emotional and basically rational decision-maker. According to cognitive psychology, perception precedes behaviour, so a positive perception of the emotional portion of a brand could influence business buyers to behave in a non-rational way. However, as speculated in Chapter 6 and again in a previous part of this chapter, there is also a strong possibility that buyers perceive brands as a whole instead of exclusively as an emotional or a functional device.

The confirmation of hypotheses 2 and 3 could help marketers develop better brand planning; but one must not forget that H2 and H3 are not necessarily exclusive. One buyer can perceive highly psychosocial and economic risks at the same time, while another may perceive no risk at all. Good understanding and identification of the various segments of buyers is crucial to gaining benefit from what H2 and H3 are postulating. Communicating with each segment of buyers in a way which could improve their brand perception (*i.e.*, bring the brand closer to their own set of values) would than be a valuable planning tool.

7.4. - Perception of Risk and Buyer Differences
(Hypotheses 4 and 5*)*

> *H4 - Less experienced buyers will tend to be more sensitive to economic risk than do the most experienced buyers.*
>
> *H5 - The most experienced buyers will tend to be more sensitive to psychosocial risk than do the less experienced buyers.*

This set of hypotheses was developed to obtain a broad demographic picture of differences among buyers and this way provide marketers with information to increase the effectiveness of their decisions in plotting a path of action in the marketplace. However, before moving to the test of the hypotheses *per se*, it is important to understand the nature of demographic variables (*e.g.*, age, education) and how they can blend with the psychographic variables (*e.g.*, perceived risk).

Bogue (1969) has defined demography as the empirical, statistical, and mathematical study of human populations. Later Roscoe *et al.* (1977) defined demographics as a range of population, ecological and socio-economic characteristics that may be portrayed statistically or qualitatively to provide information input to management decisions in marketing a product or service. In other words, demographics are interactive descriptors of the consuming unit (*i.e.*, individual and organisation).

They are interactive because while two consuming units may appear to be matched along several demographic

variables, their behaviour may be quite different when actually observed due to other unspecified demographic descriptors, and many other factors found in buyer behaviour models. Further and most important, there is interaction between the brand being offered and the buyer as described demographically (Roscoe *et al.*, 1977).

The interactive nature of demographics can lead to two major problems. First, regarding which of the descriptors to take into account when describing or segmenting a market. Second, concerning how to define these descriptors in meaningful terms according to the management decision that is to be made. To obtain the type of information needed to avoid these problems, we conducted exploratory research with established academics and practitioners (readers are referred to Chapter 4 - 'Exploratory Research' for a detailed discussion on demographic variable selection) as well as a literature review on the subject.

While demographics tend to interact with other variable sets they also assume differing dimensions as the unit of analysis varies (Roscoe *et al.*, 1977). For example, where 'years in the job' and 'years in a similar position' may prove to be comparatively weak in explaining certain types of behaviour of group A or group B, they may take on added power when applied to both groups at the same time.

Evidence suggesting the importance of buyer characteristics in organisational buying behaviour has long been reported (Dichter, 1959; Lazo, 1960). A number of dimensions of such individual characteristics have previously been examined (*e.g.*, Crow and Lindquist, 1985; Slama and Taschian, 1985) and no definitive demographic dimensions associated with business purchasing have been empirically established.

Others have found a blending of psychological and demographic characteristics to be most informative (Pernica, 1974; Tigert *et al.*, 1971). There are reports of studies indicating that demographics may serve as an effective moderating variable in examining the relationship between a set of psychological independent variables and brand usage behaviour (Fry, 1971; Peterson, 1975). Considerable effort has been applied to the study of individual differences among industrial buyers regarding perceived risk (*e.g.*, Festervand, 1980; Grønhaug, 1972; 1975; Topol, 1981). However, very limited research attention was given, thus far, to the individual buyer's level of experience and its impact on perception of risk (Cardozo and Cagley, 1971; Festervand, 1980).

Since the purpose of hypotheses 4 and 5 was to investigate the relationship between an individual's level of experience (here conceptualised as *age, education level, number of years in the same job*, and *number of years in a similar capacity*) and the level of perceived risk in its different dimensions (*i.e.*, psychosocial and economic risks), it was necessary to ascertain each respondent's level of experience. A fraction of part 3 of the questionnaire collected the demographic data.

The demographic questions on the questionnaire offered multiple options of responses. To facilitate analysis and comprehension of tables, the researcher decided to aggregate the responses in low, moderate, and high experience (*i.e.*, age, education, years in job, and years in similar position) categories. In order to add up the response options to a three-tier solution the SPSS percentile value option for frequencies statistics was specified to aggregate the data in three parts.

The next section of tables focuses on demographics as opposed to risk perception. To test the proposed relationships between a specific demographic variable and perceived risk, several observations took place. Nine one-way ANOVA tests were performed to examine the variability of the observations within each group as well as between group means. Three of these calculations were regarding differences amongst the three tier demographic groups for psychosocial risk respondents. Three more calculations concerned the same difference measures, this time for economic risk respondents. The last three tests were destined to measure any difference within each of the demographic groups in regard to their psychosocial and economic risk perception.

However, there are still some interesting questions that could help test the proposed hypotheses to be answered. First, is there an interaction between the effects of a specific demographic variable (*i.e.*, age, education level, number of years in the same job, and number of years in a similar position) and the risk dimensions? Second, is there an interaction between the effects of the demographic variables and the risk dimensions? The statistical technique used to evaluate these questions is an extension of the one-way ANOVA called simple factorial ANOVA. To answer the first question a 2-way interaction calculation was performed. To answer the other question the SPSS programme was set to display all interactions that termed up. The same analytical procedure used to test H4 and H5 was used to test H6 and H7 (see next section for the tests of H6 and H7).

Table 7.13 shows how age affects risk perception. Researchers have been reporting conflicting findings about

the effect of <u>age</u> on perception of risk. Peters and Venkatesan (1973) found no significant effect of <u>age</u> on risk perception. Mitchell (1991) also reported that <u>age</u> had little or no effect on risk perception. He justified his findings citing a known paradox related to the effect of <u>age</u> on risk perception. That is: as <u>age</u> increases, buyers tend to become more conservative and risk averse, increasing risk perception. However, older buyers also tend to have more experience, which acts to reduce the risk perceived.

In this study, regarding psychosocial risk, the third group representing older respondents (*i.e.*, the 40+ group) showed the greatest level of risk perception. This may have happened due to the fear of losing their jobs and the consequences of a damaged professional image at this point in their careers. Even though a 40+ years old person still has career progressions to make, specifically in Brazil it is likely he or she will face more hurdles when approaching a new job than younger professionals will. Thus, it seems logic that older buyers tend to be more psychosocial risk adverse than younger buyers.

Younger buyers tend to be more economic risk conscious than older buyers are. This may have happened due to the hard nature of economic risk (*i.e.*, performance, financial, and time risks) and the experience effect acting against them. Younger buyers are normally less experienced and need to assure performance in order to maintain their job. Therefore, an adequate supply of materials and the continuity of operations may be a harder task for the less experienced than it is for the most experienced buyers. The complexity of the task can generate anxiety and consequently higher levels of risk perception.

The pattern exhibited in table 7.13 supports both H4 and H5. Moreover, age showed a significant overall interaction with perceived risk. Maybe, from the results, the paradox of age and perceived risk is not a paradox as first mentioned by Mitchell (1991). Probably the first assertion that says that buyers tend to become more conservative and risk averse with age should be rephrased to say psychosocial risk adverse. Furthermore, the second assertion that advocates older buyers to be more experienced and this way perceive less risk could also benefit from a rephrasing to mention economic risk perception instead of overall perceived risk.

Table 7.13 - Differences in Average Ratings Between Age Groups of Respondents and Perceived Risk.

risk dimensions	age (years)		
	a. 20-29 (n=50)	b. 30-39 (n=67)	c. 40+ (n=32)
psychosocial	4.71	4.15	5.08
economic	5.17	4.97	4.92
Testing for interaction 2.66*			

Note: * = p<0.10

Table 7.14 shows how education level affects perceived risk. It is common knowledge that an essential aspect of most forms of education seems to be some kind of problem-solving ability. Thus, it is reasonable to assume that a more educated person should perceive less risk due to his or her ability to generalise the acquired insight. Based on this discussion, Grønhaug (1972) added that this insight

should also generate more 'openmindness' to the individual, so that a more educated person is also expected be more inclined to admit his or her fears. This doesn't mean that highly educated people objectively perceive more risk than lower educated people do. What is here being said is that highly educated people are more likely to admit their fears and this way show a greater level of perceived risk as compared to less educated people. Once more a paradox seems to justify the effect of <u>education level</u> on perceived risk.

The results regarding psychosocial risk in table 7.14 refute H4. Even though there is not a clear pattern of different psychosocial risk perception across the three <u>education levels</u>, a small but difference was detected when the post-graduation group was compared to the others. Highly educated individuals show a lower level of perceived psychosocial risk than does the less educated group. This finding agrees with the common knowledge that more educated individuals should perceive less risk due to their acquired (via education) problem-solving ability.

In relation to economic risk, the pattern of the differences in average ratings was pretty much the same as for the psychosocial risk. Once more the most educated showed a lower level of risk perception than the less educated. Looking at both results, an inverse relationship between <u>education level</u> and risk perception is evidenced. No evidence was found in support of Grønhaug's (1972) assertion about the 'openmindness effect'. Comparisons concerning economic risk are supportive of H5. However, <u>education level</u> did not show a significant overall interaction with perceived risk.

This may have happened due to the very close proximity of the nature of the three <u>education levels</u>. After looking

at the 'open' information given by respondents in question 10.13 of the questionnaire where they were asked to specify which degrees they attained, it was possible to see that most of the respondents that claimed their highest education level to be post-graduation (27.2%) were mostly at a specialisation (*e.g.*, certificate) level (22.5%) and only 4.7% of them actually had a higher degree such as a MSc. or a Ph.D. Thus, it is possible to see that the bulk of respondents in this study were not very different in terms of education achievement. This is probably why there was no significant overall interaction between education level and perceived risk.

Table 7.14 - Differences in Average Ratings Between Groups of Respondents According to their Education Level and Perceived Risk.

risk dimensions	education level		
	a. attended university (n=48)	b. graduated from university (n=61)	c. Post-graduation (n=41)
psychosocial	4.78	4.77	4.22
economic	5.20	5.13	4.68
Testing for interaction 0.70			

Table 7.15 shows how number of years in the same job affects perceived risk. Some empirical studies (*e.g.*, Mitchell, 1991; Peters and Venkatesan, 1973) have been using number of years in the same job as a measure of past experience. The assumption these researchers have been working with is based on the fact that previous acquisitions should result in some form of learning. Thus,

as the buyer's knowledge of the product/brand or even buying situation increases, their level of risk perception should decline due to their buying experience (Sheth and Venkatasan, 1969).

In this study, the average ratings for psychosocial risk are in the expected direction. A small, nonetheless present, variation shows a difference in psychosocial risk rating between buyers new on the job and buyers with 10+ years on the job. This finding goes against the common assumption previously mentioned, but is in agreement with H4.

Regarding the average ratings for economic risk, they are in the expected direction hypothesised in H5. Nevertheless, no significant variation emerged from this set of comparisons. Buyers with five of less years of experience showed a greater economic risk perception level than more experienced buyers (*e.g.*, 6+ years on the job). This finding agrees with the common assumption that past experience is a powerful risk reducer. Moreover, number of years in the same job did not show a significant overall interaction with perceived risk.

Table 7.15 - Differences in Average Ratings Between Groups of Respondents According to the Number of Years they Spent in the Same Job and Perceived Risk.

risk dimensions	number of years in the same job		
	a. ≤ 5 (n=67)	b. 6-10 (n=52)	c. 10+ (n=32)
psychosocial	4.65	4.48	4.87
economic	5.15	4.96	4.94

Testing for interaction   1.06

Table 7.16 shows how <u>number of years in similar job position</u> affects perceived risk. This table is almost a replica of table 7.15 and the results can be described in the same way as the previous one. When testing for interaction, <u>number of years in a similar job position</u> did not show statistical significance what means the results in this table show no overall trend or effect on risk perception.

Table 7.16 - Differences in Average Ratings Between Groups of Respondents According to the Number of Years they Spent in a Similar Job Position and Perceived Risk.

risk dimensions	number of years in a similar position		
	a. ≤ 5 (n=50)	b. 6-10 (n=55)	c. 10+ (n=46)
psychosocial	4.67	4.57	4.88
economic	5.10	5.04	4.94
Testing for interaction 1.60			

As previously mentioned at the start of this section, a demographic variable may prove to be comparatively weak in explaining certain types of behaviour (or perception) but, when combined with other demographic variable(s), they may take added power and prove to be significantly important in affecting risk perception. Insofar as this analysis is concerned, only the variable age showed to have an effect on risk perception. However, when testing for maximum interactions involving all four demographic variables chosen to be representative of experience, two sets emerged as statistically significant. They were: 1) age and education and 2) number of years in the same job and number of years in a similar job position.

Table 7.17 shows how demographic variables affected perceived risk. First, both sets of variables affected psychosocial risk perception. Age and education seems to have a small effect on psychosocial risk perception. However, number of years in the same job and number of years in a similar job position exhibited a stronger

influence on psychosocial risk perception. They also exhibited a significant overall interaction what means that all four variables were important in explaining and/or affecting psychosocial risk perception. Second, only number of years in the same job and number of years in a similar job position exhibited a significant (p<0.05) interaction with economic risk. The relationship of the other variables with economic risk was so weak that it compromised an overall interaction.

Table 7.17 - F-value for Interaction Between Demographic Variables - Individual.

risk dimensions	testing for interaction between demographic variables		overall interaction
	age / education	jobyears / posyears	
psychosocial	2.19*	2.96**	1.56*
economic	0.74	2.88**	1.32

Note: * = p<0.10
      ** = p<0.05

After considering the results reported in table 7.17, it seems safer to consider number of years in the same job and number of years in a similar job position as the variables that most likely could affect risk perception. Even though these variables individually did not exert the same effect on perceived risk, when combined as an integrated variable they were equally important to psychosocial and economic risk perception. The same can not be said about age and education that only showed a small influence to one risk dimension. Probably the better combination of measures representing experience would be the use of age, number of years in the same job and number

of years in a similar job position as they all showed some type of influence on risk perception.

Regarding the test of the hypotheses, the variable age was the only one that fully supported H4 and H5. The variable education showed some support in favour of H5 while the variables number of years in the same job and number of years in a similar job position supported only H4. With three out of four variables supporting H4 and two out of four supporting H5, there seems to be evidence in support of H4 but the results show little support for H5. Based on the results of this study, it is safer to say that job experience will affect psychosocial risk perception and probably not economic risk perception.

7.5. - Perception of Risk and Organisation Differences (Hypotheses 6 and 7)

H6 - In larger companies, buyers will tend to be more sensitive to psychosocial risk than are their counterparts in smaller companies.

H7 - In smaller companies, buyers will tend to be more sensitive to economic risk than are their counterparts in larger companies.

The next section of tables focuses on organisational differences instead of individual ones. Buying firm size is related to many aspects of the industrial buying process and has been used as a segmentation variable in a variety of purchasing situations (Bellizzi, 1981; Bonoma and Shapiro, 1983; Crow and Lindquist, 1985; Frank *et al.*, 1972; Grønhaug, 1975; Lynn, 1988; Peters and Venkatesan, 1973).

The behaviour of organisational buyers has been studied in many different ways over the years. A number of studies (*e.g.*, Crow and Lindquist, 1985; Mansfield, 1963; Topol, 1981) have suggested continued study of characteristics of the organisational environment as they may explain the context in which the buyer operates. The organisational context is believed to be important because it may guide or even govern the buyer's behaviour (Haas, 1992). One characteristic of the organisation, which may influence buying behaviour, is size of the company (King *et al.*, 1988). Some researchers (*e.g.*, Newall, 1977; Peters and Venkatesan, 1973) go further, proposing that the size of the company is relevant to risk perception.

Company size has been operationalised in several ways. Kassicieh and Rogers (1986) measured organisation size by number of employees. Peters and Venkatesan (1973) used two variables, sales and number of employees as measures of size of firm. Based on the results from these studies, it is reasonable to assume that sales and number of employees are positively related and a good descriptor of the size of an organisation. In this study we decided to use number of employees and turnover as measure of company size. Turnover is here understood as the amount of capital made by a business within a period of time (*e.g.*, one year) or for a particular transaction (*e.g.*, sales) (Hornby, 1978).

Table 7.18 shows how number of employees affects risk perception. Conflicting findings have been reported regarding the influence of number of employees in perceived risk. Mitchell's (1991) evidence indicates that number of people did not prove to be a major factor in altering risk perception. He argued that one might expect psychosocial risk to increase as the size of organisation/department increases because there are potentially more people

involved in, or who know about, the decision that could be adversely affected. However, size can also lead to anonymity. In a smaller company, relationships are likely to be much stronger and deeper.

Other researchers (Peters and Venkatesan, 1973) concluded that both <u>sales</u> and <u>number of employees</u> were significant when testing the hypothesis that size of the company would be positively related to adoption of a small computer. The size of the company was particularly relevant to the first time in-house user who needed to have certain capabilities for computer utilisation and support on a full-time basis. Smaller firms as opposed to larger firms, when attempting to purchase a computer were faced with high-risk and thus decided to forego the buying decision.

In this study, there is evidence of a trend of psychosocial risk perception increasing as the number of employees increased. A variation in psychosocial risk perception was detected between firms with one hundred or less employees and firms with five hundred or more employees. This finding gives support in favour of H6. Regarding economic risk, there seems to be a different trend to the one found for psychosocial risk. An inverse relationship was found where risk perception increased as the number of employees decreased. However, the results presented in table 7.18 did not prove <u>number of employees</u> to be a major factor in altering economic risk perception and H7 was refuted.

The pattern exhibited in table 7.18 supports only H6. However, <u>number of employees</u> showed a significant ($p < 0.05$) overall interaction with perceived risk. This means that it is relevant to risk perception.

Table 7.18 - Differences in Average Ratings Between Number of Employees and Perceived Risk.

risk dimensions	number of employees		
	a. ≤ 100 (n=51)	b. 101-499 (n=34)	c. 500+ (n=58)
psychosocial	4.43	4.60	4.94
economic	5.11	5.08	4.82
Testing for interaction 5.22**			

Note: ** = p<0.05

Table 7.19 shows how <u>turnover</u> affects risk perception. From Peters and Venkatesan's (1973) conclusions previously reviewed in this section, the measure of <u>sales</u> was considered to be relevant to product adoption and consequently generator of risk. Mitchell (1991; 1995a) when studying the appointment of planning consultants by U.K. local authorities, measured size of the authorities by their <u>capital expenditure</u>. He justified the use of this concept due to the nature of local authorities being non-profit social-servants, which do not sell services.

Mitchell (1991; 1995a) reported a conflicting finding to Peter and Venkatesan's (1973). He argued that size of the authority do not have much effect on risk perception and suggested that the variable <u>capital expenditure</u> should be ruled out as a segmentation variable. Nevertheless, he recognised that it may be that while size and buying procedure change with each other in the private sector, public bodies may have a strict set of procedures regardless of their size, which diminishes the influence of this variable.

In this study, a clear trend was detected regarding the effect of turnover on psychosocial risk perception. As the turnover of the company increased, so did psychosocial risk perception. This trend was confirmed by the variation in risk perception between firms with a turnover of R$5 million or less and firms with a turnover of R$50 million or more. Regarding economic risk, an inverse trend was also detected. As the turnover of the company increased, economic risk perception decreased. However, no significant variation in risk perception could be statistically confirmed. These results tend to support H6 but H7 is refuted.

The pattern exhibited in table 7.19 again supports only H6. However, turnover showed a significant (p<0.10) overall interaction with perceived risk. This means that it is relevant to risk perception.

Table 7.19 - Differences in Average Ratings Between Turnover and Perceived Risk.

risk dimensions	*turnover* (in R$ million)		
	a. < 5 (n=49)	b. 5-50 (n=46)	c. 50+ (n=41)
psychosocial	4.42	4.75	4.99
economic	5.20	4.95	4.94
Testing for interaction 2.83*			

Note: * = p<0.10

Insofar as this analysis is concerned, both variables number of employees and turnover showed a significant effect on risk perception. Once more, when tested for maximum interactions involving both variables chosen to be representative of company size, they also showed to be

statistically significant (p<0.10) and affect risk perception in both dimensions as table 7.20 shows.

Table 7.20 - F-value for Interaction Between Demographic Variables - Organisational.

risk dimensions	testing for interaction between demographic variables
	employee / turnover
psychosocial	2.47*
economic	2.26*

Note: * = p<0.10

After considering the results reported in tables 7.18 and 7.19, where evidence was presented in support of H6 and not in favour of H7, it is safer to say that size of the organisation will affect psychosocial risk perception in the predicted way while the same can not be said about its effect on economic risk perception. Nevertheless, one must not forget that in tables 7.18 and 7.19 a trend was detected in favour of the predicted affect of size of the organisation on economic risk perception. Another piece of information to add is the fact that in table 7.20, when both variables number of employees and turnover were tested for maximum interaction, a significant (p<0.10) interaction was detected for both risk dimensions. This means that when these variables are combined as a measure of size of the organisation, they are likely to affect risk perception.

7.5. - Conclusion

This chapter has reviewed the research findings, which are summarised in table 7.21. To test the first hypothesis, a multi-stage analysis took place. The data generated in this study was explored by two means of measuring

congruity. First, both actual and ideal self-scores were considered in a traditional way. They were then integrated into an interactive model. The first assessment of congruity, offers evidence buyers demonstrating both high and low-risk perception tend to prefer brands more closely aligned with their own set of values. The second approach reveals other tendencies. It was possible to observe that buyers who perceive psychosocial risk show a marked tendency that their brand of preference be more congruent, than the rest of brands for all groups.

Another verifiable tendency is that buyers high in risk perception tend to exhibit a closer association (*i.e.,* tighter congruence) between self-image and brand-image ordered by preference, than do their counterparts buyers low in risk perception. When comparing buyers who perceive economic risk with buyers who perceive psychosocial risk, the patterns remain basically the same. There is a marked tendency in all four groups for the preferred brand to be more congruent than are the other three brands.

Significance tests were also performed. These tests result in a clear picture of self-congruence dissimilarities amongst product profiles analysed by perceived risk type and level. For buyers who perceive psychosocial risk and who assessed the computer profile, comparisons for high and low-risk groups were statistically significant. This means that both risk groups tended to seek congruence with their <u>preferred</u> brands. No significant difference in congruence seeking patterns was found between high and low-risk groups.

Comparisons assessing printer profile for buyers perceiving psychosocial risk result in a different pattern form that of the computer profile. First, the high-risk

group showed a clear tendency towards pursuing congruence for their <u>preferred</u> brands. The same cannot be said of the low-risk group. Some comparisons were non-significant, indicating the absence of a clear pattern of pursuing congruence across the brand preference spectrum. However, congruence seeking patterns between high and low-risk groups indicate statistical significance. This suggests that a difference exist between risk groups.

In relation to economic risk, results of comparisons from the high-risk group who assessed the computer profile were all statistically significant. This indicates that there exists a clear tendency to seek congruence for <u>preferred</u> brands. This tendency was not so clear for the low-risk group. One comparison did not show statistical significance and produced an irregular pattern of congruence. Statistical significance tests indicate that there is a difference between risk groups.

For buyers perceiving high economic risk who assessed the printer profile, all comparisons were statistically significant. This means that they tended to seek congruence for their <u>preferred</u> brands. This tendency is only partially true for the low-risk group. One comparison did not show statistical significance. The low-risk group did seek congruence for the top three preferred brands. Statistical significance tests suggests the risk groups are different from each other.

After all the analysis done, an overall pattern was established. That is: the high-risk group shows closer self-congruence for their preferred brands than does the low-risk group.

To test the second and third hypotheses, a three-stage analysis was undertaken. First, comparisons based on mean scores regarding <u>emotional</u> and <u>functional</u> brand imagery moderated by perceived risk were performed. The results of these comparisons show buyers high in psychosocial risk offering higher emotional brand-image scores than do buyers low in psychosocial risk. It also shows buyers high in economic risk exhibiting greater functional brand-image scores than do buyers low in economic risk. Another information provided by these results is that buyers perceiving economic risk show greater difference in perception when confronted with <u>functional</u> brand-images than do buyers perceiving psychosocial risk when faced with <u>emotional</u> brand-images.

Second, a correlational analysis was undertaken. Comparisons concerning correlations between brand values (in terms of closeness and riskiness) and <u>emotional</u> brand-image show the high psychosocial risk groups presenting significant correlations, while the low psychosocial risk groups do not. When comparisons between brand values and <u>functional</u> brand-image were made, it was possible to verify that the high economic risk groups shows significant correlations, while the low economic risk groups do not.

Last, a correlation procedure known as cross-lagged-panel was carried out using an overall brand score. The main finding regarding these correlations is that buyers perceiving both types of risk show a clear tendency to value <u>emotional</u> brand-images, while only buyers perceiving economic risk are sensitive to <u>functional</u> brand-images.

The individual's level of <u>experience</u> was conceptualised as the combination of <u>age</u>, <u>education level</u>, <u>years in the same job</u>, and <u>years in a similar capacity</u>.

Each of these variables was treated as a measure of experience and the combination of results from all four variables was interpreted as a whole in order to test the fourth and fifth hypotheses. Older buyers tend to be more psychosocial risk averse then younger buyers. Nevertheless, younger buyers tend to be more economic risk conscious than older buyers. Age showed a significant overall interaction with perceived risk.

Highly educated people tend to perceive lower levels of psychosocial and economic risk than do the less educated people. Education level did not show a significant overall interaction with perceived risk. Buyers that have been longer on the job tend to be more sensitive to psychosocial risk than buyers newer on the job. Buyers new on the job also tend to be more economic risk impressionable but no significant variation could be confirmed to favour this assertion. Number of years in the same job did not show a significant overall interaction with perceived risk. Results regarding number of years in a similar position are alike those from number of years in the same job.

When testing for maximum interactions involving all four demographic variables chosen to represent buyer experience, age and education emerged as important to psychosocial risk perception while number of years in a similar position and number of years in the same job proved to be significant to both risk dimensions.

Psychosocial risk perception was found to be influenced by the amount of experience respondents had, however the same can not be said about economic risk perception. However, number of years in the same job and number of years in a similar position seem to play the role of buyer experience and equally influence risk perception.

Number of employees and turnover were operationalised as measures of company size. We found evidence of a trend of psychosocial risk perception increasing as the company's number of employees also increased. However, no proof was found that the variable number of employees is a factor in affecting economic risk perception. Number of employees showed a significant overall interaction with perceived risk. We also found a clear trend of turnover affecting psychosocial risk perception and not affecting economic risk perception. Turnover also produced a significant overall interaction with perceived risk. And, when both variables were tested for maximum interactions, they showed to be influential to risk perception.

Psychosocial risk perception was influenced by the buying company's size, however the same can not be said about economic risk perception. However, if both variables are used simultaneously, they may well represent company size and influence risk perception.

Having considered and tested the proposed hypotheses, the next chapter considers these findings in view of the literature, assesses their implications to marketers and identifies areas of further research.

Table 7.21 – Summary of Research Findings.

Hypotheses	findings
H1 – Buyers who perceive high levels of risk will tend to prefer brands that are most closely associated with their own set of values, as compared to buyers who perceive low levels of risk.	1) There is a difference between buyers perceiving high levels of risk and buyers perceiving low levels of risk in terms of self-congruence appreciation. 2) The preferred brand tends to be most closely associated with the buyer's set of values than the other brands in the set. 3) The high-risk group exhibit greater discrepancy in congruence terms along the brand preference spectrum than does the low-risk group. 4) The high-risk group shows closer self-congruence in relation to the preferred brand than does the low-risk group. (H1 is supported).
H2 - Buyers who perceive high levels of psychosocial risk will tend to value highly emotional brand signals, as compared to buyers who perceive low levels of psychosocial risk. H3 - Buyers who perceive high levels of economic risk will tend to value highly functional brand signals, as compared to buyers who perceive low levels of economic risk.	1) The high-risk group tend to perceive differently brand-images than does the low-risk group. 2) The high psychosocial risk group tend to value higher emotional brand-images than does the low psychosocial risk group. (H2 is supported). 3) The high economic risk group tend to value higher functional brand-images than does the low economic risk group. (H3 is supported). 4) Buyers high and low in economic risk perception show greater difference in perception when confronted with functional brand signals than do buyers high and low in psychosocial risk perception when faced with emotional brand signals. 5) Buyers across the whole risk spectrum show a clear tendency to value emotional brand-image. Only buyers high in economic risk perception are responsive to functional brand-image.

Table 7.21 – Continued.

Hypotheses	findings
H4 - The most experienced buyers will tend to value psychosocial risk more highly than do the less experienced buyers. H5 - Less experienced buyers will tend to value economic risk more highly than do the most experienced buyers.	1) When using the variable age as an analogous of experience, older buyers are more sensitive to psychosocial risk than younger buyers while these tend to be more economic risk conscious than older buyers. 2) When using the variable education level as an analogous of experience, highly educated individuals presented lower levels of psychosocial and economic risks than less educated individuals. 3) When using the variable number of years in the same job as an analogous of experience, buyers with ten or more years on the job demonstrate higher levels of psychosocial risk than do buyers new on the job while these tend to be more economic risk sensitive than buyers with ten or more years on the job. 4) When using the variable number of years in a similar position as an analogous of experience, buyers with ten or more years of work exhibit higher levels of psychosocial risk than do buyers with five or less years of work while these tend to be more economic risk perceptive than buyers with ten or more years on the job. 5) The variable age was the only one amongst the four variables used to represent buyer experience that showed a significant overall interaction with perceived risk. 6) When testing for maximum interactions involving all four demographic variables representative of experience, two sets emerged as statistically significant. They were: *i)* age and education and *ii)* number of years in the same job and number of years in a similar position. 7) Both sets affected psychosocial risk perception. They also exhibited a significant overall interaction what means that both sets are important in explaining and/or affecting psychosocial risk perception. However, only the second set number of years in the same job and number of years in a similar position demonstrated a significant interaction with economic risk.

Table 7.21 – Continued.

Hypotheses	findings
	8) Combining the results from all variables used to represent buyer experience; three out of four support H4 while only two out of four support H5. There is evidence in support of H4. However, the results previously discussed show little support in favour of H5.
H6 - In larger companies, buyers will tend to value psychosocial risk more highly than do their counterparts in smaller companies.	1) There is evidence of a trend of psychosocial risk increasing as the number of employees also increased. A significant variation in psychosocial risk perception was detected between small and large companies.
H7 - In smaller companies, buyers will tend to value economic risk more highly than do their counterparts in larger companies.	2) An inverse relationship was detected where economic risk perception increases as the number of employees decreases. No significant variation in economic risk perception was encountered.
	3) The variable number of employees showed a significant overall interaction with perceived risk.
	4) There is evidence of a trend of psychosocial risk increasing as the turnover also increased. A significant variation in psychosocial risk perception was detected between small and large companies.
	5) An inverse relationship was detected where economic risk increases as the company's turnover decreases. No significant variation in economic risk perception was confirmed.
	6) The variable turnover showed a significant overall interaction with perceived risk.
	7) When tested for maximum interactions, variables representative of size of the company (*i.e.*, number of employees and turnover) showed to be statistically significant and affect risk perception in both risk dimensions.

Table 7.21 – Continued.

Hypotheses	findings
	8) Combining the results from all variables used to represent size of the company; evidence exists in support of H6 and not in favour of H7. Size of the company will affect psychosocial risk perception in the predicted way while the same can not be said about it's effect on economic risk perception.

C H A P T E R   E I G H T

Conclusions and Implications

Life is the art of drawing sufficient conclusions from insufficient premises.

SAMUEL BUTLER 1835 - 1902

8.1. - Introduction

In recent years, a great deal of attention has been paid to the study of branding. This is at least partially due to the recognition of the value of brands on the balance sheet of power brand owners. However, this enthusiasm remains mainly confined to consumer products. Many marketers assume that brand loyalty is a form of habitual, 'non-rational' behaviour that applies mainly to *fmcg*

but which has no chance of survival in the more 'rational' world of business-to-business.

This view underestimates the strength of brands in industrial markets. Brands permeate all areas of organisational marketing and they succeed because buyers value the commitment of suppliers behind their brands. Brands provide the buyer a guarantee of quality, origin, value, and performance. They also offer a shorthand method to decision-making as they help shape buyers' purchasing decisions and attitudes.

While individual consumers are generally faced with relatively inexpensive acquisitions, organisational buyers often face large financial commitments. Due to the fact that the possibility exists that a bad choice could be made and the resulting consequences that may arise from it, organisational buyers perceive risk when buying a brand for the first time and will seek ways of reducing this risk. A literature review provides evidence that trustworthy brands play a major role in reducing risk. Successful brand marketing should then seek to understand buyers' perception of risk followed by developing and presenting the brand accordingly. This process is not a straightforward one, however evidence indicates that managers face uncertainty over developing strategies to successfully manipulate their brands' assets in order to reduce risk perception and therefore encourage buying.

The purpose of this research was to investigate empirically the complicated associations organisational buyers' make between risk perception and brand-images. It was expected that if some understanding of these

associations were known, brand elements could be manipulated in order to decrease buyers' risk perception and encourage a closer relationship between brand and buyer. The need for a study of this sort only became clear after a review of the existing research on branding, risk perception and organisational buying and discovered the lack of published material dealing simultaneously with these topics.

Within a cognitive psychology paradigm, seven hypotheses were advanced. After 29 in-depth qualitative interviews with executives responsible for IT activities, a structured postal questionnaire was developed. An analysis of published data on the latest available Brazilian industrial census led to the selection of two very different industrial sectors (clothing and pharmaceuticals). Three hundred ninety nine firms from these two industrial sectors operating in the six largest States of the Brazilian Federation were targeted for questioning.

In order to make a determination about who might be considered relevant to be approached an extensive snowball sampling procedure was performed and a random selection of one individual per firm constituted the final sample. A response rate of 45% was achieved and data indicated no significant difference between respondents and non-respondents. Two different reliability assessments (test-retest and internal consistency) were performed in this study; both confirmed the reliability of the results. The scale was validated in two different ways (subjective and construct). In order to analyse the data and test the

hypotheses, the SPSS statistical package available at the City University Business School was used.

The goal of the first three hypotheses was to increase understanding about the relationship between perceived risk and brand portrayal and to explore the implications of this knowledge for industrial marketing. The subsequent four hypotheses were each designed to explore demographic associations that may help to segment markets in terms of perceived risk. The results from the tests of the hypotheses can be summarised in four major sections, each representing a different type of relationship with perceived risk. These results will be discussed after some consideration is given to the concepts of perceived risk and branding. Implications that the present work might have for marketing management are presented and suggestions as to potential areas for future research are also made.

8.2 - Considerations about perceived risk

The first point to be clarified has to do with perceived risk measurement. Cunningham's (1967a) two component risk model of uncertainty and consequence implicitly assumes that both dimensions are equally important to risk, and recommends that any attempt to measure perceived risk should involve both dimensions being given equal weight. Slovic *et al.* (1977) also claimed inter-dependence between the two risk components, but several other researchers (*e.g.*, Bettman, 1973; Horton,

1976; Hughes, 1985; Laurent and Kapferer, 1985; Verhage *et al.*, 1990) have argued against it.

In this study the correlation of both risk dimensions reveals the two risk constructs as being related. This exercise was performed both on the data generated from each product field independently, as well as for the whole sample. The results show a common pattern in all three situations. Uncertainty and consequences are significantly correlated in all but one variable.

For nearly forty years researchers (*e.g.*, Bauer, 1960; Cox, 1967a; Cunninham, 1967a; Dowling, 1986; Greatorex and Mitchell, 1993; Lumpkin and Massey, 1983; Ross, 1974; Yates, 1992; to list only a few) have discussed the perceived risk concept. In the literature there is a broad consensus that perceived risk is a multidimensional-multifaceted construct (*e.g.*, Peter and Tarpey, 1975; Peter and Ryan, 1976). But researchers fail to agree on a sound operational definition for perceived risk. Another point of disagreement has to do with the precise nature of the construct (Bettman, 1973; Horton, 1979). In view of such conceptual fuzziness, construct validation should be an important part of any attempt to advance knowledge in perceived risk (Dowling, 1986).

A form of the multitrait-multimethod matrix (MTMM) was used in this study to check if the traits under consideration could be measured by three different measuring methods. In this case it was risk perception for network servers and risk perception for mid-range laser printers which were the traits under discussion. The first method was to develop a *riskiness scale*. The second method was

to apply an additive form of Peter and Tarpey's (1975) *likelihood of loss/seriousness of consequence scale*. The final method was a modification of the second method, replicating it in a multiplicative manner. The results of the MTMM analysis indicate that all three methods are valid in assessing risk perception. Nevertheless, these results fail to provide sufficient evidence to determine which of these methods is better at distinguishing between traits. Thus, several facts (*e.g.*, simplicity, adequate fit with the distance measure used to test the first hypothesis) were taken into consideration before the decision was made as to which method should be employed in this research. An additive form of the *likelihood of loss/seriousness of consequence scale* was chosen for use in this study.

With such a research tradition, it may be surprising that risk researchers have not standardised their models and operationalisation of the perceived risk construct. This would certainly be desirable for the sake of comparability. Several attempts to do so were made in previous decades (*e.g.*, Lumpkin and Massy, 1983) with similar conclusions to our own.

In classifying types of risk, some researchers advocate a simple dichotomy between performance (or economic) risk and psychosocial risk (Cox, 1967a; Rossiter and Percy, 1987). Others have recognised a more detailed classification of risk types: performance, financial, time, physical, psychological, social, opportunity (*e.g.*, Jocoby and Kaplan, 1972; Perry and Hamm, 1969; Roselius, 1971; Zikmund and Scott, 1973). Such risk representations can be overly complicated and it seemed desirable here to

simplify according to Cox's (1967f) original proposition of performance and psychosocial risks.

Principal component analysis was applied to the risk statements in our data. Two major components emerged, and for the purpose of this discussion they are termed the *economic factor* and the *psychosocial factor.* This terminology is based on Rossiter and Percy's (1987) system of nomenclature. Here, the economic factor is clearly an aggregation of time, financial and performance risks while the psychosocial factor is a comprehensible representation of psychological and social risks. No attempt was made to operationalise the other types of risk due to the specificity of the products and buying situation used in this research.

Respondents questioned about computers tended to value *economic* risks more highly than those questioned about printers, ranking two elements of economic risk as highest in importance. Nevertheless, they did place *psychosocial* risks third and fourth in their assessment. The opposite occurred in the printer group, with *psychosocial* rated as first and second in importance. But *economic* risks were placed third and fourth in importance. With very similar scores on the first five statements, the two groups show a tendency to recognise similar aspects of both *economic* and *psychosocial* dimensions of risk. This is probably due to the multidimensional nature of the concept (Zikmund, 1973; Zikmund and Scott, 1977).

At the other end of the importance scale both groups placed relatively little importance on three items: "future power reduction", "the firm will loose competitiveness" and "affect job

performance". This suggests that both groups are soundly self-confident. They are unable to imagine anything going wrong with either them or the firm.

The relative importance of elements of risk is valuable information which may have direct marketing implications. But it may not say much about which risks are critical in making IT brand purchasing. Some risks may fall below the perceptual threshold and not even be considered during the decision process.

The concept of brand loyalty and its relevance to perceived risk dates back to Bauer (1960) who predicted that there exists a strong association between perception of risk and brand loyalty. Since Bauer, many researchers (*e.g.*, Hisrich *et al.*, 1972; Roselius, 1971) have considered brand trustworthiness as a means of reducing risk. From a review of these studies, it may be concluded that a buyer's previous experience with a particular brand and his or her perception of this brand's reputation, credibility or image are significant factors to reduce risk perception for the buyer. But these studies concentrated on consumer markets. This raises doubts whether the findings apply in the same way to organisational markets.

8.3 - Considerations on brand concept

Branding researchers (*e.g.*, Aaker, 1996; de Chernatony, 1993; de Chernatony and McWilliam, 1990; Hankinson and Cowking, 1993; 1996; Lannon and Cooper, 1983; Murphy,

1990; Sirgy, 1983) advocate that a description of a brand should include the extent to which the brand satisfies both performance needs and personal expression needs. In other words, the underlying dimensions of brands are characterised by two factors: the *functional* and the *emotional*. Nevertheless, few researchers have made an attempt to verify this assertion empirically. With little empirical evidence to rely upon, it was decided to verify whether or not the brand dimensional construct was valid.

Principal components of all brand attributes were extracted. Brand concept validation requires the confirmation of a two-dimensional construct (*i.e.*, functional and emotional dimensions). These two components did emerge but in both the computer and the printer sectors a three-component solution seemed necessary. In each case, the first principal component looks very much like a fusion of the two expected components (*i.e.*, functional + emotional) rather than completely novel one. Thus, our data not only support the idea that brands can be categorised in two major dimensions but, also suggest that a three-dimensional construct may be needed.

Respondents were asked to rank hypothetical brand attributes in descending order of importance. The attributes ranked in the top ten as most important each refer to a functional dimension of the brand. The second half of the scale is made up of attributes relating to emotional dimensions of the brand. It is interesting to note that the data from the two groups (*i.e.*, computer and printer) indicate that the five attributes evaluated at the top of both product fields are "efficiency", "up-to-dateness".

"experience", "prestige", and "ambition". These attributes are part of our first component, the fusion dimension.

8.4 - Perception of risk and brand preference

Section 3.2 cited several studies showing that brands are more likely to be purchased if they reflect or enhance their potential buyers' self-perception. Brand-buyer relationships are based on a congruence of value systems and this varies with the level of perceived risk. To test this idea, a multi-stage analysis took place. First, graphical and mean average deviation (MAD) comparisons of actual self, ideal self, first preferred brand (FPB), and last preferred brand (LPB) were performed. From these comparisons we learned that buyers high and low in risk perception tend to prefer brands closer to their own set of values. Another point noticed is that the perceived brand values for the high-risk group tend to be closer to their self-image values than are the same values for the low-risk group.

Second, self-congruence scores were calculated. From these scores it is possible to see a marked tendency for the preferred brand to be more congruent than the other brands for buyers perceiving psychosocial risk. Another verifiable tendency is that buyers high in psychosocial risk tend to exhibit a closer congruence between self-image and brand-image ordered by preference, than do their counterparts buyers low in psychosocial risk. The high-risk psychosocial risk group also shows a greater discrepancy in terms of dissimilarity scores amongst the

first preferred brands and least preferred brands than do the low-risk group. When both risk group dissimilarity scores are compared, the printer profile produces a much greater difference than the computer profile. When addressing the economic risk group, the patterns that emerge are basically the same as for the psychosocial risk group.

Finally, a significance test was considered. For buyers perceiving psychosocial risk who assessed the computer profile, both risk groups tend to seek congruence for their preferred brands but no significant difference in congruence seeking patterns was found between the risk groups. However, comparisons for buyers who appraised the printer profile show a different pattern. Only the high-risk group shows a clear tendency of seeking congruence for their preferred brands and a significant difference between risk groups was found. In relation to economic risk, results of comparisons from buyers that assessed both profiles produced similar patterns. First, the high-risk group tends to seek congruence for their preferred brands while for the low-risk group, this tendency is less clear. Second, a significant difference between both risk groups was evidenced.

After all the analysis done, an overall pattern was established. That is: the high-risk group shows closer self-congruence for their preferred brands than does the low-risk group.

Before moving on to the next section, it is necessary to clarify points which may have been raised in reading this section. First, one may query why the high-risk group shows more congruence than does the low-risk group? The

first point worth bearing in mind is that the risk under discussion is what Bettman (1973) has called *'inherent'* risk (*i.e.*, the risk endemic to a certain product class). Brand risk, on the other hand, is what the same author has called a *'handled'* risk, and is expected to be inversely related to brand approach.

Another important point to clarify is that this study is not reflective of the entire spectrum of brands in the market. Nor does it assess good versus bad brands. Instead, marginal differences between four good brands are focussed on. Brands were selected after exploratory research aimed at uncovering prominent brands in the market; those most likely to be selected in a real purchase situation (*i.e.*, brand approach).

According to Sirgy (1984), the resultant motivation towards brand approach or avoidance is postulated to be a linear combination of self-esteem and self-consistency motivation. From this combination, positive self-congruity is the only solution capable of generating brand approach. To achieve a positive self-congruence situation, the set of brands must be at least familiar to all respondents. Thus, when four prominent brands are put together in a set, it is likely that they will transmit a trustworthy image to all types of buyers minimising differences in perception.

Finally, self-congruence ought to influence the final choice decision. In other words, it should impact the order of brand preference differently for the high-risk group than it does for the low-risk group. The differences found were not as large as were hoped for. This might

represent unreasonable expectations, but more likely reflects the differences in analysing a difficult concept such as self-congruence. Nonetheless, differences noted were still statistically significant to a point where one should consider looking at market segments based on their level of risk perception.

8.5 - Perception of risk and the brand value proposition

In section 3.3 it was reported that brand image perception represents more than a mere listing of the attribute levels associated with a brand. Sirgy (1983) proposes that brand benefit perception involves problem-need recognition. In this process, the individual associates a perceptual cue with a brand to evoke a cognitive category for that brand. In Sirgy's system the evoked cognitive category represents a set of attributes or benefits associated with the evoked concept. These attributes may be <u>functional</u> or <u>emotional</u> in nature.

There is evidence in the literature (Blackston, 1992a; de Chernatony and McDonald, 1992) that associations may exist between buyers risk perception and their perception of brand-images. If these associations could be known, certain brand elements could be manipulated in order to decrease buyers' risk perception and encourage a closer brand-buyer relationship. Thus, an effective brand value proposition should lead to a positive brand-buyer relationship and minimal risk perception.

This research searched for empirical evidence to confirm that an association exists between the level and type of risk perceived and the varying patterns of brand portrayal. A three-stage analysis explored this possibility and the results from these analyses will now be discussed. First, a comparison between the level and type of risk perceived and the varying patterns of brand portrayal was made, based on mean brand scores. Second, a correlational analysis was performed in order to verify the direction of the coefficients as well as to determine their statistical significance. Last, a correlation procedure known as the cross-lagged-panel was carried out making use of the overall scores in both product profiles. The results from all three stages meet with anticipated conditions.

After extensive analysis, the following conclusions can be drawn. Those perceiving high psychosocial risk tend to value <u>emotional</u> brand images more than those perceiving low psychosocial risk. Conversely, those perceiving high economic risk tend to value <u>functional</u> brand images more than those perceiving low economic risk. This is the pattern anticipated in this research. But a further sub-pattern also emerges. Buyers both high and low in economic risk perception show differences in reacting to functional brand signals greater than those shown by buyers high and low in psychosocial risk perception when reacting to emotional brand signals. The key to this pattern is that buyers across the whole risk spectrum indicate a clear tendency to value emotional brand-image. Only buyers high in economic risk perception are responsive to functional brand-image.

Business marketing authors have generally accepted the assumption from classical economic theory that business buyer behaviour is motivated by underlying rational-economical considerations (Bingham and Raffield, 1995; Haas, 1992; Webster, 1965; 1993; Webster and Wind, 1972b). But others recognise the emotional, non-economical influences that can affect perception and consequently behaviour (Dichter, 1973; Duncan, 1940; 1965; James, 1966). The results of tests reported in Chapter 7 suggest that a tendency exists for emotional brand-image to amply effect brand perception when it is compared with its counterpart functional brand-image. This is true across all types of buyers.

This finding goes against the dominant thinking which posits the business buyer as a non-emotional, rational decision-maker. According to cognitive psychology, perception precedes behaviour, so having a positive perception of the emotive portion of a brand could influence business buyers to behave in a non-rational way. However, as speculated in Chapter 6, there is a strong possibility that buyers perceive brands as a whole instead of exclusively as an emotional or a functional device.

The confirmation of these results can help marketers develop their brand planning; but one must not forget that emotional and functional brand appreciation are not necessarily exclusive. At the same time, one buyer can perceive highly psychosocial and economic risks together, while another may perceive no risk at all. Good understanding and identification of various buyer segments is crucial to gaining benefit from what this research has to offer. Communicating with each segment of buyers in a

manner which will improve their perception of a brand would be a valuable planning tool.

8.6 - Perception of risk and buyer differences

Section 3.4 introduced various studies which explored the differences between individual organisational buyers and the relationship of these differences to perceived risk. Literature focused on the individual organisational buyer has sought mainly to identify specific buyer characteristics (*i.e.*, psychological and demographic variables) which then serve as correlates of perceived risk. Once these correlates can be identified, they can then be used as a buyer segmentation device. One such individual characteristic is buyer experience as represented by age, educational level, number of years in the same job, or number of years working in any position with a similar capacity.

Less experienced buyers may focus on ensuring an adequate supply of materials and continuity of operations. This group is one with career aspirations and might tend to be averse to performance, finance and time risks more than buyers at later stages in their careers. More experienced buyers may be more concerned with image and job security. Thus, this group might be expected to be preoccupied with pleasing their superiors and preserving the good impression their peers hold of them. In other words, it is likely that this group will show a higher level of psychosocial risk perception than the less experienced group.

After extensive analysis, the following conclusions can be drawn. When using the variable <u>age</u> as an indicator of experience, older buyers are more sensitive to psychosocial risk than are younger buyers while the latter tend to be more conscious of economic risk than are older buyers. When using the variable <u>education level</u> as an indicator of experience, highly educated individuals present lower levels of psychosocial and economic risks than do less educated individuals.

The variables <u>number of years in the same job</u> or <u>number of years in a similar position</u> are analogues of experience, which indicate that buyers with ten or more years in a job/profession demonstrate higher levels of psychosocial risk than do buyers new in a job/profession. These later tend to be more economically risk sensitive than buyers with ten or more years in a job/profession. The variable <u>age</u> was the only one of the four that individually showed a significant overall interaction with perceived risk.

When analysing the results from all variables representing buyer experience; three out of four support the idea that more experienced buyers tend to value psychosocial risk more highly than do less experienced buyers. Only two out of the four support the idea that less experienced buyers tend to value economic risk over the most experienced buyers.

The results reported in Chapter 7, indicate that <u>number of years in the same job</u> and <u>number of years in a similar job position</u> are the variables most likely to

affect risk perception. Even though individually these variables did not exert the same effect on perceived risk, in combination they were of equal importance to psychosocial and economic risk perception. The same can not be said about <u>age</u> and <u>education</u> which showed only a small influence on one risk dimension. Probably a better way of measuring experience would be to combine <u>age</u>, <u>number of years in the same job</u> and <u>number of years in a similar job position</u>, as all influence risk perception in some way. Based on the results of this study, it is safer to say that experience will affect psychosocial risk perception while economic risk perception will probably not.

8.7 - Perception of risk and organisation differences

In section 3.5 it was postulated that size of the company (here annual turnover and number of employees) might affect the type of risk perceived by the buyer (Kassicieh and Rodgers, 1986; Peters and Venkatesan, 1973). It has been argued that for small firms, the incidence of psychosocial risk will be smaller than in larger firms. This is because small firms tend towards a much more compact, highly involved, and equal status members' group with shared responsibility for decision-making at all stages. Small firms are also expected to experience a much higher level of economic risk than do larger firms, due to their limited financial standing, leaving them less able to tolerate the consequences of a wrong choice (Newall, 1977).

After extensive analysis, the following conclusions can be drawn: there is evidence that psychosocial risk increases as the number of employees also increases. A significant variation in psychosocial risk perception was detected between small and large companies. An inverse relationship was detected where economic risk perception increases as the number of employees decreases. No significant variation in economic risk perception was uncovered. The variable number of employees showed a significant overall interaction with perceived risk.

Evidence was uncovered of a trend of psychosocial risk increasing as turnover increased. A significant variation in psychosocial risk perception was detected between small and large companies. An inverse relationship was detected where economic risk increases as the company's turnover decreases. No significant variation in economic risk perception could be confirmed. The variable turnover showed a significant overall interaction with perceived risk.

When tested for maximum interactions, variables representative of size of company (*i.e.*, number of employees and turnover) were statistically significant and affect risk perception in both risk dimensions. Combining the results from all variables representing size of company; evidence exists which support of the idea that buyers in larger companies tend to value psychosocial risk more highly than do their counterparts in smaller companies. However, results do not support the idea of that buyers in smaller companies tend to value economic risk more highly than do their counterparts in larger companies.

After considering the results reported in Chapter 7, it is safer to say that <u>size of the organisation</u> will affect psychosocial risk perception in the manner predicted while the same can not be said about its effect on economic risk perception. Nevertheless, a trend was detected in favour of the predicted effect of <u>size of the organisation</u> on economic risk perception. Another piece of information to add is that both variables <u>number of employees</u> and <u>turnover</u> were tested for maximum interaction and a significant interaction was detected for both risk dimensions. This means that when these variables are combined as a measure of <u>size of the organisation</u>, they are likely to affect risk perception.

The knowledge and application of the findings of this research should enable marketers to present their brands as *solutions to the problems* faced by purchasing professionals and their organisations, or as opportunities. A well-established brand-buyer relationship is effective in reducing buyers risk perception. Buyers stick with brands because they perceive less risk in doing so. This study should also have increased general knowledge about perceived risk and branding in an industrial setting, from a theoretical point of view. It is hoped that the issues addressed and questions raised in this study will serve as an impetus for further research.

8.8 - Managerial implications

Managerial implications from this research are not straightforward. The overall conclusion is that marketers

interested in minimising buyer risk perception should be targeting different messages to different people. The problem in putting that into practice is the lack of an easy way of identifying these different people.

A starting point is to recognise the phenomena that exist around complex decision-making. Individuals have different profiles of risk perception and different brand appreciation. If the complex relationship involving these phenomena can be understood, marketers can take them into account in whatever marketing planning strategy they are doing.

One of the most interesting findings of this research is that business people are first of all people. Understanding that industrial buyers are human beings who feel and are motivated by the same drives as anybody else is a step forward towards establishing a productive supplier/buyer relationship. The technical buyer often deals with a much more complex product than the _fmcg_ products consumers deal with. A mistake in design, for example, can cost millions of pounds. Yet, the technical buyer often selects a design or special part based on emotion rather than fact (Dichter, 1973). Correctly communicating with their technical minds through, for example, direct marketing and/or other marketing strategies means understanding them.

In his study of technical buyers and what motivates them Dichter (1973) quotes phrases which throw light on the buyer as a human being: "Like all other humans, we like a pat on the back when we do something good," an engineer confessed. In the course of the same study, another engineer talked about a

mistake he made. "It could have happened to anyone," he said. Then another seeking safety said: "There's team work in our plant, so not too much was made of it." After analysing 150 in-depth interviews conducted with engineers, consultants, technicians, executive and management personnel, dealers, salesmen, and technical editors, Dichter (1973) concluded that one of the persistent fallacies of our times is the belief that when a person undertakes a technical job, or is solving a technical problem, he or she can separate him/herself from his/her ordinary human emotions and act coldly and logically, functioning as an intelligent calculating machine.

However, the factors which move the industrial buyer to make a purchasing decision once the initial "illusion of rationality" has been created are frequently the same irrational, emotional and often subconscious ones which move average consumers. Dichter's study in part corroborates with the conclusions reached here. Moreover, in the exploration of emotional factors, when developing their communication strategy marketers, must not forget those industrial buyers have a specific self-image. They see themselves as different from the average consumer - as more sophisticated and knowledgeable.

By recognising that intangible factors, mostly of emotional appeal, matters to buyers, one can consider alternative ways of adding value (*e.g.*, services and psychosocial factors) to their brand. Marketers should think about exploring the emotional side of brand communication. Rethinking the brand's name and symbol in a way that reflects the intangible factors that buyers most value will improve its chances of success. Investing in

brand recognition and reputation in order to emphasise
performance, reliability, and security as well as prestige
and recognition are important for success.

Buyer experience and familiarity with a brand result
in lower information costs for each transaction and lower
risk perception. Thus, investment in promotional
activities such as participating in trade exhibitions
where potential buyers can have a taste of the action and
actually see and feel the product are a good idea. If the
buyer has already experienced the product and/or is
familiar with the brand, the marketer should seek to
establish and maintain ongoing brand-buyer relationships.
The concept of brand relationships has been applied mainly
to the development of advertising and promotional
activities. However, these are not the only ways in which
brand communication can be established.

The first and most obvious extension of the brand
relationship concept is to use "Direct" marketing, with its
approach to marketing customers *'one at a time.'* An articulation
of the desired relationship with customers can provide a
guide to what is appropriate behaviour for the brand in
its transactions with the buyer. Similarly, brand
attitudes, expressed through sales promotion and public
relations, should be consistent in their relationships.

We do recognise that it is not necessarily easy to
see how somebody would put into practice what has been
recommended here. Our findings suggest that perceived risk
is a relevant classifier and that particular types of
messages will reach some people with specific patterns of
risk perception most effectively. While this is the case,

what we are so far short of is a quick way of classifying perceived risk profiles. Some hypotheses have been tested in the segmentation area however, we feel that the information provided by these tests are not sufficiently reliable to operationalise a way to measure an individual's pattern of risk perception. IT is an industry where representatives are the key form of contact and feedback with customers. Thus, we could probably build on the experience of others and use this very important resource to do this job.

For example, could three questions be posed to a buyer which would allow representatives to develop a course instrument? In their research Hurrell *et al.* (1997) were able to segment Medical Doctors in terms of their attitudes towards patients. Two major types of Doctors were identified. They are the *'democratic'* and the *'in control'* groups. These two groups have different prescription habits and drug preferences in terms of brands. This is an example where marketing communication can be adjusted to communicate more effectively with each group. With such information in hand, what marketers need is a reliable way of identifying who is who.

However, Hurrell *et al.* (1997) were unable to provide a specific instrument to measure that reality yet. Instead, they propose the training and briefing of representatives on how they should look and what they should listen for when visiting Doctors. A well-briefed representative can probably identify with a very small talk to which group an individual belongs to and then act accordingly. An early study that attempted to segment buyers was performed by

Cox (1967a). In this study he separated buyers into two major groups: classifiers and simplifiers.

What needs to be identified here is a practical way to separate those who perceive risk at high and low levels, and if possible by type of risk. This information would give marketers an edge - to use all the relevant information provided by this research to their advantage in generating a *risk free* brand.

8.9 - Future research

There is much more work to be done in thinking about how the conclusions presented here can be applied in the real world and we would identify this particular need.

1. How do we very quickly and probably indirectly identify people who are likely to have different patterns of risk perception?

This research question calls for an exploratory research into perceived risk segmentation.

Other important information which needs to be studied further in order to take maximum advantage of the information reported here, is to understand buyer motivation.

2. What makes professional buyers tick?

Motivational research is warranted if one wants to answer
such question. Such motivational research might address a
question like:

3. What influences professional buyers' living patterns, their social patterns, their social ideas, and their industrial buying habits?

There are some general areas where a great deal of
work is required.

- Much work needs to be carried out in other industries before we can generalise these findings.

- Other methods like case study research could offer input to the problem.

- Traditional consumer market research approaches may not be the best option of accessing the brand through research. They do not allow the researcher to understand what the brand means to buyers at a deep level - they do not let people express themselves creatively. Qualitative market research offers different tools to access the emotions underlying a brand.

- This study builds around the idea of the brand being the main risk-reducing element. What another study might explore is the possibility of identifying risk-reducing strategies, factor analysing them, and trying to extract relevant information that could be used to compose different brand dimensions.

- This study was in part inspired by Kapferer's (1992) brand identity prism. However, to avoid over complicating the topic, we decided to explore the sender and recipient's side only. What one could do next is to go all the way in trying to understand the spirit of the brand according to his model. Culture of the brand is a facet which bridges points between sender and recipient. According to Kapferer (1992) every brand has its own culture from which every product derives. The product is the physical embodiment

and vector of this culture. Culture implies that a system of <u>values</u>, a source of inspiration and brand energy exists. Understanding the cultural facet of a brand is essential.

- Another way of looking at values is to explore consumption values and market choices.

- Researchers should consider the possibility of buying centre research with one answer per firm; this answer emerging from group discussion.

In all these suggested areas of study it is hoped that future researchers will gain valuable insights into the problem at hand from a detailed reconsideration of the appropriate sections within the current research. Further research could also attempt to replicate our study.

8.10 - Concluding statement

This research has shown how buyers with varying patterns of risk perception (especially 'hard' vs 'soft' risks) are affected differentially by varying patterns of brand portrayal (especially 'functional' vs 'emotional' characteristics). A framework was developed to explain the relationship between risk perception and brand-image perception. This research is conclusive in some respects, but it does leave unanswered certain questions such as: Is there an efficient and practical way of segmenting individuals who perceive risk differently? Managerial implications have been discussed and future research suggested. The continuation of studies on this topic should provide a more clear understanding of the variables which influence risk perception and brand portrayal.

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A P P E N D I C E S

APPENDIX 1

UNIVERSIDADE FEDERAL DE PERNAMBUCO
DEPARTAMENTO DE CIÊNCIAS ADMINISTRATIVAS
Av. Prof® Moraes Rego. 1235 - Cidade Universitária
Recife - PE - CEP 50670-901
Fones (081) 271.8368 / 271.8370 - Fax (081) 271.8360

26 September 1994

Dear Sir or Madam:

Subject: Request for Interview - Research on Perceived Risk in IT Brand Acquisition

I am a researcher from the City University Business School currently working on research about IT equipment acquisition by organisations. I am interested in the choices customers make when buying IT brands for their businesses, but I have some doubts as to where and how to approach this topic. I would appreciate your help in answering some questions based on your experienced views on the market. These questions will cover the following five topics:

1. Identify the most prominent product fields and brands in the IT industry;

2. Identify the most important attributes in IT brands;

3. Describe the IT brand buying process;

4. Identify who is likely to participate in the IT brand buying decision-making process;

5. Provide answers to how and in which way do buyers perceive risk in the acquisition of IT brands.

I will be greatful if you can grant me an interview to discuss these topics. I can be contacted at the address and telephone at the bottom of this page at any time. Please consider my request favourably. I look forward to meeting you. Thank you in anticipation.

Yours truly,

Sérgio C. Benício de Mello
Researcher - Marketing Division

39 Streatham Court
Streatham High Road
London SW16 1DL
Tel: 081 769 2727
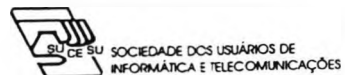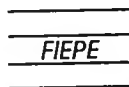
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CIENTÍFICO E TECNOLÓGICO

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SOCIEDADE DOS USUÁRIOS DE
INFORMÁTICA E TELECOMUNICAÇÕES

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UNIVERSIDADE FEDERAL DE PERNAMBUCO
DEPARTAMENTO DE CIÊNCIAS ADMINISTRATIVAS
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Recife
19 February 1996

Mr(s)   Name
Address

Dear Sir or Madam:

In the context of organisational buying, buyers often operate under uncertainty. There is risk present in any buying situation where is uncertainty about consequences of a given choice. This is true particularly in areas such as information technology (IT). Branded products can, in the buyer's mind, identify, guarantee, structure and stabalise supply, consequently reducing this risk.

We believe that studing your perceptions of IT brands and the risks associated to their acquisition can enable us to speculate on what differentiates between brand concepts and how they can be refined to come closer to your needs. This subject should be interesting to all IT buyers, particularly in Brazil where there has been very limited   attention given to the buyer and/or user.

I am a lecturer in marketing at the Federal University at Pernamcuco currently involved in PhD research at the City University Business School in London under the supervision of Professor Martin Collins. This research is being funded by CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico.

Large and medium size firms operating in industrial activities are the focus of this research. To reduce the overall sample, criteria were put in place so that the most prominent industrial sectors of the Brazilian economy were represented in the sample. After an extensive analysis, two very different industrial sectors emerged: Clothing & accessories and pharmaceutical products. Analysis of the data available in the latest industrial census led to the selection of the geographical areas to be covered and the number of firms to be contacted in each geographical area. Your firm is one of those selected.

After a series of personal interviews with executives responsible for IT activities like you, the enclosed questionnaire was designed to examine your perception of risks and how you value the varying patterns of different IT brands. Answering this questionnaire should not take more than 20 minutes.

We urge your assistance in completing and returning this questionnaire in the pre-paid envelope as soon as possible. Your participation is very important to us and will contribute to the success of this research. As you can see from the questionnaire, there is no way of identifying either you or the firm you work for. Besides this, we guarantee strict confidentiality. As an expression of our gratitude, we are happy to offer you a summary of the results and recommendations once they are compiled. To qualify for a copy, you should put your name and address on the spce provided on the questionnaire.

Thank you very much for supporting this research.
Sincerely yours,
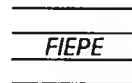
Sérgio C. Benício de Mello

patrocínio:

CNPq
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Recife
19 March 1996

Mr(s)   Name
Address

Dear Sir or Madam:

Recently you received a questionnaire entitled PERCEIVED RISK IN THE BUYING OF IT BRANDS: A NATIONAL SURVEY, asking for your views on different aspects of how you perceive risk when considering the acquisition of an IT brand. We realise that a person in your position is always very busy, neverthless the completion of the questionnaire should not take more than 20 minutes. As we sent out a limited number of questionnaires, your co-operation in replying to us will greatly improve the quality of our findings.

This survey is part of a PhD research being conducted by myself at the at the City University Business School in London under the supervision of Professor Martin Collins. This research is supported by the Federal University at Pernambuco where I work as a lecturer in marketing and by the CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico.

If this letter crosses your reply in the past, please accept our thanks for your support. In the case you have not yet returned the questionnaire, please complete it as soon as possible and post it back to me. No stamp is required. As a reminder, we would like to emphasise that your answers are strictly confidential and the results will only be reported in aggregate form. We are sure that both you and your firm can benefit from the results of this research.

Again, thank you very much for your valuable co-operation.
Sicerely yours,

Sérgio C. Benício de Mello

patrocinio:

CNPq
CONSELHO NACIONAL DE DESENVOLVIMENTO
CIENTÍFICO E TECNOLÓGICO

apoio:

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480
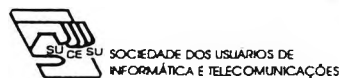
UNIVERSIDADE FEDERAL DE PERNAMBUCO
DEPARTAMENTO DE CIÊNCIAS ADMINISTRATIVAS
Av Prof° Moraes Rego. 1235 · Cidade Universitária
Recife · PE · CEP 50670-901
Fones (081) 271.8368 / 271.8370 · Fax (081) 271.8360

Recife
17 April 1996

Mr(s)   Name
Address

Dear Sir or Madam:

Last month we sent you a letter asking your kind co-operation with our research entitled PERCEIVED RISK IN THE BUYING OF IT BRANDS: A NATIONAL SURVEY. We are writing to you again because we highly value your opinion. I the event you do not have your copy of the questionnaire due to reasons beyond your control, we decided to send you a new copy of the questionnaire, which we would like you to answer. We would like to remind you that the process of answering the questionnaire will not take long.

The replies we have already received are encouraging. However we are sure results could be improved with your contribution. We are concerned that the conclusions reached through this represent the opinion of the most representative members of this industry. This is why we hold your opinion in such high regard.

This survey is part of a PhD research being conducted by myself at the at the City University Business School in London under the supervision of Professor Martin Collins. This research is supported by the Federal University at Pernambuco where I work as a lecturer in marketing and by the CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico.

If you have not completed the questionnaire because of any organisational policy we would like to emphasise that full confidentiality and anonymity are guaranteed. Besides this, there is no reason to wonder to what purpose your answers will put, as you know the questionnaire will be used for academic purposes alone.

If this letter crosses your reply in the post, please accept our thanks for your co-operation. If not, please consider using some minutes of your time to help us understand the risks associated with the acquisition of IT brands, and your perceptions of differences between some IT brands.

Again, thank you very much for your valuable co-operation.
Sicerely yours,

Sérgio C. Benício de Mello

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patrocínio: apoio:

CNPq
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CIENTÍFICO E TECNOLÓGICO

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Recife - PE - CEP 50670-901
Fones (081) 271.8368 / 271.8370 - Fax (081) 271.8360

Recife
12 May 1996

Mr(s)   Name
Address

Dear Sir or Madam:

We are about to conclude our data collection period and still not heard from you. If you have any queries about the research or the questionnaire please do not hesitate to contact me I can be reached by writing to the address of the Federal University at Pernambuco or my home address at Rua Setubal 1700/1001, Recife-PE., 51130-010. If you prefer to talk to me I can be contacted over the phone (081 341 1070) until 3 June 1996.

I would like to underline that your opinion is very important to us. Thank you very much Sincerely yours,

Sérgio C. Benício de Mello

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Risk Perception Associated with the Buying of IT Brands: A National Survey.

Risk is a variable present in any buying situation where uncertainty exists about the consequences of a given choice. In the context of organisational buying, buyers often operate in conditions of uncertainty; this is especially true in areas such as information technology (IT). In the buyer's mind, branded products can identify, guarantee, structure and stabilise supply, consequently reducing this risk. The purpose of this questionnaire is to determine the amount and types of risk perceived in an IT brand buying situation.

We believe that collecting information about how you perceive IT brands and the risks associated to their acquisition, will enable us to differentiate between brand concepts, and determine how they can be refined to more closely match your needs. A study of this nature has much to offer IT buyers, particularly in Brazil where very limited attention has been paid to differentiating between brand images.

Your co-operation is vital to the success of this study. We can assure you that all the information provided will be treated with strict confidentiality. In this study, your answers will be aggregated together with those of other specialists, and will not be identified with you in any way. In advance, thank you for taking the time in helping us with this questionnaire.

Sérgio C. Benício de Mello

Instructions

---

1. While answering to this questionnaire, imagine a situation in which your firm is about to buy a branded IT product and you will participate in this acquisition.

2. Choose a number on the scale which most closely reflects your opinion. For example, when asked how certain you are about an event happening, in a 7 point scale, your options would start in the point ① representing total uncertainty, and move up the scale, as level of uncertainty diminishes until reaching ⑦ which represents absolute certainty. The option ④ is an intermediate point of the scale to be used when you are more or less certain. You should use this same logic to answer all other questions in the questionnaire presented in this form.

3. When answering questions in **PART 1** of the questionnaire, please imagine yourself in the situation described in the scenario.

4. When finished answering the 3rd question in **PART 2** of the questionnaire, look at the colour print before continuing. Imagine that the technical configurations of the four figures presented are similar, and that the main difference between them is the **image** you have of each **brand**. Attention! From the 4th question on, what you are going to evaluate is your perception of the image of certain brands; not their technical configurations.

5. This questionnaire is a self-addressed-pre-paid pack that does not need to be stamped. After you finish answering it, fold the questionnaire according to the marks on the back of the last page, and post it back to me.

1

The Scenario

The firm you work for has been encountering office productivity problems and has decided to hire an independent consultant firm to study the problem and give some advice. After an extensive study, one of the main recommendations was to buy a workgroup server, a mid-range laser printer, and install a network of computers.

The present situation of your firm's office environment is stand-alone systems. The move towards workgroup computing is new to you and stretches beyond the need for new software and altered working processes. Your first step is to look at the hardware and what it's required to do.

1. When deciding to buy a workgroup server and/or a mid-range laser printer, products you have never purchased before, how certain do you feel that the chosen supplier will perform satisfactorily?

Totally uncertain 1 2 3 4 5 6 7   Absolutely certain
PerformU

Now imagine that after the purchase the product(s) turned out to be of a lower quality and did not perform as expected. How serious would the consequences of this choice be for you?

Not Serious 1 2 3 4 5 6 7 Very Serious
PerformC

2. After an extensive search, you have reached a deal with a supplier to provide your firm with the appropriate equipment. Now imagine that, for whatever reason, your decision proves to be unsatisfactory. What is the likelihood of the following losses occurring, and how serious would it be for you, if they did occur?

2.1 Possible Loss: The firm you work for will lose money.

Likelihood of the loss occurring	Seriousness of the consequence
MoneyU	MoneyC
Unlikely 1 2 3 4 5 6 7 Likely	**Not Serious 1 2 3 4 5 6 7 Very Serious**

2.2 Possible Loss: You will have a tighter budget to spend in the future.

Likelihood of the loss occurring	Seriousness of the consequence
BudetU	BudgetC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.3 Possible Loss: Threaten your next promotion.

Likelihood of the loss occurring	Seriousness of the consequence
PromotU	PromotC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.4 Possible Loss: The buying decision will damage the opinion your peers hold of you.

Likelihood of the loss occurring	Seriousness of the consequence
OpinionU	OpinionC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.5 Possible Loss: The buying decision will damage the relationship of your department with others.

Likelihood of the loss occurring	Seriousness of the consequence
DptrelaU	DptrelaC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.6 Possible Loss: Your superiors will not be pleased.

Likelihood of the loss occurring	Seriousness of the consequence
SupleasU	SupleasC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.7 Possible Loss: You will feel embarrassed about your decision.

Likelihood of the loss occurring	Seriousness of the consequence
EmbarraU	EmbarraC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.8 Possible Loss: Your buying decision will affect your job performance.

Likelihood of the loss occurring	Seriousness of the consequence
JobperfU	JobperfC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.9 Possible Loss: Your buying decision will reduce your power to make future decisions.

Likelihood of the loss occurring	Seriousness of the consequence
PowerU	PowerC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

3

2.10 Possible Loss: The firm will lose competitiveness.

Likelihood of the loss occurring CompetiU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence CompetiC Not Serious 1 2 3 4 5 6 7 Very Serious

2.11 Possible Loss: You will lose time to locate another source of supply.

Likelihood of the loss occurring SourceU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence SourceC Not Serious 1 2 3 4 5 6 7 Very Serious

2.12 Possible Loss: The substitution of the chosen supplier will be restricted due to contract restraints.

Likelihood of the loss occurring SubstitU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence SubstitC Not Serious 1 2 3 4 5 6 7 Very Serious

2.13 Possible Loss: You will feel personal discontent.

Likelihood of the loss occurring DiscontU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence DiscontC Not Serious 1 2 3 4 5 6 7 Very Serious

2.14 Possible Loss: Other (please specify in the space below).

Likelihood of the loss occurring OtherU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence OtherC Not Serious 1 2 3 4 5 6 7 Very Serious

Part 2

This next part of the questionnaire aims to measure how you see yourself, your perception of certain brand images, and your perception of the person likely to prefer these particular brands. It also seeks to assess your opinion about how important are certain personalistic variables to brand choice, how close you feel to each of the brands, the overall risk you associate with each of the brands, and if you have ever bought or used these brands. Finally, the level of satisfaction you associate with each these brands is to be determined.

3. People buy products and brands which reflect their self-image. In other words, products and brands represent what their owners like to see on themselves and in their lives. These self-images can exist in two different dimensions: the *actual* and the *ideal*. The actual dimension represents what a person perceives to be his or her present situation; the ideal dimension is a person's idealistic concept of a future and generally better situation. Now, try to evaluate yourself in relation to the following variables in both dimensions:

YOU ACTUALLY

Modest	1 2 3 4 5 6 7	**Ambitious** - Acambit
Creative	1 2 3 4 5 6 7	**Unimaginative** - Actcreat
Extravagant	1 2 3 4 5 6 7	**Economical** - Actecono
Inexperienced	1 2 3 4 5 6 7	**Experienced** - Actexper
Confident	1 2 3 4 5 6 7	**Insecure** - Actconfi
Unconvincing	1 2 3 4 5 6 7	**Persuasive** - Actpersu
Serious	1 2 3 4 5 6 7	**Cheerful** - Actcheer
Robust	1 2 3 4 5 6 7	**Fragile** - Actstron
Common	1 2 3 4 5 6 7	**Unique** - Actuncom
Broad-minded	1 2 3 4 5 6 7	**Biased** - Actbmind
Humble	1 2 3 4 5 6 7	**Prestigious** - Actprest
Inefficient	1 2 3 4 5 6 7	**Efficient** - Acteffic
Versatile	1 2 3 4 5 6 7	**Non-versatile** - Actversa
Unhelpful	1 2 3 4 5 6 7	**Helpful** - Acthelpf
Idealistic	1 2 3 4 5 6 7	**Realistic** - Actreali
Dull	1 2 3 4 5 6 7	**Excitable** - Actexcit
Follower	1 2 3 4 5 6 7	**Leader** - Actleade
Out-of-date	1 2 3 4 5 6 7	**Up-to-date** - Actuptda
Simple	1 2 3 4 5 6 7	**Sophisticated** - Actsophi
Slow	1 2 3 4 5 6 7	**Quick** - Actquick

YOU IDEALLY

Modest	1 2 3 4 5 6 7	**Ambitious** - Ideambit
Creative	1 2 3 4 5 6 7	**Unimaginative** - Idecre
Extravagant	1 2 3 4 5 6 7	**Economical** - Ideecono
Inexperienced	1 2 3 4 5 6 7	**Experienced** - Ideexper
Confident	1 2 3 4 5 6 7	**Insecure** - Ideconfi
Unconvincing	1 2 3 4 5 6 7	**Persuasive** - Idepersu
Serious	1 2 3 4 5 6 7	**Cheerful** - Idecheer
Robust	1 2 3 4 5 6 7	**Fragile** - Idestron
Common	1 2 3 4 5 6 7	**Unique** - Ideuncom
Broad-minded	1 2 3 4 5 6 7	**Biased** - Idebmind
Humble	1 2 3 4 5 6 7	**Prestigious** - Ideprest
Inefficient	1 2 3 4 5 6 7	**Efficient** - Ideeffic
Versatile	1 2 3 4 5 6 7	**Non-versatile** - Idevers
Unhelpful	1 2 3 4 5 6 7	**Helpful** - Idehelpf
Idealistic	1 2 3 4 5 6 7	**Realistic** - Idereali
Dull	1 2 3 4 5 6 7	**Excitable** - Ideexcit
Follower	1 2 3 4 5 6 7	**Leader** - Ideleade
Out-of-date	1 2 3 4 5 6 7	**Up-to-date** - Ideuptda
Simple	1 2 3 4 5 6 7	**Sophisticated** - Idesop
Slow	1 2 3 4 5 6 7	**Quick** - Idequick

4. Four brands of workgroup servers are presented to you on the colour print annexed. In relation to each brand, write on the appropriate line, the number that corresponds to the point of the scale that, in your opinion, *best describes the image of that specific brand*. Please try to rate all brands according to the scale, but if you don't feel confident in rating a specific attribute of a specific brand, write the number 8, but only use this option in a extreme situation.

			Fujitsu	HP	IBM	Compaq
Example:						
Conformist	1 2 3 4 5 6 7	Non-conformist	5	7	1	6
			___	___	___	___

			Fujitsu	HP	IBM	Compaq
Modest	1 2 3 4 5 6 7	Ambitious	Fjambit	Hpambit	Ibmambi	Cqambit
Creative	1 2 3 4 5 6 7	Unimaginative	Fjcreat	Hpcreat	Ibmcrea	Cqcreat
Extravagant	1 2 3 4 5 6 7	Economical	Fjecono	Hpecono	Ibmecon	Cqecono
Inexperienced	1 2 3 4 5 6 7	Experienced	Fjexper	Hpexper	Ibmexpe	Cqexper
Confident	1 2 3 4 5 6 7	Insecure	Fjconfi	Hpconfi	Ibmconf	Cqconfi
Unconvincing	1 2 3 4 5 6 7	Persuasive	Fjpersu	Hppersu	Ibmpers	Cqpersu
Serious	1 2 3 4 5 6 7	Cheerful	Fjcheer	Hpcheer	Ibmchee	Cqcheer
Robust	1 2 3 4 5 6 7	Fragile	Fjstron	Hpstron	Ibmstro	Cqstron

5

		Fujitsu	HP	IBM	Compaq
Common	1 2 3 4 5 6 7 Unique	Fjuncom	Hpuncom	Ibmunco	Cquncom
Broad-minded	1 2 3 4 5 6 7 Biased	Fjbmind	Hpbmind	Ibmbmin	Cqbmind
Humble	1 2 3 4 5 6 7 Prestigious	Fjprest	Hpprest	Ibmpres	Cqprest
Inefficient	1 2 3 4 5 6 7 Efficient	Fjeffic	Hpprest	Ibmpres	Cqprest
Versatile	1 2 3 4 5 6 7 Non-versatile	Fjversa	Hpversa	Ibmvers	Cqversa
Unhelpful	1 2 3 4 5 6 7 Helpful	Fjhelpf	Hphelpf	Ibmhelp	Cqhelpf
Idealistic	1 2 3 4 5 6 7 Realistic	Fjreali	Hpreali	Ibmreal	Cqreali
Dull	1 2 3 4 5 6 7 Excitable	Fjexcit	Hpexcit	Ibmexci	Cqexcit
Follower	1 2 3 4 5 6 7 Leader	Fjleade	Hpleade	Ibmlead	Cqleade
Out-of-date	1 2 3 4 5 6 7 Up-to-date	Fjuptda	Hpuptda	Ibmuptd	Cquptda
Simple	1 2 3 4 5 6 7 Sophisticated	Fjsophi	Hpsophi	Ibmsoph	Cqsophi
Slow	1 2 3 4 5 6 7 Quick	Fjquick	Hpquick	Ibmquic	Cqquick

5. Now try to answer the following question: Why would a person buy a Porche instead of a Mercedes, a BMW or even a Ferrari if each is synonymous of *"great cars"* ? The answer is: because of its _identity_. Furthering this example of car brands, another question can be asked: What type of person would buy a Porche and no other car; or a Mercedes and no other car? Can this person be characterized as more or less of a leader? Would he or she be looking for more or less excitment? More or less prestige? Would this person be more or less ambitious? Now see how these questions are answered, according to our perception.

TYPE OF PERSON THAT WOULD BUY A PORCHE

Follower	1 2 3 4 5 ⑥ 7 Leader
Calm	1 2 3 4 5 ⑥ 7 Excitable
Humble	1 2 3 4 5 6 ⑦ Prestigious
Serious	1 2 3 4 5 ⑥ 7 Cheerful
Modest	1 2 3 4 5 6 ⑦ Ambitious

TYPE OF PERSON THAT WOULD BUY A MERCEDES

Follower	1 2 3 4 5 6 ⑦ Leader
Calm	1 2 ③ 4 5 6 7 Excitable
Humble	1 2 3 4 5 6 ⑦ Prestigious
Serious	1 ② 3 4 5 6 7 Cheerful
Modest	1 2 3 4 5 ⑥ 7 Ambitious

Following the same logic of the example above, mark on the scales below the type of person, that in your opinion, would buy these brands and no other. Imagine who a loyal buyer of these brands would be. Try to rate all brands according to the scale, but if you don't feel confident in rating a specific attribute of a specific brand, simply skip that attribute, leaving it with no answer, but please, only use this option in an extreme situation.

TYPE OF PERSON THAT WOULD BUY A PRODUCT FROM THE BRAND FUJITSU

Modest	1 2 3 4 5 6 7 Ambitious
Creative	1 2 3 4 5 6 7 Unimaginative
Extravagant	1 2 3 4 5 6 7 Economical

TYPE OF PERSON THAT WOULD BUY A PRODUCT FROM THE BRAND HP

Modest	1 2 3 4 5 6 7 Ambitious
Creative	1 2 3 4 5 6 7 Unimaginative
Extravagant	1 2 3 4 5 6 7 Economical

Inexperienced	1 2 3 4 5 6 7	Experienced	
Confident	1 2 3 4 5 6 7	Insecure	
Unconvincing	1 2 3 4 5 6 7	Persuasive	
Serious	1 2 3 4 5 6 7	Cheerful	
Robust	1 2 3 4 5 6 7	Fragile	
Common	1 2 3 4 5 6 7	Unique	
Broad-minded	1 2 3 4 5 6 7	Biased	
Humble	1 2 3 4 5 6 7	Prestigious	
Inefficient	1 2 3 4 5 6 7	Efficient	
Versatile	1 2 3 4 5 6 7	Non-versatile	
Unhelpful	1 2 3 4 5 6 7	Helpful	
Idealistic	1 2 3 4 5 6 7	Realistic	
Dull	1 2 3 4 5 6 7	Excitable	
Follower	1 2 3 4 5 6 7	Leader	
Out-of-date	1 2 3 4 5 6 7	Up-to-date	
Simple	1 2 3 4 5 6 7	Sophisticated	
Slow	1 2 3 4 5 6 7	Quick	

(The above scale set appears twice side by side, identical.)

6. Now, imagine you are being consulted by a firm that intends to buy an IT branded product. The next set of scales solicits your opinion on how _important_ it is for an IT brand to achieve a high score on certain attributes. Please mark the number that corresponds to the point of the scale that best indicates your perception.

Brand atributes:

Ambition	Less Important 1 2 3 4 5 6 7 Very Important	- Impambit
Creativity	Less Important 1 2 3 4 5 6 7 Very Important	- Impcreat
Economy	Less Important 1 2 3 4 5 6 7 Very Important	- Impecono
Experience	Less Important 1 2 3 4 5 6 7 Very Important	- Impexper
Confidence	Less Important 1 2 3 4 5 6 7 Very Important	- Impconfi
Persuasion	Less Important 1 2 3 4 5 6 7 Very Important	- Imppersu
Cheerfulness	Less Important 1 2 3 4 5 6 7 Very Important	- Impcheer
Strength	Less Important 1 2 3 4 5 6 7 Very Important	- Impstren
Uniqueness	Less Important 1 2 3 4 5 6 7 Very Important	- Impdisti
Broad-mindness	Less Important 1 2 3 4 5 6 7 Very Important	- Impparti
Prestige	Less Important 1 2 3 4 5 6 7 Very Important	- Impprest
Efficiency	Less Important 1 2 3 4 5 6 7 Very Important	- Impeffic
Versatility	Less Important 1 2 3 4 5 6 7 Very Important	- Impversa
Helpfulness	Less Important 1 2 3 4 5 6 7 Very Important	- Imphelpf
Realism	Less Important 1 2 3 4 5 6 7 Very Important	- Impideal
Excitement	Less Important 1 2 3 4 5 6 7 Very Important	- Impexcit
Leadership	Less Important 1 2 3 4 5 6 7 Very Important	- Impleade
Up-to-dateness	Less Important 1 2 3 4 5 6 7 Very Important	- Impmoder
Sophistication	Less Important 1 2 3 4 5 6 7 Very Important	- Impsophi
Quickness	Less Important 1 2 3 4 5 6 7 Very Important	- Impquick

Next, write the number 1 in the brackets beside the attribute you consider to be the _most important_. Number 2 for the second, 3 for the third and so on, to 5, leaving the remaining brackets blank. Proceed in the same manner, to julge the five atrributes you consider to be the _least important_.

7

Brand atributes:	Most important	Least important
Ambition	[ ] - Miambit	[ ] - Liambit
Creativity	[ ] - Micreat	[ ] - Licreat
Economy	[ ] - Miecono	[ ] - Liecono
Experience	[ ] - Miexper	[ ] - Liexper
Confidence	[ ] - Micofi	[ ] - Liconfi
Persuasion	[ ] - Mipersu	[ ] - Lipersu
Cheerfulness	[ ] - Micheer	[ ] - Licheer
Strength	[ ] - Mistren	[ ] - Listren
Uniqueness	[ ] - Midisti	[ ] - Lidisti
Broad-mindness	[ ] - Miparti	[ ] - Liparti
Prestige	[ ] - Miprest	[ ] - Liprest
Efficiency	[ ] - Mieffic	[ ] - Lieffic
Versatility	[ ] - Miversa	[ ] - Liversa
Helpfulness	[ ] - Mihelpf	[ ] - Lihelpf
Realism	[ ] - Miideal	[ ] - Liideal
Excitement	[ ] - Miexcit	[ ] - Liexcit
Leadership	[ ] - Mileade	[ ] - Lileade
Up-to-dateness	[ ] - Mimoder	[ ] - Limoder
Sophistication	[ ] - Misophi	[ ] - Lisophi
Quickness	[ ] - Miquick	[ ] - Liquick

7. The next scale aims to measure how closely you feel about each of the brands and, considering all factors that may influence your decision to buy a workgoup server, your overall perception of risk associated with each of the brands. Mark the number that corresponds to the point of the scale that best indicates your opinion.

	Fujitsu	HP	IBM	Compaq
Not at all close 1 2 3 4 5 6 7 Very close	Fjclose	Hpclose	Ibmclose	Cqclose
Not at all risky 1 2 3 4 5 6 7 Very risky	Firisky	Hprisky	Ibmrisky	Cqrisky

8. During your working experience, have you ever bought or used any of the brands mentioned? Mark the number that most closely corresponds to your reality.

Options:
Actually use = 1   Have bought or used previously = 2   Never bought or used = 3

	Fujitsu	HP	IBM	Compaq
	Workexfj	Workexhp	Workexib	Workexcq

If you have marked *actually use* = 1 or *have bought or used previously* = 2 for any of the brands, what would be your degree of satisfaction with it? If you have marked *never bought or used* = 3, leave the corresponding space blank. Mark the number that corresponds to the point of the scale that best indicates your opinion.

	Fujitsu	HP	IBM	Compaq
Totally unsatisfactory 1 2 3 4 5 6 7 Totally satisfactory	Satisfj	Satishp	Satisib	Satiscq

PART 3

This part of the questionnaire is to address specific demographic, attitudinal and organisational variables.

9. Imagine the final decision about the choice of a workgoup server to be purchased for the company you work for, is up to you. Chose the best option according to your perception.

First, mark the pairs that you consider to be the most similar and leave blank those which you consider to be the most dissimilar.

Compaq and IBM ❏ - Cqibm   **Compaq and Fujitsu** ❏ - Cqfj   **Compaq and HP** ❏ -Cqhp

IBM and Fujitsu ❏ - Ibmfj   **IBM and HP** ❏ - Ibmhp   **Fujitsu and HP** ❏ -Fjhp

Continuing with your evaluation, place the number 1 in the brackets next to the brand that would be your overall first choice, number 2 for your second choice, number 3 for the third and so on.

Fujitsu _____ Fj   **HP** _____ Hp   **IBM** _____ Ibm   **Compaq** _____ Cq

10.   Next, we would like to ask some general questions about you and the firm you work for.

10.1 **What is your current job title?**   _____ Jobtitle _____

10.2 **How many years have you been in this job?** - Jobyears

5 years or less ❏	**6-10** ❏	**11-15** ❏
16-20 ❏	**21-25** ❏	**more than 25 years** ❏

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10.3 Including other jobs, how many years have you worked in a position with a similar capacity to your present one?   - Posyears

| 5 years or less ☐ | 6-10 ☐ | 11-15 ☐ |
| 16-20 ☐ | 21-25 ☐ | more than 25 years ☐ |

10.4 Please estimate in 1995 values, the value of IT brands purchased, under your direct responsibility?   - Directpu
In Reais value. R$ _____

10.5 Please estimate in 1995 values, the value of IT brands purchased, under other(s) responsibility, but with your co-operation?   - Cooppur
In Reais value. R$ _____

The Scenario

The firm you work for has been encountering office productivity problems and has decided to hire an independent consultant firm to study the problem and give some advice. After an extensive study, one of the main recommendations was to buy a workgroup server, a mid-range laser printer and install a network of computers.

The present situation of your firm's office environment is stand-alone systems. The move towards workgroup computing is new to you and stretches beyond the need for new software and altered working processes. Your first step is to look at the hardware and what it's required to do.

10.6 For the scenario described above, how many people including you would be involved in such a decision-making?

In the entire company, aproximately, _____ persons.   - Dmucomp
Of these, _____ persons are located hierarchically above me. - Hiercomp
Within your department, aproximately, _____ persons.   - Dmudpt
Of these, _____ persons are located hierarchically above me. - Hierdpt

10.7 Are you affiliated to any professional association?

Yes ☐   No ☐   In process of affiliation ☐   - Profasso

If your answer is "yes" or "in process of affiliation", please list all these associations.

_____

_____

10.8 **How many employees work in the same firm you do?** - Employee

less than 100 ☐   100-249 ☐   250-499 ☐
500-999 ☐   more than 1000 ☐

10.9 **What was the 1995 turnover of the firm you work for?** - Turnover

less than R$ 1 million ☐   R$ 1-5 million ☐   R$ 5-10 million ☐
R$ 10-50 million ☐   R$ 50-100 million ☐   R$ 100-500 million ☐
over R$ 500 million ☐

10.10 **Mark the type of firm you work for.** - Typefirm

Private ☐   State owned ☐   Mixed economy ☐

10.11 **What is your age group?** - Age

between 20-29 years ☐   between 30-39 years ☐   between 40-49 years ☐
between 50-59 years ☐   between 60-69 years ☐   more than 69 years ☐

10.12 **Please indicate your sex.**   male ☐   female ☐   - Sex

10.13 **What is the highest school level you have reached?** - School

Attended high shool ☐   Graduated from high school ☐   Attended university ☐
Graduated from university ☐   Which? _____
Post-graduation specialization ☐   Which? _____
Master's degree ☐   Which? _____
Other ☐   Which? _____

11. If you wish to receive a summary with the results and discussion of this research, mark the corresponding option.

☐   Yes, I wish to receive a summary with the results and discussion of this research as soon as it is ready.

Name:
Address:

Thank you very much for your time and co-operation

11

493

494

cole aqui   cole aqui   cole aqui

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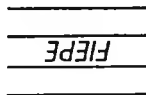
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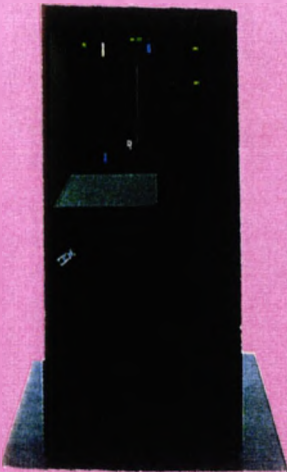
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Risk Perception Associated with the Buying of IT Brands: A National Survey.

Risk is a variable present in any buying situation where uncertainty exists about the consequences of a given choice. In the context of organisational buying, buyers often operate in conditions of uncertainty; this is especially true in areas such as information technology (IT). In the buyer's mind, branded products can identify, guarantee, structure and stabilise supply, consequently reducing this risk. The purpose of this questionnaire is to determine the amount and types of risk perceived in an IT brand buying situation.

We believe that collecting information about how you perceive IT brands and the risks associated to their acquisition, will enable us to differentiate between brand concepts, and determine how they can be refined to more closely match your needs. A study of this nature has much to offer IT buyers, particularly in Brazil where very limited attention has been paid to differentiating between brand images.

Your co-operation is vital to the success of this study. We can assure you that all the information provided will be treated with strict confidentiality. In this study, your answers will be aggregated together with those of other specialists, and will not be identified with you in any way. In advance, thank you for taking the time in helping us with this questionnaire.

Sérgio C. Benício de Mello

Instructions

---

1. While answering to this questionnaire, imagine a situation in which your firm is about to buy a branded IT product and you will participate in this acquisition.

2. Choose a number on the scale which most closely reflects your opinion. For example, when asked how certain you are about an event happening, in a 7 point scale, your options would start in the point ① representing total uncertainty, and move up the scale, as level of uncertainty diminishes until reaching ⑦ which represents absolute certainty. The option ④ is an intermediate point of the scale to be used when you are more or less certain. You should use this same logic to ansewer all other questions in the questionnaire presented in this form.

3. When answering questions in **PART 1** of the questionnaire, please imagine yourself in the situation described in the scenario.

4. When finished answering the 3rd question in **PART 2** of the questionnaire, look at the colour print before continuing. Imagine that the technical configurations of the four figures presented are similar, and that the main difference between them is the **image** you have of each **brand**. Attention! From the 4th question on, what you are going to evaluate is your perception of the image of certain brands; not their technical configurations.

5. This questionnaire is a self-addressed-pre-paid pack that does not need to be stamped. After you finish answering it, fold the questionnaire according to the marks on the back of the last page, and post it back to me.

1

The Scenario

The firm you work for has been encountering office productivity problems and has decided to hire an independent consultant firm to study the problem and give some advice. After an extensive study, one of the main recommendations was to buy a workgroup server, a mid-range laser printer, and install a network of computers.

The present situation of your firm's office environment is stand-alone systems. The move towards workgroup computing is new to you and stretches beyond the need for new software and altered working processes. Your first step is to look at the hardware and what it's required to do.

1. When deciding to buy a workgroup server and/or a mid-range laser printer, products you have never purchased before, how certain do you feel that the chosen supplier will perform satisfactorily?

Totally uncertain   1 2 3 4 5 6 7   Absolutely certain
PerformU

Now imagine that after the purchase the product(s) turned out to be of a lower quality and did not perform as expected. How serious would the consequences of this choice be for you?

Not Serious   1 2 3 4 5 6 7   Very Serious
PerformC

2. After an extensive search, you have reached a deal with a supplier to provide your firm with the appropriate equipment. Now imagine that, for whatever reason, your decision proves to be unsatisfactory. What is the likelihood of the following losses occurring, and how serious would it be for you, if they did occur?

2.1 Possible Loss: The firm you work for will lose money.

Likelihood of the loss occurring	Seriousness of the consequence
MoneyU	MoneyC
Unlikely 1 2 3 4 5 6 7 Likely	**Not Serious 1 2 3 4 5 6 7 Very Serious**

2.2 Possible Loss: You will have a tighter budget to spend in the future.

Likelihood of the loss occurring	Seriousness of the consequence
BudetU	BudgetC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.3 Possible Loss: Threaten your next promotion.

Likelihood of the loss occurring	Seriousness of the consequence
PromotU	PromotC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.4 Possible Loss: The buying decision will damage the opinion your peers hold of you.

Likelihood of the loss occurring	Seriousness of the consequence
OpinionU	OpinionC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.5 Possible Loss: The buying decision will damage the relationship of your department with others.

Likelihood of the loss occurring	Seriousness of the consequence
DptrelaU	DptrelaC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.6 Possible Loss: Your superiors will not be pleased.

Likelihood of the loss occurring	Seriousness of the consequence
SupleasU	SupleasC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.7 Possible Loss: You will feel embarrassed about your decision.

Likelihood of the loss occurring	Seriousness of the consequence
EmbarraU	EmbarraC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.8 Possible Loss: Your buying decision will affect your job performance.

Likelihood of the loss occurring	Seriousness of the consequence
JobperfU	JobperfC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

2.9 Possible Loss: Your buying decision will reduce your power to make future decisions.

Likelihood of the loss occurring	Seriousness of the consequence
PowerU	PowerC
Unlikely 1 2 3 4 5 6 7 Likely	Not Serious 1 2 3 4 5 6 7 Very Serious

3

2.10 Possible Loss: The firm will lose competitiveness.

Likelihood of the loss occurring CompetiU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence CompetiC Not Serious 1 2 3 4 5 6 7 Very Serious

2.11 Possible Loss: You will lose time to locate another source of supply.

Likelihood of the loss occurring SourceU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence SourceC Not Serious 1 2 3 4 5 6 7 Very Serious

2.12 Possible Loss: The substitution of the chosen supplier will be restricted due to contract restraints.

Likelihood of the loss occurring SubstitU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence SubstitC Not Serious 1 2 3 4 5 6 7 Very Serious

2.13 Possible Loss: You will feel personal discontent.

Likelihood of the loss occurring DiscontU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence DiscontC Not Serious 1 2 3 4 5 6 7 Very Serious

2.14 Possible Loss: Other (please specify in the space below).

Likelihood of the loss occurring OtherU Unlikely 1 2 3 4 5 6 7 Likely	Seriousness of the consequence OtherC Not Serious 1 2 3 4 5 6 7 Very Serious

Part 2

This next part of the questionnaire aims to measure how you see yourself, your perception of certain brand images, and your perception of the person likely to prefer these particular brands. It also seeks to assess your opinion about how important are certain personalistic variables to brand choice, how close you feel to each of the brands, the overall risk you associate with each of the brands, and if you have ever bought or used these brands. Finally, the level of satisfaction you associate with each these brands is to be determined.

3. People buy products and brands which reflect their self-image. In other words, products and brands represent what their owners like to see on themselves and in their lives. These self-images can exist in two different dimensions: the *actual* and the *ideal*. The actual dimension represents what a person perceives to be his or her present situation; the ideal dimension is a person's idealistic concept of a future and generally better situation. Now, try to evaluate yourself in relation to the following variables in both dimensions:

YOU ACTUALLY

Modest	1 2 3 4 5 6 7	Ambitious - Acambit
Creative	1 2 3 4 5 6 7	Unimaginative - Actcreat
Extravagant	1 2 3 4 5 6 7	Economical - Actecono
Inexperienced	1 2 3 4 5 6 7	Experienced - Actexper
Confident	1 2 3 4 5 6 7	Insecure - Actconfi
Unconvincing	1 2 3 4 5 6 7	Persuasive - Actpersu
Serious	1 2 3 4 5 6 7	Cheerful - Actcheer
Robust	1 2 3 4 5 6 7	Fragile - Actstron
Common	1 2 3 4 5 6 7	Unique - Actuncom
Broad-minded	1 2 3 4 5 6 7	Biased - Actbmind
Humble	1 2 3 4 5 6 7	Prestigious - Actprest
Inefficient	1 2 3 4 5 6 7	Efficient - Acteffic
Versatile	1 2 3 4 5 6 7	Non-versatile - Actversa
Unhelpful	1 2 3 4 5 6 7	Helpful - Acthelpf
Idealistic	1 2 3 4 5 6 7	Realistic - Actreali
Dull	1 2 3 4 5 6 7	Excitable - Actexcit
Follower	1 2 3 4 5 6 7	Leader - Actleade
Out-of-date	1 2 3 4 5 6 7	Up-to-date - Actuptda
Simple	1 2 3 4 5 6 7	Sophisticated - Actsophi
Slow	1 2 3 4 5 6 7	Quick - Actquick

YOU IDEALLY

Modest	1 2 3 4 5 6 7	Ambitious - Ideambit
Creative	1 2 3 4 5 6 7	Unimaginative - Idecre
Extravagant	1 2 3 4 5 6 7	Economical - Ideecono
Inexperienced	1 2 3 4 5 6 7	Experienced - Ideexper
Confident	1 2 3 4 5 6 7	Insecure - Ideconfi
Unconvincing	1 2 3 4 5 6 7	Persuasive - Idepersu
Serious	1 2 3 4 5 6 7	Cheerful - Idecheer
Robust	1 2 3 4 5 6 7	Fragile - Idestron
Common	1 2 3 4 5 6 7	Unique - Ideuncom
Broad-minded	1 2 3 4 5 6 7	Biased - Idebmind
Humble	1 2 3 4 5 6 7	Prestigious - Ideprest
Inefficient	1 2 3 4 5 6 7	Efficient - Ideeffic
Versatile	1 2 3 4 5 6 7	Non-versatile - Idevers
Unhelpful	1 2 3 4 5 6 7	Helpful - Idehelpf
Idealistic	1 2 3 4 5 6 7	Realistic - Idereali
Dull	1 2 3 4 5 6 7	Excitable - Ideexcit
Follower	1 2 3 4 5 6 7	Leader - Ideleade
Out-of-date	1 2 3 4 5 6 7	Up-to-date - Ideuptda
Simple	1 2 3 4 5 6 7	Sophisticated - Idesop
Slow	1 2 3 4 5 6 7	Quick - Idequick

4. Four brands of mid-range laser printers are presented to you on the colour print annexed. In relation to each brand, write on the appropriate line, the number that corresponds to the point of the scale that, in your opinion, *best describes the image of that specific brand*. Please try to rate all brands according to the scale, but if you don't feel confident in rating a specific attribute of a specific brand, write the number 8, but only use this option in a extreme situation.

		Epson	Texas	HP	Xerox
Example:		5	7	1	6
Conformist	1 2 3 4 5 6 7 Non-conformist	___	___	___	___
Modest	1 2 3 4 5 6 7 Ambitious	Epambit	Txambit	HPambit	Xrambit
Creative	1 2 3 4 5 6 7 Unimaginative	Epcreat	Txcreat	HPcreat	Xrcreat
Extravagant	1 2 3 4 5 6 7 Economical	Epecono	Txecono	HPecono	Xrecono
Inexperienced	1 2 3 4 5 6 7 Experienced	Epexper	Txexper	HPexper	Xrexper
Confident	1 2 3 4 5 6 7 Insecure	Epconfi	Txconfi	HPconfi	Xrconfi
Unconvincing	1 2 3 4 5 6 7 Persuasive	Eppersu	Txpersu	HPpersu	Xrpersu
Serious	1 2 3 4 5 6 7 Cheerful	Epcheer	Txcheer	HPcheer	Xrcheer
Robust	1 2 3 4 5 6 7 Fragile	Epstron	Txstron	HPstron	Xrstron

5

		Epson	Texas	HP	Xerox
Common	1 2 3 4 5 6 7	Unique	Epuncom	Txuncom	HPuncom	Xruncom
Broad-minded	1 2 3 4 5 6 7	Biased	Epbmind	Txbmind	HPbmind	Xrbmind
Humble	1 2 3 4 5 6 7	Prestigious	Epprest	Txprest	HPprest	Xrprest
Inefficient	1 2 3 4 5 6 7	Efficient	Epeffic	Txprest	HPprest	Xrprest
Versatile	1 2 3 4 5 6 7	Non-versatile	Epversa	Txversa	HPversa	Xrversa
Unhelpful	1 2 3 4 5 6 7	Helpful	Ephelpf	Txhelpf	HPhelpf	Xrhelpf
Idealistic	1 2 3 4 5 6 7	Realistic	Epreali	Txreali	HPreali	Xrreali
Dull	1 2 3 4 5 6 7	Excitable	Epexcit	Txexcit	HPexcit	Xrexcit
Follower	1 2 3 4 5 6 7	Leader	Epleade	Txleade	HPleade	Xrleade
Out-of-date	1 2 3 4 5 6 7	Up-to-date	Epuptda	Txuptda	HPuptda	Xruptda
Simple	1 2 3 4 5 6 7	Sophisticated	Epsophi	Txsophi	HPsophi	Xrsophi
Slow	1 2 3 4 5 6 7	Quick	Epquick	Txquick	HPquick	Xrquick

5. Now try to answer the following question: Why would a person buy a Porche instead of a Mercedes, a BMW or even a Ferrari if each is synonymous of *"great cars"* ? The answer is: because of its _identity_. Furthering this example of car brands, another question can be asked: What type of person would buy a Porche and no other car; or a Mercedes and no other car? Can this person be characterized as more or less of a leader? Would he or she be looking for more or less excitment? More or less prestige? Would this person be more or less ambitious? Now see how these questions are answered, according to our perception.

TYPE OF PERSON THAT WOULD BUY A PORCHE

Follower	1 2 3 4 5 ⑥ 7	Leader
Calm	1 2 3 4 5 ⑥ 7	Excitable
Humble	1 2 3 4 5 6 ⑦	Prestigious
Serious	1 2 3 4 5 ⑥ 7	Cheerful
Modest	1 2 3 4 5 6 ⑦	Ambitious

TYPE OF PERSON THAT WOULD BUY A MERCEDES

Follower	1 2 3 4 5 6 ⑦	Leader
Calm	1 2 ③ 4 5 6 7	Excitable
Humble	1 2 3 4 5 6 ⑦	Prestigious
Serious	1 ② 3 4 5 6 7	Cheerful
Modest	1 2 3 4 5 ⑥ 7	Ambitious

Following the same logic of the example above, mark on the scales below the type of person, that in your opinion, would buy these brands and no other. Imagine who a loyal buyer of these brands would be. Try to rate all brands according to the scale, but if you don't feel confident in rating a specific attribute of a specific brand, simply skip that attribute, leaving it with no answer, but please, only use this option in an extreme situation.

TYPE OF PERSON THAT WOULD BUY A PRODUCT FROM THE BRAND HP

Modest	1 2 3 4 5 6 7	Ambitious
Creative	1 2 3 4 5 6 7	Unimaginative
Extravagant	1 2 3 4 5 6 7	Economical

TYPE OF PERSON THAT WOULD BUY A PRODUCT FROM THE BRAND XEROX

Modest	1 2 3 4 5 6 7	Ambitious
Creative	1 2 3 4 5 6 7	Unimaginative
Extravagant	1 2 3 4 5 6 7	Economical

Inexperienced	1 2 3 4 5 6 7	Experienced	
Confident	1 2 3 4 5 6 7	Insecure	
Unconvincing	1 2 3 4 5 6 7	Persuasive	
Serious	1 2 3 4 5 6 7	Cheerful	
Robust	1 2 3 4 5 6 7	Fragile	
Common	1 2 3 4 5 6 7	Unique	
Broad-minded	1 2 3 4 5 6 7	Biased	
Humble	1 2 3 4 5 6 7	Prestigious	
Inefficient	1 2 3 4 5 6 7	Efficient	
Versatile	1 2 3 4 5 6 7	Non-versatile	
Unhelpful	1 2 3 4 5 6 7	Helpful	
Idealistic	1 2 3 4 5 6 7	Realistic	
Dull	1 2 3 4 5 6 7	Excitable	
Follower	1 2 3 4 5 6 7	Leader	
Out-of-date	1 2 3 4 5 6 7	Up-to-date	
Simple	1 2 3 4 5 6 7	Sophisticated	
Slow	1 2 3 4 5 6 7	Quick	

Inexperienced	1 2 3 4 5 6 7	Experienced	
Confident	1 2 3 4 5 6 7	Insecure	
Unconvincing	1 2 3 4 5 6 7	Persuasive	
Serious	1 2 3 4 5 6 7	Cheerful	
Robust	1 2 3 4 5 6 7	Fragile	
Common	1 2 3 4 5 6 7	Unique	
Broad-minded	1 2 3 4 5 6 7	Biased	
Humble	1 2 3 4 5 6 7	Prestigious	
Inefficient	1 2 3 4 5 6 7	Efficient	
Versatile	1 2 3 4 5 6 7	Non-versatile	
Unhelpful	1 2 3 4 5 6 7	Helpful	
Idealistic	1 2 3 4 5 6 7	Realistic	
Dull	1 2 3 4 5 6 7	Excitable	
Follower	1 2 3 4 5 6 7	Leader	
Out-of-date	1 2 3 4 5 6 7	Up-to-date	
Simple	1 2 3 4 5 6 7	Sophisticated	
Slow	1 2 3 4 5 6 7	Quick	

6. Now, imagine you are being consulted by a firm that intends to buy an IT branded product. The next set of scales solicits your opinion on how *important* it is for an IT brand to achieve a high score on certain attributes. Please mark the number that corresponds to the point of the scale that best indicates your perception.

Brand atributes:

Ambition	Less Important	1 2 3 4 5 6 7	Very Important	- Impambit
Creativity	Less Important	1 2 3 4 5 6 7	Very Important	- Impcreat
Economy	Less Important	1 2 3 4 5 6 7	Very Important	- Impecono
Experience	Less Important	1 2 3 4 5 6 7	Very Important	- Impexper
Confidence	Less Important	1 2 3 4 5 6 7	Very Important	- Impconfi
Persuasion	Less Important	1 2 3 4 5 6 7	Very Important	- Imppersu
Cheerfulness	Less Important	1 2 3 4 5 6 7	Very Important	- Impcheer
Strength	Less Important	1 2 3 4 5 6 7	Very Important	- Impstren
Uniqueness	Less Important	1 2 3 4 5 6 7	Very Important	- Impdisti
Broad-mindness	Less Important	1 2 3 4 5 6 7	Very Important	- Impparti
Prestige	Less Important	1 2 3 4 5 6 7	Very Important	- Impprest
Efficiency	Less Important	1 2 3 4 5 6 7	Very Important	- Impeffic
Versatility	Less Important	1 2 3 4 5 6 7	Very Important	- Impversa
Helpfulness	Less Important	1 2 3 4 5 6 7	Very Important	- Imphelpf
Realism	Less Important	1 2 3 4 5 6 7	Very Important	- Impideal
Excitement	Less Important	1 2 3 4 5 6 7	Very Important	- Impexcit
Leadership	Less Important	1 2 3 4 5 6 7	Very Important	- Impleade
Up-to-dateness	Less Important	1 2 3 4 5 6 7	Very Important	- Impmoder
Sophistication	Less Important	1 2 3 4 5 6 7	Very Important	- Impsophi
Quickness	Less Important	1 2 3 4 5 6 7	Very Important	- Impquick

Next, write the number 1 in the brackets beside the attribute you consider to be the *most important* . Number 2 for the second, 3 for the third and so on, to 5, leaving the remaining brackets blank. Proceed in the same manner, to julge the five atrributes you consider to be the *least important*.

7

Brand atributes:	Most important			Least important	
Ambition	[	] - Miambit	[	] - Liambit
Creativity	[	] - Micreat	[	] - Licreat
Economy	[	] - Miecono	[	] - Liecono
Experience	[	] - Miexper	[	] - Liexper
Confidence	[	] - Micofi	[	] - Liconfi
Persuasion	[	] - Mipersu	[	] - Lipersu
Cheerfulness	[	] - Micheer	[	] - Licheer
Strength	[	] - Mistren	[	] - Listren
Uniqueness	[	] - Midisti	[	] - Lidisti
Broad-mindness	[	] - Miparti	[	] - Liparti
Prestige	[	] - Miprest	[	] - Liprest
Efficiency	[	] - Mieffic	[	] - Lieffic
Versatility	[	] - Miversa	[	] - Liversa
Helpfulness	[	] - Mihelpf	[	] - Lihelpf
Realism	[	] - Miideal	[	] - Liideal
Excitement	[	] - Miexcit	[	] - Liexcit
Leadership	[	] - Mileade	[	] - Lileade
Up-to-dateness	[	] - Mimoder	[	] - Limoder
Sophistication	[	] - Misophi	[	] - Lisophi
Quickness	[	] - Miquick	[	] - Liquick

7. The next scale aims to measure how closely you feel about each of the brands and, considering all factors that may influence your decision to buy a mid-range laser printer, your overall perception of risk associated with each of the brands. Mark the number that corresponds to the point of the scale that best indicates your opinion.

		Epson	Texas	HP	Xerox
Not at all close 1 2 3 4 5 6 7 Very close		Epclose	Txclose	Hpclose	Xrclose
Not at all risky 1 2 3 4 5 6 7 Very risky		Eprisky	Txrisky	Hprisky	Xrrisky

8. During your working experience, have you ever bought or used any of the brands mentioned? Mark the number that most closely corresponds to your reality.

Options:
Actually use = 1   Have bought or used previously = 2   Never bought or used = 3

	Epson	Texas	HP	Xerox
	Workexep	Workextx	Workexhp	Workexxr

If you have marked *actually use* = 1 or *have bought or used previously* = 2 for any of the brands, what would be your degree of satisfaction with it? If you have marked *never bought or used* = 3, leave the corresponding space blank. Mark the number that corresponds to the point of the scale that best indicates your opinion.

	Epson	Texas	HP	Xerox
Totally unsatisfactory 1 2 3 4 5 6 7 Totally satisfactory	<u>Satisep</u>	<u>Satistx</u>	<u>Satishp</u>	<u>Satisxr</u>

PART 3

This part of the questionnaire is to address specific demographic, attitudinal and organisational variables.

9. Imagine the final decision about the choice of a mid-range laser printer to be purchased for the company you work for, is up to you. Chose the best option according to your perception.

First, mark the pairs that you consider to be the most similar and leave blank those which you consider to be the most dissimilar.

Epson and Texas ❑ - Eptx **Epson and Xerox** ❑ - Epxr **HP and Epson** ❑ -Hpep

Texas and Xerox ❑ - Txxr **Texas and HP** ❑ - Txhp **Xerox and HP** ❑ -Xrhp

Continuing with your evaluation, place the number $\underline{1}$ in the brackets next to the brand that would be your overall first choice, number $\underline{2}$ for your second choice, number 3 for the third and so on.

Epson _____ Ep **Texas** _____ Tx **HP** _____ Hp **Xerox** _____ Xr

10. Next, we would like to ask some general questions about you and the firm you work for.

10.1 **What is your current job title?** _____ Jobtitle _____

10.2 **How many years have you been in this job?** - Jobyears

5 years or less ❑	6-10 ❑	11-15 ❑
16-20 ❑	21-25 ❑	more than 25 years ❑

9

10.3 **Including other jobs, how many years have you worked in a position with a similar capacity to your present one?** - Posyears

5 years or less ☐   6-10 ☐   11-15 ☐

16-20 ☐   21-25 ☐   more than 25 years ☐

10.4 **Please estimate in 1995 values, the value of IT brands purchased, under your direct responsibility?** - Directpu
In Reais value. R$ _____

10.5 **Please estimate in 1995 values, the value of IT brands purchased, under other(s) responsibility, but with your co-operation?** - Cooppur
In Reais value. R$ _____

The Scenario

The firm you work for has been encountering office productivity problems and has decided to hire an independent consultant firm to study the problem and give some advice. After an extensive study, one of the main recommendations was to buy a workgroup server, a mid-range laser printer and install a network of computers.

The present situation of your firm's office environment is stand-alone systems. The move towards workgroup computing is new to you and stretches beyond the need for new software and altered working processes. Your first step is to look at the hardware and what it's required to do.

10.6 **For the scenario described above, how many people including you would be involved in such a decision-making?**

In the entire company, aproximately, _____ persons.   - Dmucomp
Of these, _____ persons are located hierarchically above me. - Hiercomp
Within your department, aproximately, _____ persons.   - Dmudpt
Of these, _____ persons are located hierarchically above me. - Hierdpt

10.7 **Are you affiliated to any professional association?**

Yes ☐   No ☐   **In process of affiliation** ☐ - Profasso

If your answer is "yes" or "in process of affiliation", please list all these associations.

_____

_____

10.8 **How many employees work in the same firm you do?** - Employee

      less than 100 ❑   **100-249** ❑   **250-499** ❑
         500-999 ❑   **more than 1000** ❑

10.9 **What was the 1995 turnover of the firm you work for?** - Turnover

   less than R\$ 1 million ❑   **R\$ 1-5 million** ❑   **R\$ 5-10 million** ❑
     R\$ 10-50 million ❑ **R\$ 50-100 million** ❑   **R\$ 100-500 million** ❑
     over R\$ 500 million ❑

10.10 **Mark the type of firm you work for.**   - Typefirm

       Private ❑   **State owned** ❑   **Mixed economy** ❑

10.11 **What is your age group?**   - Age

   between 20-29 years ❑   **between 30-39 years** ❑   **between 40-49 years** ❑
   between 50-59 years ❑   **between 60-69 years** ❑   **more than 69 years** ❑

10.12 **Please indicate your sex.**   **male** ❑   **female** ❑   - Sex

10.13 **What is the highest school level you have reached?** - School

      Attended high shool ❑   **Graduated from high school** ❑   **Attended university** ❑
    Graduated from university ❑   **Which?** _____
Post-graduation specialization ❑   **Which?** _____
       Master's degree ❑   **Which?** _____
            Other ❑   **Which?** _____

11. If you wish to receive a summary with the results and discussion of this research, mark the corresponding option.

❑   Yes, I wish to receive a summary with the results and discussion of this research as soon as it is ready.

Name:
Address:

Thank you very much for your time and co-operation

EPSON

TEXAS INSTRUMENTS

ELP - 9000ps

microLaser PowerPro

XEROX

HEWLETT PACKARD

4520mp

HP Laserjet 4Si

The Pilot Study: additional information to evaluate the questionnaire.

* To help us improve this questionnaire please answer the following questions.

[1]   How clear are the instructions to the respondent in this questionnaire?

Not at all
clear   ① ② ③ ④ ⑤ ⑥ ⑦   **Very**
                                                   clear

[2]   How clear is this questionnaire overall?

Not at all
clear   ① ② ③ ④ ⑤ ⑥ ⑦   **Very**
                                                   clear

[3]   Evaluate the comprehensiveness of this questionnaire?

Not at all
comprehensive   ① ② ③ ④ ⑤ ⑥ ⑦   **Very**
                                                   comprehensive

[4]   Are the questions and their format varied enough to retain your interest and atttention?

Yes ❑   **No** ❑   If you answer 'no', please indicate why on the line below.

_____

[5]   Are the choice options to the questions clear and exhaustive?

Yes ❑   **No** ❑   If you answer 'no', please indicate your criticism on the line below.

_____

[6]   Does the language used match the level of sophistication necessary to describe the phenomenon in question?

Yes ❑   **No** ❑   If you answer 'no', please indicate your criticism on the line below.

_____

[7]   Is the colour print annexed to the questionnaire effective and practical?

Yes ❏   **No** ❏   If you answer 'no', please indicate your criticism on the line below.

_____

[8]   Is there any question(s) you would prefer not to answer?

Yes ❏   **No** ❏   If you answer 'yes', please indicate which questions and why on the line below.

_____

[9]   How long did you take to answer the whole questionnaire?_____minutes.

[10]   If you have other comments that can help us improve this questionnaire please write them on the space below.

Thank you very much for your cooperation.

UNIVERSIDADE FEDERAL DE PERNAMBUCO
DEPARTAMENTO DE CIÊNCIAS ADMINISTRATIVAS
Av. Prof° Moraes Rego, 1235 - Cidade Universitária
Recife - PE - CEP 50670-901
Fones (081) 271.8368 / 271.8370 - Fax (081) 271.8360

26 de Setembro de 1994

Prezado(a) Sr(a),

Eu sou um pesquisador da City University Business School - Londres e estou atualmente trabalhando numa pesquisa sobre aquisição de equipamentos de informática por organisações. Estou interssado no processo de escolha que consumidores usam para comprar produtos de marca na area de informática. Porém, tenho dúvidas sobre como explorar esse tópico. Eu apreciaria sua ajuda em responder à algumas questões basiadas na sua experiêcia de mercado. As questões deverão cobrir od seguintes tópicos:

1. Identificar os productos mais proeminentes na área de informática;

2. Identificar os atributos mais importantes em produtos de marca na area de informática;

3. Descrever o processo de compra de produtos de marca na area de informática;

4. Identificar os participantes do processo decisório de compra de produtos de marca na area de informática;

5. Prover respostas sobre como e de que maneira compradores percebem risco na compra de produtos de marca na area de informática.

Eu ficarei muito agradecido se v.s. me conceder uma intrevista para discutirmos esses tópicos. Eu poderei ser contactado no endereço e/ou telefone que se encontram no rodapé desta folha. Por favor me concidere o meu pedido de forma favorável. Espero anciosamente por nosso encontro. Agradeço antecipadamente.

Atenciosamente,

Sérgio C. Benício de Mello
Pesquisador da Divisão de Marketing

Rua Setúbal 1700/1001
Recife, Pe. 51130-010
Tel: 341 1070

patrocínio:
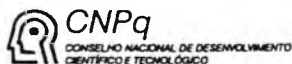
CNPq
CONSELHO NACIONAL DE DESENVOLVIMENTO
CIENTÍFICO E TECNOLÓGICO

apoio:

FIEPE

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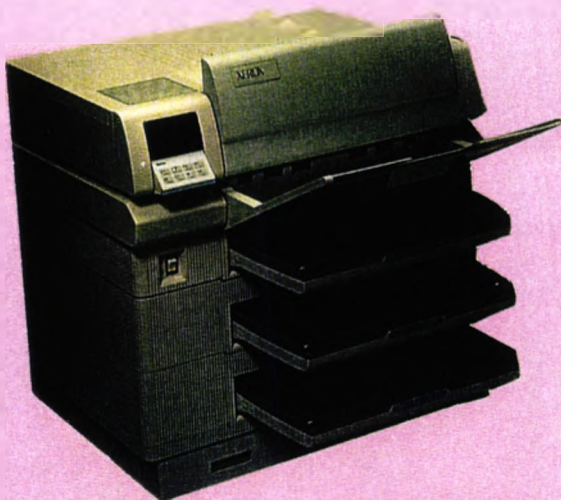Fones (081) 271.8368 / 271.8370 - Fax (081) 271.8360

Ilmo(a) Sr(a).

Eu sou professor de marketing da Universidade Federal de Pernambuco e atualmente encontro-me desenvolvendo uma pesquisa de doutorado - PhD na City University Business School em Londres, sob a orientação do Professor Martin Collins. Esta pesquisa, cujo questionário acaba de receber, está sendo financiada pelo CNPq e conta com o apoio da FIEPE e da SUCESU-PE. O objetivo deste estudo é identificar a percepção do risco associado à compra de produtos de marca na área de informática.

O universo da pesquisa constitui-se de empresas de grande e médio portes que operam em atividades industriais. Para obter uma amostra desta população, alguns critérios foram estabelecidos buscando identificar proeminentes setores da indústria nacional. Uma análise dos dados publicados no último censo industrial disponível levou-me à estratificação das áreas geográficas a serem cobertas e ao número de empresas por área. A sua empresa foi uma das escolhidas.

Depois de uma série de entrevistas com profissionais, em posição semelhante à sua, o questionário em anexo foi elaborado. Este, visa coletar a opinião de especialistas sobre as diferentes imagens que marcas de produtos de informática apresentam, os riscos associados a uma possível compra desta natureza e como estas marcas são avaliadas. Responder este questionário não deverá lhe tomar mais do que 30 minutos.

Venho por meio desta pedir a sua colaboração - em responder e retornar o questionário o mais rápido que lhe for possível. A resposta não necessita ser selada. A sua participação é importante para este trabalho e certamente trará uma grande contribuição para o sucesso desta pesquisa. Aproveito para enfatizar o total sigilo quanto às respostas dadas. Em gratidão, lhe ofereço um resumo dos resultados e das recomendações, tão logo estejam prontos. Antecipadamente, fico-lhe grato pela gentileza de aceitar ajudar-me respondendo a este questionário.

Muito obrigado pelo seu apoio.

Atenciosamente,

Sérgio Carvalho Benício de Mello
Professor da UFPE e Pesquisador da City University Business School

patrocínio:

CNPq
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apoio:

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Recife, 13 de Março de 1996

Ilmo(a) Sr(a),

Recentemente o/a Sr(a) recebeu o questionário intitulado **"Percepção do Risco Associado à Compra de Produtos na Área de Informática: Um Levantamento Nacional"** visando conhecer a sua opinião sobre diferentes aspectos relacionados ao risco que percebe ao considerar a aquisição de um produto de marca na área de informática.

Reconhecemos que uma pessoa na sua posição é sempre muito ocupada, porém o preenchimento deste questionário não deverá lhe desviar de seus afazeres por mais de 30 minutos. Como enviamos ao mercado um número limitado de questionários, sua cooperação em nos responder é vital para o sucesso desta pesquisa e certamente ampliará a qualidade de nossos resultados.

Gostaríamos de relembrar que suas respostas são estritamente confidenciais e os resultados da pesquisa só serão analisados de forma agregada. Estamos seguros em afirmar que tanto o/a Sr(a) quanto a firma para qual trabalha podem se beneficiar dos resultados e recomendações desta pesquisa. Pensando assim, nós resolvemos lhe oferecer um sumário das conclusões e recomendações feitas, tão logo estas estejam prontas.

Este estudo está relacionado à uma pesquisa de doutorado - PhD que está sendo conduzida por mim na City University Business School em Londres sob a orientação do Professor Martin Collins. Esta pesquisa está sendo financiada pela CNPq e conta com o apoio da FIEPE e da SUCESU-PE.

Se receber esta carta após ter-nos respondido, aceite o nosso sincero agradecimento pelo seu apoio. Caso não tenha ainda respondido o questionário, por favor complete-o o mais breve que lhe for possível e retorne-o a nós. O questionário é uma carta resposta comercial e não necessita ser selada.

Mais uma vez, muito obrigado pela sua valiosa cooperação.

Atenciosamente,

Sérgio Carvalho Benício de Mello
Professor da UFPE e Pesquisador da City University Business School

patrocínio: apoio:

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CIENTÍFICO E TECNOLÓGICO

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Av. Prof° Moraes Rego, 1235 - Cidade Universitária
Recife - PE - CEP 50670-901
Fones (081) 271.8368 / 271.8370 - Fax (081) 271.8360

Recife, 10 de Abril de 1996

Ilmo(a) Sr(a),

No mês passado lhe enviamos uma carta pedindo sua gentil cooperação com nossa pesquisa intitulada **"Percepção do Risco Associado à Compra de Produtos na Área de Informática: Um Levantamento Nacional."** Estamos novamente lhe escrevendo porque consideramos sua opinião extremamente relevante.

O/a Sr(a) pode não ter mais uma cópia do questionário devido a alguma razão além do seu controle. Antecipando tal problema, nós decidimos lhe enviar uma nova cópia do questionário, a qual lhe pedimos encarecidamentre que responda. Gostaríamos de aproveitar a oportunidade para relembra-lo(a) que o preenchimento de todo o questionário não demora (+/- 30 min.).

As respostas que ora temos conosco tem-se mostrado muito interessantes, porém estamos certos que estas podem ser ampliadas e melhoradas com sua cooperação. Estamos nos esforçando bastante para assegurar uma boa representatividade nesta indústria.

Caso não tenha respondido ainda por julgar que algumas respostas são confidenciais, gostaríamos de enfatizar que garantimos total sigilo quanto às respostas. Além do mais, não há razão para se preocupar ou se sentir comprometido com suas respostas desde que saiba que este questionário se destina exclusivamente a propósitos acadêmicos.

Este estudo está relacionado à uma pesquisa de doutorado - PhD que está sendo conduzida por mim na City University Business School em Londres sob a orientação do Professor Martin Collins. Esta pesquisa está sendo financiada pela CNPq e conta com o apoio da FIEPE e da SUCESU-PE.

Se esta carta cruzar com a sua resposta no correio, aceite o nosso sincero agradecimento pelo seu apoio. Caso não tenha ainda respondido o questionário, por favor complete-o o mais breve que lhe for possível e retorne-o a nós. O questionário é uma carta resposta comercial e não necessita ser selada.

Mais uma vez, muito obrigado pela sua valiosa cooperação.
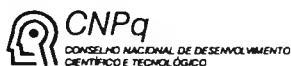
Atenciosamente,

Sérgio Carvalho Benício de Mello
Professor da UFPE e Pesquisador da City University Business School

patrocínio:

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Fones (081) 271.8368 / 271.8370 - Fax (081) 271 8360

Recife, 1 de Maio de 1996

Ilmo(a) Sr(a),

Estamos prestes a concluir o período da coleta de dados da pesquisa intitulada **"Percepção do Risco Associado à Compra de Produtos na Área de Informática: Um Levantamento Nacional"** e ainda não recebemos suas respostas.

Como julgamos sua opinião ser importante, voltamos a insistir que responda o seu questionário o mais breve possível e o retorne a nós par que possamos dar início à análise dos dados.

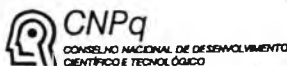Se esta correspondência cruzar com a sua resposta no correio, aceite o nosso sincero agradecimento pelo seu apoio. Caso não tenha ainda respondido o questionário, por favor complete-o o mais breve que lhe for possível e retorne-o a nós. O questionário é uma carta resposta comercial e não necessita ser selada.

Mais uma vez, muito obrigado pela sua valiosa cooperação.

Atenciosamente,

Sérgio Carvalho Benício de Mello
Professor da UFPE e Pesquisador da City University Business School

patrocínio:

CNPq
CONSELHO NACIONAL DE DESENVOLVIMENTO
CIENTÍFICO E TECNOLÓGICO

apoio:

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SOCIEDADE DOS USUARIOS DE
INFORMÁTICA E TELECOMUNICAÇÕES

Percepção do Risco Associado à Compra de Produtos de Marca na Área de Informática: Um Levantamento Nacional.

O risco é uma variável que está sempre presente nas situações onde há dúvida quanto às conseqüências de determinada escolha. No âmbito empresarial, os decisores freqüentemente operam com um certo grau de incerteza; especialmente em áreas como a informática. Produtos de marca podem, sob a ótica do comprador, identificar, garantir e até mesmo solidificar o relacionamento entre as partes compradora e vendedora, conseqüentemente reduzindo possíveis riscos. A finalidade deste questionário é identificar a quantidade e os tipos de riscos percebidos na compra de produtos de marca, na área de informática.

Acreditamos que a opinião de especialistas em informática, como o/a Sr(a), sobre diferentes produtos de marca ora disponíveis no mercado, e os riscos que se associam a uma compra desta natureza, nos capacitaria a distinguir o que diferencia cada marca e como estas poderiam ser refinadas para melhor atenderem suas necessidades. Um estudo desta natureza deve interessar a especialistas em informática; especialmente no Brasil onde se tem dado pouca atenção ao que realmente diferencia a imagem que se tem de diferentes marcas.

Sua cooperação é vital para o sucesso deste estudo. Antecipadamente, podemos garantir que toda informação será tratada com total sigilo. Neste estudo, suas respostas serão agrupadas com as de outros especialistas e não serão associadas a sua pessoa, de forma alguma. De antemão, agradecemos pelo tempo dedicado à responder este questionário.

Sérgio C. Benício de Mello

Instruções

1. Enquanto estiver respondendo a este questionário, imagine uma situação na qual sua empresa esteja prestes a adquirir um produto de marca na área de informática e que você vai participar desta compra.

2. Marque nas escalas o ponto correspondente à alternativa que melhor reflita a sua opinião. Por exemplo, se lhe for perguntado quão certo você está sobre o acontecimento de um determinado evento, em uma escala de 7 pontos, suas opções de resposta começarão no ponto@, representando total incerteza, subindo na escala à medida que o seu nível de incerteza diminui, chegando até o ponto @, que representa absoluta certeza. A opção @ é um ponto intermediário da escala, para ser usado quando você estiver mais ou menos certo. Você deve usar desta mesma lógica para responder todas as outras perguntas deste questionário que sejam apresentadas com adjetivos bipolares numa escala de 7 pontos.

3. Ao responder as questões da **PARTE 1** do questionário, por favor tente se colocar na situação descrita no cenário.

4. Ao terminar de responder a **3ª** questão na **PARTE 2** do questionário, veja o encarte colorido, antes de continuar, e imagine que as quatro figuras apresentadas são semelhantes em suas configurações técnicas e que o principal diferencial entre elas é a **imagem** que vecê tem de cada **marca**. Atenção! O que você vai avaliar a partir da **4ª** questão é a imagem, segundo a sua percepção, de certas marcas e não suas configurações técnicas.

5. Este questionário é uma carta resposta comercial e não necessita ser selado. Basta que ao termino de suas respostas, dobre o questionário conforme as marcas no verso da última página e retorne-o para mim.

O Cenário

A empresa para a qual trabalha tem encontrado problemas de produtividade, ao nível administrativo, e decidiu contratar uma empresa de consultoria para estudar o problema e dar algumas sugestões. Após um estudo extensivo, a principal recomendação foi a aquisição de um computador servidor de rede, uma impressora de rede e a instalação de uma rede de computadores.

Sua empresa atualmente possui uma série de computadores e impressoras espalhadas pelos departamentos, mas de forma descentralizada e sem inter-comunicação. A mudança para um sistema de rede lhe é desconhecida e vai além da necessidade de novos softwares e da alteração dos processos de trabalho. Seu primeiro passo é analisar o hardware e o que é esperado dele.

1. **Decidindo sobre a compra de um computador servidor de rede e/ou uma impressora de rede, produto(s) que você nunca comprou antes, quão certo se sente que o fornecedor escolhido terá um desempenho satisfatório?**

    Totalmente Incerto   1 2 3 4 5 6 7   Absolutamente Certo

    Agora, imagine que, após a compra, constatou-se que o(s) produto(s) escolhido(s) é(são) de qualidade e desempenho inferiores ao desejado, quais seriam as conseqüências desta escolha para você?

    Insignificantes   1 2 3 4 5 6 7   Muito Sérias

2. **Após uma análise das alternativas de mercado, você chegou a um acordo com um fornecedor para vender à sua empresa um equipamento. Agora imagine que, por algum motivo, sua decisão se mostre insatisfatória. Qual a probabilidade da ocorrência das seguintes perdas e qual a seriedade das conseqüências, caso aconteça?**

    2.1 Possível Perda: A empresa para a qual trabalha perderá dinheiro.

    Probabilidade da Ocorrência   Seriedade das Conseqüências

    Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.2 Possível Perda: Você terá um orçamento para compras mais apertado no futuro.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.3 Possível Perda: Ameaçará a sua próxima promoção.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.4 Possível Perda: Sua decisão de compra prejudicará a opinião que seus colegas de trabalho têm a seu respeito.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.5 Possível Perda: Sua decisão de compra prejudicará o relacionamento de seu departamento com outros.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.6 Possível Perda: Seus superiores hierárquicos ficarão aborrecidos.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.7 Possível Perda: Você se sentirá envergonhado de sua decisão.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.8 Possível Perda: Sua decisão afetará o seu desempenho no emprego.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria.

2.9 Possível Perda: Sua decisão de compra reduzirá seu poder de tomar decisões semelhantes no fututro.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.10 Possível Perda: A empresa perderá competitividade.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.11 Possível Perda: Você perderá tempo procurando outro fornecedor.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.12 Possível Perda: Dificultará a substituição do atual fornecedor devido a limitações contratuais.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.13 Possível Perda: Você se sentirá pessoalmente insatisfeito.

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

2.14 Possível Perda: Outra (especifique no espaço abaixo).

Probabilidade da Ocorrência   Seriedade das Conseqüências

Improvável 1 2 3 4 5 6 7 Provável   Insignificante 1 2 3 4 5 6 7 Muito Séria

Parte 2

A próxima parte do questionário tem como objetivo medir como você se auto-conceitua, sua percepção da imagem de certas marcas de computadores servidores de rede, o tipo de pessoa que compraria estas marcas, o nível de importância que você atribui à certas variáveis personalísticas, sua afinidade em relação a cada uma das marcas, o risco geral que você associa a cada uma das marcas, se você já comprou ou usou estas marcas, e por último o nível de satisfação que você associa às marcas.

3. **As pessoas compram produtos e marcas que reflitam suas auto-imagens - ou seja, produtos e marcas que representam as coisas que seus proprietários gostam de ver em si mesmos e em suas vidas. Estas auto-imagens podem existir em duas diferentes dimensões: a _atual_ e a _ideal_. A dimensão atual representa o conceito que a pessoa tem de sua situação hoje e a dimensão ideal, o conceito idealista de uma situação**

futurista e geralmente melhorada. Agora tente se auto-avaliar em relação às seguintes variáveis em ambas as dimensões:

VOCÊ ATUALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

VOCÊ IDEALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

4. Quatro marcas de computadores servidores de rede são mostradas no encarte colorido, em anexo. Em relação a cada marca, escreva o número correspondente ao ponto da escala na linha adequada a cada marca que, na sua opinião, *melhor descreva a imagem da determinada marca em questão*. Tente avaliar todas as marcas de acordo com a escala, mas caso não se sinta confiante em avaliar um atributo específico de uma marca, assinale o número 8, mas, por gentileza, só utilize essa opção em caso extremo.

			Fujitsu	HP	IBM	Compaq
Exemplo:			*5*	*7*	*1*	*6*
Conformista	1 2 3 4 5 6 7	Não conformista	___	___	___	___
Desambiciosa	1 2 3 4 5 6 7	Ambiciosa	___	___	___	___
Criativa	1 2 3 4 5 6 7	Sem criatividade	___	___	___	___
Gastadora	1 2 3 4 5 6 7	Econômica	___	___	___	___
Inexperiente	1 2 3 4 5 6 7	Experiente	___	___	___	___
Segura	1 2 3 4 5 6 7	Insegura	___	___	___	___
Dissuasiva	1 2 3 4 5 6 7	Persuasiva	___	___	___	___
Séria	1 2 3 4 5 6 7	Alegre	___	___	___	___
Forte	1 2 3 4 5 6 7	Frágil	___	___	___	___
			Fujitsu	HP	IBM	Compaq

Comum	1 2 3 4 5 6 7	Incomum	____	____	____	____
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa	____	____	____	____
Desprestigiada	1 2 3 4 5 6 7	Prestigiada	____	____	____	____
Ineficiente	1 2 3 4 5 6 7	Eficiente	____	____	____	____
Versátil	1 2 3 4 5 6 7	Não versátil	____	____	____	____
Não prestativa	1 2 3 4 5 6 7	Prestativa	____	____	____	____
Idealista	1 2 3 4 5 6 7	Realista	____	____	____	____
Calma	1 2 3 4 5 6 7	Agitada	____	____	____	____
Seguidora	1 2 3 4 5 6 7	Líder	____	____	____	____
Desatualizada	1 2 3 4 5 6 7	Atualizada	____	____	____	____
Simples	1 2 3 4 5 6 7	Sofisticada	____	____	____	____
Lenta	1 2 3 4 5 6 7	Rápida	____	____	____	____

5. Agora tente responder à seguinte pergunta: Porque uma determinada pessoa compra um carro Porsche, e não uma Mercedes, um BMW ou até mesmo uma Ferrari, se todas estas marcas são sinônimo de ótimos carros? A resposta é: *identificação*. Aprofundando-nos no exemplo de marcas de carros, podemos formular outra pergunta: Que tipo de pessoa compraria um Porsche e mais nenhum outro carro? Ou uma Mercedes e mais nenhum outro carro? Uma pessoa que se caracteriza mais ou menos como um líder? Seria mais ou menos agitada? Mais ou menos prestigiada? Mais ou menos alegre? Mais ou menos ambiciosa? Agora veja como nós respondemos a estas perguntas, segundo a nossa percepção.

TIPO DE PESSOA QUE COMPRARIA UM PORSCHE

Seguidora	1 2 3 4 5 @ 7	Líder
Calma	1 2 3 4 5 @ 7	Agitada
Desprestigiada	1 2 3 4 5 6 @	Prestigiada
Séria	1 2 3 4 5 @ 7	Alegre
Desambiciosa	1 2 3 4 5 6 @	Ambiciosa

TIPO DE PESSOA QUE COMPRARIA UMA MERCEDES

Seguidora	1 2 3 4 5 6 @	Líder
Calma	1 2 @ 4 5 6 7	Agitada
Desprestigiada	1 2 3 4 5 6 @	Prestigiada
Séria	1 @ 3 4 5 6 7	Alegre
Desambiciosa	1 2 3 4 5 @ 7	Ambiciosa

Seguindo a mesma lógica do exemplo acima, marque nas escalas abaixo que tipo de pessoa, segundo a sua percepção, compraria estas marcas e mais nenhuma outra. Imagine como seria um comprador leal de cada uma destas marcas. Tente avaliar cada uma das marcas abaixo de acordo com a escala, mas caso não se sinta confiante em avaliar um atributo específico, pule o atributo deixando-o em branco. Por gentileza, só utilize essa opção em caso extremo.

TIPO DE PESSOA QUE COMPRARIA UM PRODUTO DA MARCA FUJITSU

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente

TIPO DE PESSOA QUE COMPRARIA UM PRODUTO DA MARCA HP

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura

Segura	1 2 3 4 5 6 7	Insegura		Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Dissuasiva	1 2 3 4 5 6 7	Persuasiva		Séria	1 2 3 4 5 6 7	Alegre
Séria	1 2 3 4 5 6 7	Alegre		Forte	1 2 3 4 5 6 7	Frágil
Forte	1 2 3 4 5 6 7	Frágil		Comum	1 2 3 4 5 6 7	Incomum
Comum	1 2 3 4 5 6 7	Incomum		Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa		Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Desprestigiada	1 2 3 4 5 6 7	Prestigiada		Ineficiente	1 2 3 4 5 6 7	Eficiente
Ineficiente	1 2 3 4 5 6 7	Eficiente		Versátil	1 2 3 4 5 6 7	Não versátil
Versátil	1 2 3 4 5 6 7	Não versátil		Não prestativa	1 2 3 4 5 6 7	Prestativa
Não prestativa	1 2 3 4 5 6 7	Prestativa		Idealista	1 2 3 4 5 6 7	Realista
Idealista	1 2 3 4 5 6 7	Realista		Calma	1 2 3 4 5 6 7	Agitada
Calma	1 2 3 4 5 6 7	Agitada		Seguidora	1 2 3 4 5 6 7	Líder
Seguidora	1 2 3 4 5 6 7	Líder		Desatualizada	1 2 3 4 5 6 7	Atualizada
Desatualizada	1 2 3 4 5 6 7	Atualizada		Simples	1 2 3 4 5 6 7	Sofisticada
Simples	1 2 3 4 5 6 7	Sofisticada		Lenta	1 2 3 4 5 6 7	Rápida
Lenta	1 2 3 4 5 6 7	Rápida				

6. Agora, imagine que você está sendo consultado por uma firma que pretende comprar um produto de marca na área de informática. O próximo grupo de escalas visa conhecer a *importância* que você dá a cada um dos atributos abaixo ao considerar uma marca qualquer. Marque na escala o ponto que melhor reflita sua opinião.

Atributos da marca:

Ambição	Pouco importante	1 2 3 4 5 6 7	Muito importante
Criatividade	Pouco importante	1 2 3 4 5 6 7	Muito importante
Econômicidade	Pouco importante	1 2 3 4 5 6 7	Muito importante
Experiência	Pouco importante	1 2 3 4 5 6 7	Muito importante
Segurança	Pouco importante	1 2 3 4 5 6 7	Muito importante
Persuasão	Pouco importante	1 2 3 4 5 6 7	Muito importante
Alegria	Pouco importante	1 2 3 4 5 6 7	Muito importante
Força	Pouco importante	1 2 3 4 5 6 7	Muito importante
Singularidade	Pouco importante	1 2 3 4 5 6 7	Muito importante
Tendência	Pouco importante	1 2 3 4 5 6 7	Muito importante
Prestígio	Pouco importante	1 2 3 4 5 6 7	Muito importante
Eficiência	Pouco importante	1 2 3 4 5 6 7	Muito importante
Versatilidade	Pouco importante	1 2 3 4 5 6 7	Muito importante
Prestabilidade	Pouco importante	1 2 3 4 5 6 7	Muito importante
Idealismo	Pouco importante	1 2 3 4 5 6 7	Muito importante
Agitação	Pouco importante	1 2 3 4 5 6 7	Muito importante
Liderança	Pouco importante	1 2 3 4 5 6 7	Muito importante
Atualização	Pouco importante	1 2 3 4 5 6 7	Muito importante
Sofisticação	Pouco importante	1 2 3 4 5 6 7	Muito importante
Rapidez	Pouco importante	1 2 3 4 5 6 7	Muito importante

Em seguida, coloque o número 1 entre os colchetes ao lado do atributo que julge ser o *mais importante* de todos, número 2 para o segundo, número 3 para o terceiro e assim por diante até o número 5 para o quinto e deixe os demais colchetes em branco.

Proceda da mesma maneira para julgar os cinco atributos que considera de _menor importância_.

Atributos da marca	Mais Importantes		Menos Importantes	
Ambição	[	]	[	]
Criatividade	[	]	[	]
Econômicidade	[	]	[	]
Experiência	[	]	[	]
Segurança	[	]	[	]
Persuasão	[	]	[	]
Alegria	[	]	[	]
Força	[	]	[	]
Singularidade	[	]	[	]
Tendência	[	]	[	]
Prestígio	[	]	[	]
Eficiência	[	]	[	]
Versatilidade	[	]	[	]
Prestabilidade	[	]	[	]
Realismo	[	]	[	]
Agitação	[	]	[	]
Liderança	[	]	[	]
Atualização	[	]	[	]
Sofisticação	[	]	[	]
Rapidez	[	]	[	]

7. A próxima escala visa mensurar sua afinidade em relação a cada uma das marcas e, considerando todos os fatores que influenciam a compra de um computador servidor de rede combinados, o risco (geral) que você associa a cada uma destas marcas. Marque o número que corresponde ao ponto da escala que melhor indique sua opinião.

			Fujitsu	HP	IBM	Compaq
Sem afinidade	1 2 3 4 5 6 7	Muito afim	___	___	___	___
Sem risco	1 2 3 4 5 6 7	Muito arriscado	___	___	___	___

8. No decorrer de sua vida profissional, você já comprou ou usou alguma das marcas mencionadas? Marque o número que melhor corresponda a sua realidade.

Opções:

Usa no momento = 1	Já comprou ou usou anteriormente = 2	Nunca comprou ou usou = 3

	Fujitsu	HP	IBM	Compaq
	___	___	___	___

Caso tenha marcado *usa no momento* = 1 ou *já comprou ou usou anteriormente* = 2 para qualquer das marcas, qual é o nível de satisfação que você associa a ela? Se marcou *nunca comprou ou usou* = 3 , deixe o espaço correspondente em branco. Marque o número respectivo ao ponto da escala que melhor indique sua opinião.

	IBM	Fujitsu	Compaq	HP
Totalmente 1 2 3 4 5 6 7 Totalmente Insatisfatório Satisfatório	___	___	___	___

PARTE 3

Esta parte do questionário destina-se a considerar variáveis demográficas, comportamentais e organizacionais.

9. Imagine que a decisão final sobre a compra de um computador servidor de rede para a sua companhia seja sua. Escolha a melhor opção de acordo com a sua percepção.

    Primeiro, marque os pares que você considera serem os mais parecidos e deixe em branco aqueles que você considera os mais diferentes.

    Compaq e IBM   ☐   Compaq e Fujitsu   ☐   HP e Compaq   ☐

    IBM e Fujitsu   ☐   IBM e HP   ☐   Fujitsu e HP   ☐

    Dando continuidade à sua avaliação, coloque o número 1 na linha ao lado da marca que seria sua primeira escolha no geral, número 2 para a sua segunda escolha, número 3 para a terceira e assim por diante.

    IBM ___   Fujitsu ___   Compaq ___   HP ___

10. Em seguida gostaríamos de fazer algumas perguntas sobre sua pessoa e a firma para a qual trabalha.

    10.1 Qual é o seu cargo no momento? _____

    10.2 Há quantos anos está neste emprego?

    menos de 5 anos   ☐   6-10   ☐   11-15   ☐

    16-20   ☐   21-25   ☐   mais de 25 anos   ☐

10.3 Incluindo outros empregos, há quantos anos você exerce função semelhante à atual?

menos de 5 anos ☐ 6-10 ☐ 11-15 ☐

16-20 ☐ 21-25 ☐ mais de 25 anos ☐

10.4 Quanto avalia, aproximadamente, ter sido o valor em 1995 das compras de material de informática sob sua responsabilidade? **Em Reais. R$**_____

10.5 Quanto avalia, aproximadamente, ter sido o valor em 1995 das compras de material de informática sob a de responsabilidade de outra(s) pessoa(s), mas contando com sua cooperação? **Em Reais. R$**_____

O Cenário

A empresa para a qual trabalha tem encontrado problemas de produtividade, ao nível administrativo, e decidiu contratar uma empresa de consultoria para estudar o problema e dar algumas sugestões. Após um estudo extensivo, a principal recomendação foi a aquisição de um computador servidor de rede, uma impressora de rede e a instalação de uma rede de computadores.

Sua empresa atualmente possui uma série de computadores e impressoras espalhadas pelos departamentos, mas de forma descentralizada e sem inter-comunicação. A mudança para um sistema de rede lhe é desconhecida e vai além da necessidade de novos softwares e da alteração dos processos de trabalho. Seu primeiro passo é analisar o hardware e o que é esperado dele.

10.6 Para o cenário descrito acima, quantas pessoas, incluindo a sua pessoa, estariam envolvidos na tomada desta decisão?

Na empresa toda, aproximadamente, ____ pessoas.

Destas, ____ pessoas estão posicionados hierarquicamente acima de mim.

No departamento ao qual estou alocado(a), aproximadamente, ____ pessoas.

Destas, ____ pessoas estão posicionados hierarquicamente acima de mim.

10.7 Você é membro de alguma associação profissional?

Sim ☐ Não ☐ Em processo de filiação ☐

Caso tenha respondido sim ou em processo de afiliação, favor listar estas associações.

_____

_____

10.8 Quantos empregados trabalham na mesma   menos de firma que você?

menos de 100 ☐   100 - 249 ☐   250 - 499 ☐

500 - 999 ☐   mais de 1000 ☐

10.9 Qual foi o faturamento em 1995 da firma para qual trabalha?

menos de R$ 1 milhão ☐   R$ 1- 5 milhões ☐   R$ 5-10 milhões ☐

R$ 10-50 milhões ☐   R$ 50-100 milhões ☐   R$ 100-500 milhões ☐

acima de R$ 500 milhões ☐

10.10 Indique o tipo de firma para qual trabalha .

Privada ☐   Pública ☐   Economia Mista ☐

10.11 Qual é a sua faixa etária.

entre 20 - 29 anos ☐   entre 30 - 39 anos ☐   entre 40 - 49 anos ☐

entre 50 - 59 anos ☐   entre 60 - 69 anos ☐   acima de 69 anos ☐

10.12 Indique o seu sexo.   masculino ☐   feminino ☐

10.13 Qual o seu mais alto nível de escolaridade?

2º grau incompleto ☐   2º grau completo ☐   universitário incompleto ☐

universitário completo ☐   qual?_____

especialização ☐   qual?_____

mestrado ☐   qual?_____

outro ☐   qual?_____

11. **Caso deseje uma cópia do resumo dos resultados e das recomendações desta pesquisa, assinale a opção correspondente.**

☐ Sim, eu desejo receber um resumo do resultados e recomendações desta pesquisa tão logo estejam prontos.

Nome:
Endereço:

Muito obrigado pelo seu tempo e cooperação.

527

Nº -

.TIPO:

ISR - 65-235/89
UP - CT/RECIFE
DR/PE

CARTA RESPOSTA

Não é necessário selar

O sêlo será pago por

UNIVERSIDADE FEDERAL DE PERNAMBUCO
Deptº de Ciências Administrativas

50630-970 RECIFE/PE

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Av. Prof. Moraes Rêgo, 1235 - Cidade Universitária
Recife - PE - CEP 50670-901
Fones (081) 271.0368 / 271.8370 - Fax (081) 271.8240

Percepção do Risco Associado à Compra de Produtos de Marca na Área de Informática: Um Levantamento Nacional.

O risco é uma variável que está sempre presente nas situações onde há dúvida quanto às conseqüências de determinada escolha. No âmbito empresarial, os decisores freqüentemente operam com um certo grau de incerteza; especialmente em áreas como a informática. Produtos de marca podem, sob a ótica do comprador, identificar, garantir e até mesmo solidificar o relacionamento entre as partes compradora e vendedora, conseqüentemente reduzindo possíveis riscos. A finalidade deste questionário é identificar a quantidade e os tipos de riscos percebidos na compra de produtos de marca, na área de informática.

Acreditamos que a opinião de especialistas em informática, como o/a Sr(a), sobre diferentes produtos de marca ora disponíveis no mercado, e os riscos que se associam a uma compra desta natureza, nos capacitaria a distinguir o que diferencia cada marca e como estas poderiam ser refinadas para melhor atenderem suas necessidades. Um estudo desta natureza deve interessar a especialistas em informática; especialmente no Brasil onde se tem dado pouca atenção ao que realmente diferencia a imagem que se tem de diferentes marcas.

Sua cooperação é vital para o sucesso deste estudo. Antecipadamente, podemos garantir que toda informação será tratada com total sigilo. Neste estudo, suas respostas serão agrupadas com as de outros especialistas e não serão associadas a sua pessoa, de forma alguma. De antemão, agradecemos pelo tempo dedicado à responder este questionário.

Sérgio C. Benício de Mello

Instruções

1. Enquanto estiver respondendo a este questionário, imagine uma situação na qual sua empresa esteja prestes a adquirir um produto de marca na área de informática e que você vai participar desta compra.

2. Marque nas escalas o ponto correspondente à alternativa que melhor reflita a sua opinião. Por exemplo, se lhe for perguntado quão certo você está sobre o acontecimento de um determinado evento, em uma escala de 7 pontos, suas opções de resposta começarão no ponto ①, representando total incerteza, subindo na escala à medida que o seu nível de incerteza diminui, chegando até o ponto ⑦, que representa absoluta certeza. A opção ④ é um ponto intermediário da escala, para ser usado quando você estiver mais ou menos certo. Você deve usar desta mesma lógica para responder todas as outras perguntas deste questionário que sejam apresentadas com adjetivos bipolares numa escala de 7 pontos.

3. Ao responder as questões da **PARTE 1** do questionário, por favor tente se colocar na situação descrita no cenário.

4. Ao terminar de responder a **3ª** questão na **PARTE 2** do questionário, veja o encarte colorido, antes de continuar, e imagine que as quatro figuras apresentadas são semelhantes em suas configurações técnicas e que o principal diferencial entre elas é a **imagem** que vecê tem de cada **marca**. Atenção! O que você vai avaliar a partir da **4ª** questão é a imagem, segundo a sua percepção, de certas marcas e não suas configurações técnicas.

5. Este questionário é uma carta resposta comercial e não necessita ser selado. Basta que ao termino de suas respostas, dobre o questionário conforme as marcas no verso da última página e retorne-o para mim.

1

Parte 1

O Cenário

A empresa para a qual trabalha tem encontrado problemas de produtividade, ao nível administrativo, e decidiu contratar uma empresa de consultoria para estudar o problema e dar algumas sugestões. Após um estudo extensivo, a principal recomendação foi a aquisição de um computador servidor de rede, uma impressora de rede e a instalação de uma rede de computadores.

Sua empresa atualmente possui uma série de computadores e impressoras espalhadas pelos departamentos, mas de forma descentralizada e sem inter-comunicação. A mudança para um sistema de rede lhe é desconhecida e vai além da necessidade de novos softwares e da alteração dos processos de trabalho. Seu primeiro passo é analisar o hardware e o que é esperado dele.

1. Decidindo sobre a compra de um computador servidor de rede e/ou uma impressora de rede, produto(s) que você nunca comprou antes, quão certo se sente que o fornecedor escolhido terá um desempenho satisfatório?

   Totalmente Incerto   1 2 3 4 5 6 7   Absolutamente Certo

   Agora, imagine que, após a compra, constatou-se que o(s) produto(s) escolhido(s) é(são) de qualidade e desempenho inferiores ao desejado, quais seriam as conseqüências desta escolha para você?

   Insignificantes   1 2 3 4 5 6 7   Muito Sérias

2. Após uma análise das alternativas de mercado, você chegou a um acordo com um fornecedor para vender à sua empresa um equipamento. Agora imagine que, por algum motivo, sua decisão se mostre insatisfatória. Qual a probabilidade da ocorrência das seguintes perdas e qual a seriedade das conseqüências, caso aconteça?

   2.1 Possível Perda: A empresa para a qual trabalha perderá dinheiro.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.2   Possível Perda: Você terá um orçamento para compras mais apertado no futuro.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.3   Possível Perda: Ameaçará a sua próxima promoção.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.4   Possível Perda: Sua decisão de compra prejudicará a opinião que seus colegas de trabalho têm a seu respeito.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.5   Possível Perda: Sua decisão de compra prejudicará o relacionamento de seu departamento com outros.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.6   Possível Perda: Seus superiores hierárquicos ficarão aborrecidos.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.7   Possível Perda: Você se sentirá envergonhado de sua decisão.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.8   Possível Perda: Sua decisão afetará o seu desempenho no emprego.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria.

2.9   Possível Perda: Sua decisão de compra reduzirá seu poder de tomar decisões semelhantes no fututro.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.10 Possível Perda: A empresa perderá competitividade.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.11 Possível Perda: Você perderá tempo procurando outro fornecedor.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.12 Possível Perda: Dificultará a substituição do atual fornecedor devido a limitações contratuais.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.13 Possível Perda: Você se sentirá pessoalmente insatisfeito.

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

2.14 Possível Perda: Outra (especifique no espaço abaixo).

Probabilidade da Ocorrência	Seriedade das Conseqüências
Improvável 1 2 3 4 5 6 7 Provável	Insignificante 1 2 3 4 5 6 7 Muito Séria

Parte 2

A próxima parte do questionário tem como objetivo medir como você se auto-conceitua, sua percepção da imagem de certas marcas de impressoras de rede, o tipo de pessoa que compraria estas marcas, o nível de importância que você atribui à certas variáveis personalísticas, sua afinidade em relação a cada uma das marcas, o risco geral que você associa a cada uma das marcas, se você já comprou ou usou estas marcas, e por último o nível de satisfação que você associa às marcas.

3. **As pessoas compram produtos e marcas que reflitam suas auto-imagens - ou seja, produtos e marcas que representam as coisas que seus proprietários gostam de ver em si mesmos e em suas vidas. Estas auto-imagens podem existir em duas diferentes dimensões: a _atual_ e a _ideal_. A dimensão atual representa o conceito que a pessoa tem de sua situação hoje e a dimensão ideal, o conceito idealista de uma situação futurista e geralmente melhorada. Agora tente se auto-avaliar em relação às seguintes**

variáveis em ambas as dimensões:

VOCÊ ATUALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

VOCÊ IDEALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

4. Quatro marcas de impressoras de rede são mostradas no encarte colorido, em anexo. Em relação a cada marca, escreva o número correspondente ao ponto da escala na linha adequada a cada marca que, na sua opinião, *melhor descreva a imagem da determinada marca em questão*. Tente avaliar todas as marcas de acordo com a escala, mas caso não se sinta confiante em avaliar um atributo específico de uma marca, assinale o número 8, mas, por gentileza, só utilize essa opção em caso extremo.

			HP	Epson	Xerox	Texas
Exemplo:			*5*	*7*	*1*	*6*
Conformista	1 2 3 4 5 6 7	Não conformista	___	___	___	___
Desambiciosa	1 2 3 4 5 6 7	Ambiciosa	___	___	___	___
Criativa	1 2 3 4 5 6 7	Sem criatividade	___	___	___	___
Gastadora	1 2 3 4 5 6 7	Econômica	___	___	___	___
Inexperiente	1 2 3 4 5 6 7	Experiente	___	___	___	___
Segura	1 2 3 4 5 6 7	Insegura	___	___	___	___
Dissuasiva	1 2 3 4 5 6 7	Persuasiva	___	___	___	___
Séria	1 2 3 4 5 6 7	Alegre	___	___	___	___
Forte	1 2 3 4 5 6 7	Frágil	___	___	___	___
			HP	Epson	Xerox	Texas

variáveis em ambas as dimensões:

VOCÊ ATUALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

VOCÊ IDEALMENTE

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica
Inexperiente	1 2 3 4 5 6 7	Experiente
Segura	1 2 3 4 5 6 7	Insegura
Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Séria	1 2 3 4 5 6 7	Alegre
Forte	1 2 3 4 5 6 7	Frágil
Comum	1 2 3 4 5 6 7	Incomum
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Ineficiente	1 2 3 4 5 6 7	Eficiente
Versátil	1 2 3 4 5 6 7	Não versátil
Não prestativa	1 2 3 4 5 6 7	Prestativa
Idealista	1 2 3 4 5 6 7	Realista
Calma	1 2 3 4 5 6 7	Agitada
Seguidora	1 2 3 4 5 6 7	Líder
Desatualizada	1 2 3 4 5 6 7	Atualizada
Simples	1 2 3 4 5 6 7	Sofisticada
Lenta	1 2 3 4 5 6 7	Rápida

4. Quatro marcas de impressoras de rede são mostradas no encarte colorido, em anexo. Em relação a cada marca, escreva o número correspondente ao ponto da escala na linha adequada a cada marca que, na sua opinião, *melhor descreva a imagem da determinada marca em questão*. Tente avaliar todas as marcas de acordo com a escala, mas caso não se sinta confiante em avaliar um atributo específico de uma marca, assinale o número 8, mas, por gentileza, só utilize essa opção em caso extremo.

			HP	Epson	Xerox	Texas
Exemplo:			*5*	*7*	*1*	*6*
Conformista	1 2 3 4 5 6 7	Não conformista	___	___	___	___
Desambiciosa	1 2 3 4 5 6 7	Ambiciosa	___	___	___	___
Criativa	1 2 3 4 5 6 7	Sem criatividade	___	___	___	___
Gastadora	1 2 3 4 5 6 7	Econômica	___	___	___	___
Inexperiente	1 2 3 4 5 6 7	Experiente	___	___	___	___
Segura	1 2 3 4 5 6 7	Insegura	___	___	___	___
Dissuasiva	1 2 3 4 5 6 7	Persuasiva	___	___	___	___
Séria	1 2 3 4 5 6 7	Alegre	___	___	___	___
Forte	1 2 3 4 5 6 7	Frágil	___	___	___	___
			HP	Epson	Xerox	Texas

Comum	1 2 3 4 5 6 7	Incomum	____	____	____	____
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa	____	____	____	____
Desprestigiada	1 2 3 4 5 6 7	Prestigiada	____	____	____	____
Ineficiente	1 2 3 4 5 6 7	Eficiente	____	____	____	____
Versátil	1 2 3 4 5 6 7	Não versátil	____	____	____	____
Não prestativa	1 2 3 4 5 6 7	Prestativa	____	____	____	____
Idealista	1 2 3 4 5 6 7	Realista	____	____	____	____
Calma	1 2 3 4 5 6 7	Agitada	____	____	____	____
Seguidora	1 2 3 4 5 6 7	Líder	____	____	____	____
Desatualizada	1 2 3 4 5 6 7	Atualizada	____	____	____	____
Simples	1 2 3 4 5 6 7	Sofisticada	____	____	____	____
Lenta	1 2 3 4 5 6 7	Rápida	____	____	____	____

5.   Agora tente responder à seguinte pergunta: Porque uma determinada pessoa compra um carro Porsche, e não uma Mercedes, um BMW ou até mesmo uma Ferrari, se todas estas marcas são sinônimo de ótimos carros? A resposta é: _identificação_. Aprofundando-nos no exemplo de marcas de carros, podemos formular outra pergunta: Que tipo de pessoa compraria um Porsche e mais nenhum outro carro? Ou uma Mercedes e mais nenhum outro carro? Uma pessoa que se caracteriza mais ou menos como um líder? Seria mais ou menos agitada? Mais ou menos prestigiada? Mais ou menos alegre? Mais ou menos ambiciosa? Agora veja como nós respondemos a estas perguntas, segundo a nossa percepção.

TIPO DE PESSOA QUE COMPRARIA UM PORSCHE

Seguidora	1 2 3 4 5 ⑥ 7	Líder
Calma	1 2 3 4 5 ⑥ 7	Agitada
Desprestigiada	1 2 3 4 5 6 ⑦	Prestigiada
Séria	1 2 3 4 5 ⑥ 7	Alegre
Desambiciosa	1 2 3 4 5 6 ⑦	Ambiciosa

TIPO DE PESSOA QUE COMPRARIA UMA MERCEDES

Seguidora	1 2 3 4 5 6 ⑦	Líder
Calma	1 2 ③ 4 5 6 7	Agitada
Desprestigiada	1 2 3 4 5 6 ⑦	Prestigiada
Séria	1 ② 3 4 5 6 7	Alegre
Desambiciosa	1 2 3 4 5 ⑥ 7	Ambiciosa

Seguindo a mesma lógica do exemplo acima, marque nas escalas abaixo que tipo de pessoa, segundo a sua percepção, compraria estas marcas e mais nenhuma outra. Imagine como seria um comprador leal de cada uma destas marcas. Tente avaliar cada uma das marcas abaixo de acordo com a escala, mas caso não se sinta confiante em avaliar um atributo específico, pule o atributo deixando-o em branco. Por gentileza, só utilize essa opção em caso extremo.

TIPO DE PESSOA QUE COMPRARIA UM PRODUTO DA MARCA XEROX

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade

TIPO DE PESSOA QUE COMPRARIA UM PRODUTO DA MARCA TEXAS

Desambiciosa	1 2 3 4 5 6 7	Ambiciosa
Criativa	1 2 3 4 5 6 7	Sem criatividade
Gastadora	1 2 3 4 5 6 7	Econômica

Gastadora	1 2 3 4 5 6 7	Econômica	Inexperiente	1 2 3 4 5 6 7	Experiente
Inexperiente	1 2 3 4 5 6 7	Experiente	Segura	1 2 3 4 5 6 7	Insegura
Segura	1 2 3 4 5 6 7	Insegura	Dissuasiva	1 2 3 4 5 6 7	Persuasiva
Dissuasiva	1 2 3 4 5 6 7	Persuasiva	Séria	1 2 3 4 5 6 7	Alegre
Séria	1 2 3 4 5 6 7	Alegre	Forte	1 2 3 4 5 6 7	Frágil
Forte	1 2 3 4 5 6 7	Frágil	Comum	1 2 3 4 5 6 7	Incomum
Comum	1 2 3 4 5 6 7	Incomum	Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa
Não tendenciosa	1 2 3 4 5 6 7	Tendenciosa	Desprestigiada	1 2 3 4 5 6 7	Prestigiada
Desprestigiada	1 2 3 4 5 6 7	Prestigiada	Ineficiente	1 2 3 4 5 6 7	Eficiente
Ineficiente	1 2 3 4 5 6 7	Eficiente	Versátil	1 2 3 4 5 6 7	Não versátil
Versátil	1 2 3 4 5 6 7	Não versátil	Não prestativa	1 2 3 4 5 6 7	Prestativa
Não prestativa	1 2 3 4 5 6 7	Prestativa	Idealista	1 2 3 4 5 6 7	Realista
Idealista	1 2 3 4 5 6 7	Realista	Calma	1 2 3 4 5 6 7	Agitada
Calma	1 2 3 4 5 6 7	Agitada	Seguidora	1 2 3 4 5 6 7	Líder
Seguidora	1 2 3 4 5 6 7	Líder	Desatualizada	1 2 3 4 5 6 7	Atualizada
Desatualizada	1 2 3 4 5 6 7	Atualizada	Simples	1 2 3 4 5 6 7	Sofisticada
Simples	1 2 3 4 5 6 7	Sofisticada	Lenta	1 2 3 4 5 6 7	Rápida
Lenta	1 2 3 4 5 6 7	Rápida			

6. Agora, imagine que você está sendo consultado por uma firma que pretende comprar um produto de marca na área de informática. O próximo grupo de escalas visa conhecer a *importância* que você dá a cada um dos atributos abaixo ao considerar uma marca qualquer. Marque na escala o ponto que melhor reflita sua opinião.

Atributos da marca:

Ambição	Pouco importante	1 2 3 4 5 6 7 Muito importante
Criatividade	Pouco importante	1 2 3 4 5 6 7 Muito importante
Econômicidade	Pouco importante	1 2 3 4 5 6 7 Muito importante
Experiência	Pouco importante	1 2 3 4 5 6 7 Muito importante
Segurança	Pouco importante	1 2 3 4 5 6 7 Muito importante
Persuasão	Pouco importante	1 2 3 4 5 6 7 Muito importante
Alegria	Pouco importante	1 2 3 4 5 6 7 Muito importante
Força	Pouco importante	1 2 3 4 5 6 7 Muito importante
Singularidade	Pouco importante	1 2 3 4 5 6 7 Muito importante
Tendência	Pouco importante	1 2 3 4 5 6 7 Muito importante
Prestígio	Pouco importante	1 2 3 4 5 6 7 Muito importante
Eficiência	Pouco importante	1 2 3 4 5 6 7 Muito importante
Versatilidade	Pouco importante	1 2 3 4 5 6 7 Muito importante
Prestabilidade	Pouco importante	1 2 3 4 5 6 7 Muito importante
Idealismo	Pouco importante	1 2 3 4 5 6 7 Muito importante
Agitação	Pouco importante	1 2 3 4 5 6 7 Muito importante
Liderança	Pouco importante	1 2 3 4 5 6 7 Muito importante
Atualização	Pouco importante	1 2 3 4 5 6 7 Muito importante
Sofisticação	Pouco importante	1 2 3 4 5 6 7 Muito importante
Rapidez	Pouco importante	1 2 3 4 5 6 7 Muito importante

Em seguida, coloque o número 1 entre os colchetes ao lado do atributo que julge ser o *mais importante* de todos, número 2 para o segundo, número 3 para o terceiro e

assim por diante até o número 5 para o quinto e deixe os demais colchetes em branco. Proceda da mesma maneira para julgar os cinco atributos que considera de *menor importância*.

Atributos da marca	Mais Importantes	Menos Importantes
Ambição	[ ]	[ ]
Criatividade	[ ]	[ ]
Econômicidade	[ ]	[ ]
Experiência	[ ]	[ ]
Segurança	[ ]	[ ]
Persuasão	[ ]	[ ]
Alegria	[ ]	[ ]
Força	[ ]	[ ]
Singularidade	[ ]	[ ]
Tendência	[ ]	[ ]
Prestígio	[ ]	[ ]
Eficiência	[ ]	[ ]
Versatilidade	[ ]	[ ]
Prestabilidade	[ ]	[ ]
Realismo	[ ]	[ ]
Agitação	[ ]	[ ]
Liderança	[ ]	[ ]
Atualização	[ ]	[ ]
Sofisticação	[ ]	[ ]
Rapidez	[ ]	[ ]

7. A próxima escala visa mensurar sua afinidade em relação a cada uma das marcas e, considerando todos os fatores que influenciam a compra de uma impressora de rede combinados, o risco (geral) que você associa a cada uma destas marcas. Marque o número que corresponde ao ponto da escala que melhor indique sua opinião.

			HP	Epson	Xerox	Texas
Sem afinidade	1 2 3 4 5 6 7	Muito afim	___	___	___	___
Sem risco	1 2 3 4 5 6 7	Muito arriscado	___	___	___	___

8. No decorrer de sua vida profissional, você já comprou ou usou alguma das marcas mencionadas? Marque o número que melhor corresponda a sua realidade.

Opções:

Usa no momento = 1	Já comprou ou usou anteriormente = 2	Nunca comprou ou usou = 3

	HP	Epson	Xerox	Texas
	___	___	___	___

Caso tenha marcado *usa no momento* = 1 ou *já comprou ou usou anteriormente* = 2 para qualquer das marcas, qual é o nível de satisfação que você associa a ela? Se marcou *nunca comprou ou usou* = 3 , deixe o espaço correspondente em branco. Marque o número respectivo ao ponto da escala que melhor indique sua opinião.

		HP	Epson	Xerox	Texas
Totalmente Insatisfatório	1 2 3 4 5 6 7	Totalmente Satisfatório	____	____	____	____

PARTE 3

Esta parte do questionário destina-se a considerar variáveis demográficas, comportamentais e organizacionais.

9. Imagine que a decisão final sobre a compra de um computador servidor de rede para a sua companhia seja sua. Escolha a melhor opção de acordo com a sua percepção.

    Primeiro, marque os pares que você considera serem os mais parecidos e deixe em branco aqueles que você considera os mais diferentes.

    Epson e Texas ☐   Epson e Xerox ☐   HP e Epson ☐

    Texas e Xerox ☐   Texas e HP ☐   Xerox e HP ☐

    Dando continuidade à sua avaliação, coloque o número 1 na linha ao lado da marca que seria sua primeira escolha no geral, número 2 para a sua segunda escolha, número 3 para a terceira e assim por diante.

    HP ____   Epson ____   Xerox ____   Texas ____

10. Em seguida gostaríamos de fazer algumas perguntas sobre sua pessoa e a firma para a qual trabalha.

    10.1 Qual é o seu cargo no momento?_____

    10.2 Há quantos anos está neste emprego?

    menos de 5 anos ☐   6-10 ☐   11-15 ☐

    16-20 ☐   21-25 ☐   mais de 25 anos ☐

10.3 Incluindo outros empregos, há quantos anos você exerce função semelhante à atual?

menos de 5 anos ☐   6-10 ☐   11-15 ☐

16-20 ☐   21-25 ☐   mais de 25 anos ☐

10.4 Quanto avalia, aproximadamente, ter sido o valor em 1995 das compras de material de informática sob sua responsabilidade? **Em Reais. R$**_____

10.5 Quanto avalia, aproximadamente, ter sido o valor em 1995 das compras de material de informática sob a de responsabilidade de outra(s) pessoa(s), mas contando com sua cooperação?   **Em Reais. R$**_____

O Cenário

A empresa para a qual trabalha tem encontrado problemas de produtividade, ao nível administrativo, e decidiu contratar uma empresa de consultoria para estudar o problema e dar algumas sugestões. Após um estudo extensivo, a principal recomendação foi a aquisição de um computador servidor de rede, uma impressora de rede e a instalação de uma rede de computadores.

Sua empresa atualmente possui uma série de computadores e impressoras espalhadas pelos departamentos, mas de forma descentralizada e sem inter-comunicação. A mudança para um sistema de rede lhe é desconhecida e vai além da necessidade de novos softwares e da alteração dos processos de trabalho. Seu primeiro passo é analisar o hardware e o que é esperado dele.

10.6 Para o cenário descrito acima, quantas pessoas, incluindo a sua pessoa, estariam envolvidos na tomada desta decisão?

Na empresa toda, aproximadamente, ____ **pessoas.**

Destas, ____ **pessoas estão posicionados hierarquicamente acima de mim.**

No departamento ao qual estou alocado(a), aproximadamente, ____ **pessoas.**

Destas, ____ **pessoas estão posicionados hierarquicamente acima de mim.**

10.7 Você é membro de alguma associação profissional?

Sim ☐   Não ☐   Em processo de filiação ☐

Caso tenha respondido sim ou em processo de afiliação, favor listar estas associações.

_____

_____

10.8 Quantos empregados trabalham na mesma   menos de firma que você?

menos de 100 ☐   100 - 249 ☐   250 - 499 ☐

500 - 999 ☐   mais de 1000 ☐

10.9 Qual foi o faturamento em 1995 da firma para qual trabalha?

menos de R$ 1 milhão ☐   R$ 1- 5 milhões ☐   R$ 5-10 milhões ☐

R$ 10-50 milhões ☐   R$ 50-100 milhões ☐   R$ 100-500 milhões ☐

acima de R$ 500 milhões ☐

10.10 Indique o tipo de firma para qual trabalha   .

Privada ☐   Pública ☐   Economia Mista ☐

10.11 Qual é a sua faixa etária.

entre 20 - 29 anos ☐   entre 30 - 39 anos ☐   entre 40 - 49 anos ☐

entre 50 - 59 anos ☐   entre 60 - 69 anos ☐   acima de 69 anos ☐

10.12 Indique o seu sexo.   masculino ☐   feminino ☐

10.13 Qual o seu mais alto nível de escolaridade?

2º grau incompleto ☐   2º grau completo ☐   universitário incompleto ☐

universitário completo ☐   qual?_____

especialização ☐   qual?_____

mestrado ☐   qual?_____

outro ☐   qual?_____

11. **Caso deseje uma cópia do resumo dos resultados e das recomendações desta pesquisa, assinale a opção correspondente.**

☐ Sim, eu desejo receber um resumo do resultados e recomendações desta pesquisa tão logo estejam prontos.

Nome:
Endereço:

Muito obrigado pelo seu tempo e cooperação.

540

Nº -   TIPO:

ISR - 65-235/89
UP - CT/RECIFE
DR/PE

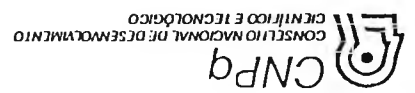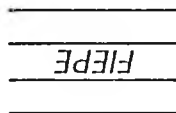# CARTA RESPOSTA

Não é necessário selar

O selo será pago por

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ESTUDO PILOTO: Informação adicional para avaliação do questionário.

*Para nos ajudar a melhorar este questionário, favor responder às seguintes perguntas.

[1]   Quão claras estão as instruções deste questionário para o respondente?

totalmente confusas ① ② ③ ④ ⑤ ⑥ ⑦ muito claras

[2]   Como você avaliaria este questionário no geral?

totalmente confuso ① ② ③ ④ ⑤ ⑥ ⑦ muito claro

[3]   As perguntas e o seu formato são suficientemente variadas para reter o seu interesse e atenção?
        SIM ☐   NÃO ☐   Se sua resposta for "não", por favor indique sua crítica na linha abaixo.

_____

[4]   As opções de escolha são claras e esgotam todas as possibilidades?
        SIM ☐   NÃO ☐   Se sua resposta for "não", por favor indique sua crítica na linha abaixo.

_____

[5]   A linguagem usada é compatível com a sofisticação necessária para descrever o fenômeno em questão?
        SIM ☐   NÃO ☐   Se sua resposta for "não", por favor indique sua crítica na linha abaixo.

_____

[6]   O encarte colorido anexado ao questionário é eficaz e prático?
        SIM ☐   NÃO ☐   Se sua resposta for "não", por favor indique sua crítica na linha abaixo.

_____

[7]   Existe no questionário alguma pergunta que você prefere não responder?
        SIM ☐   NÃO ☐   Se sua resposta for "sim", por favor indique que pergunta e a razão na linha abaixo.

_____

[8]   Quanto tempo levou para responder todo o questionário?_____ minutos.

[9]   Se você tiver outros comentários possa nos ajudar a melhorar este questionário, por favor escreva-os no espaço abaixo.

Muito obrigado pela sua cooperação

APPENDIX 17 - Model of Envelop

Some insights on brand history,
management and deeds.

The aim of this appendix is to explain the origins and commitment of the seven brands being used in this study. These brands were chosen after careful consideration and passing through a selective criteria (readers are referred to the section 'Selection of Products and Brands' in Chapter 5 – 'Methodological Issues' for a detailed explanation on brand selection). This appendix presents a brief view on the history, management ideals and exploitation of each of the seven brands. It is hoped that by reading about each brand the reader can have a better understanding of their identity and recall any associations yet subconscious.

COMPAQ Computer Corporation's decision in 1991 to adopt a single brand for all consumers and price points tipped the scales in turning its first quarterly loss into profits of around U$900 million in 1994. Today the company places heavy stress on brand positioning, what it calls the "COMPAQ soul", as smart in all it does, human and caring in its approach, reliable in all respects, and a source of useful innovation, as opposed to innovation for its own sake. This brand image reflects Compaq's change of direction from product-centered to consumer-centered.

Founded in 1982 by three engineers, COMPAQ quickly built a reputation on product attributes. Sales boomed in a still young computer market. The company built the first 386-based PC, notebook and PC server. The climate of pervasive PC technology at the end of the 1980s made change essential. For COMPAQ the solution was brand definition, conveying the image of a leading brand that customers around the world would rely on to provide the products and

services they needed to easily gain access to, use and manage information (source: Kochan, 1996; p.44).

I NTERNATIONAL BUSINESS MACHINES better known by its acronym **IBM** or by the friendly term "Big Blue" – is one of the best known and best respected brands in the world. The IBM brand quite simply promises technological leadership, reliability and quality.

A combination of computing inventiveness, management, professionalism and marketing expertise won it the position in the 1950s of probably the world's leading brand. When Paul Rand created the now famous IBM logo in that decade, the IBM was the computer, as the Hoover was the vacuum cleaner. Such was consumer enthusiasm, customers even queued up outside the company's factories to pull them off the production line.

IBM led the way in computer technology for business computers through the 1970s and personal consumers through the 1980s, when the company and the brand started to be victims of their own success. Clones and technologists undermined the IBM package, size made it harder for IBM to offer the former service excellence and rivals offering less service but equally reliable products undercut its formerly premium prices. The brand was under threat.

Consumers rebelled against the former king of the computer, arguing that it had become arrogant, expensive and uncaring. The stock price fell – the management lost heart. IBM responded by creating smaller, semi-independent business units that carried their own messages. That did not work as the new smaller units failed to provide the continuity of the single IBM brand. IBM then sought to re-emphasise its brand name and rebuild a clear and unified identity. It backed this strategy with a global advertising campaign conveying the image of a warmer, more flexible

company, and a customer-driven organisation. Research now suggests the new messages are already paying dividends.

IBM has learned the hard way that branding is an evolutionary process. It must respond to customer needs and expectations, and it requires constant updating and monitoring. One false step and the work of generations can be threatened (source: Kochan, 1996; p.79).

FUJITSU-ICL Computers is an European company with a wealth of experience in the design, manufacture, sales and marketing of personal computers, server systems and the associated system software required to optimise business operations.

The PC development and manufacturing facility is situated in Finland and was originally acquired by ICL in 1991 from NokiaData. Now part of a new company, they provide many of their professional range of PC products that are renowned for their performance, quality and ergonomics to the FUJITSU-ICL Company.

FUJITSU-ICL's corporate headquarters is located in Bracknell, England, where specialist service such as finance, legal, corporate marketing and public relations are provided. To complement this they have strong local country operations in their key markets throughout Europe. In counties where they have their own sales organisations, they deal with the local ICL systems integration companies as corporate resellers. Overseas business from countries where they are not directly represented is handled by their international trade organisation also located in Bracknell. In some countries where they are not directly involved in selling, the local ICL organisation acts as a non-exclusive distributor to their products.

Also in Bracknell they design and develop a full range of SPARC and INTEL based servers. Their engineers have worked closely with their colleagues in other parts of the FUJITSU group in Japan to ensure that they obtain the economies of scale that are possible from a truly global operation. FUJITSU distributes these products throughout the world.

To ensure that their customers can enjoy continued satisfaction from their products, they offer competitive pan-European warranties on all their products. In addition, support services are available through their strategic service provider ICL Sorbus and FUJITSU subsidiaries worldwide. For these organisations wishing to provide their own support services they have a third party accreditation programme designed to ensure smooth trouble-free operations (source: www.fujitsu.com, January 1997).

E PSON is the sales, marketing and customer service affiliated of SEIKO EPSON Corporation, a global manufacturer of printers, computers, watches and other technology products. EPSON products are designed for a wide range of customers in business, government and at home.

Epson's history spans over 100 years with a heritage that began in watch-making and led to the invention of the world's first quartz watch along with many other technology "fruits." Today Epson's executive management team continues to lead the company commitment to customer service and support while providing products that enhance people's life. The commitment permeates Epson's entire worldwide network.

Management in EPSON is proud of being a good corporate citizen while trying to contribute to each locale in which they operate, through the many opportunities afforded by their business activities-development, production and

marketing – as well as by supporting cultural and community activities (Mr. Hideaki Yasukawa, President of SEIKO EPSON).

The SEIKO group is made up of more than 60 companies, including subsidiaries, affiliates and co-operating independent corporations. The senior members of this group are SEIKO Corporation, SEIKO Instruments inc., and SEIKO EPSON CORP.

SEIKO EPSON was founded in 1942; it has a long history of pioneering developments in micro-mechanics, the ultimate frontier of mechanical and electronic engineering. Possessing sophisticated research and development skills, it manufacturers original, innovative products with high added value, including computers, printers, semiconductors, and liquid crystal displays among other advanced electronic devices (source: www.epson.com, January 1997).

T**EXAS** INSTRUMENTS inc. is headquarted in Dallas, Texas and is one of the world's foremost high-technology companies, with sales or manufacturing operations in more than 30 countries. TEXAS INSTRUMENTS products and services include semi-conductors, defence electronics systems, software productivity tools, mobile computing products (e.g., laptop PCs) and consumer products, electronical controls, and metallurgical materials.

TEXAS is part of the exclusive club of Fortune's 500, ranking 106 in 1994. It's turnover per year is around U$13.1 billion with U$1.9 billion in digital products alone.

TEXAS Instrument's management describes themselves as a high-technology company, with a strong history of innovation. They are credited the invention and production of the first commercial silicon transistor, the first

transistor radio, and in 1958 the first integrated circuit - which made the era of modern electronics possible. Today, these semi-conductor microchips are the basis of all computers and electronic equipment built in the world.

From its beginning in the 1950s, the electronics industry has undergone continuous change. Today, the rate of change is accelerating, and companies unable to keep pace are not surviving to enjoy the enormous opportunities of the 21st century, when electronics is expected to become the world's largest industry. TEXAS INSTRUMENTS exists to create, make and market useful products and services that satisfy the needs of customers throughout the world.

TEXAS INSTRUMENTS expects the highest levels of performance and integrity. They propose create an environment where people are valued as individuals and team members and treated with respect, dignity and fairness. They strive to create opportunities where their users can develop and reach full potential and achieve professional and personal goals (source: www.ti.com, January 1997).

HEWLETT-PACKARD, also known as HP, is one of the biggest information technology (IT) companies in the market. They have been part of the IT revolution since its beginnings in the 1950s. In this time it has built up a formidable reputation for quality and technical innovation, often working in tandem with the other giants in the field: its computers, for instance, they were among the first to exploit Intel's Pentium chip and its researchers helped develop parts of Microsoft's Windows operating system.

HP's workforce of around 100 000 worldwide now handles orders of around U$25 billion a year, about half in the USA alone. Its products tend to be at the upper end of the scale, both in sophistication and in price. The fields covered are immense, ranging from fax machines and personal

computers to specialist medical and scientific equipment and vast telecommunications systems. HP is the market leader in printers. Since 1984 over 30 million of its laser and inkjet printers have been sold. Perhaps more importantly, they are the industrial standard.

Beyond the technological front, the company is very aware of its corporate image. It operates a stated policy of economic, intellectual and social responsibility, both through its educational and environmental projects and through philanthropic donations amounting to U$67 million a year (source: Kochan, 1996; p.73).

XEROX is such a well-known trade mark that in many countries it has become a generic term for photocopying. It is used as a verb in the same way that 'Hoover' is used to mean "vacuum cleaner" in the UK.

Taken from the ancient Greek words for "dry" and "writing", the first xerographic image was invented by Chester Carlson in 1938. But it was until 1948, with developments at the Haloid Company, that the first XEROX copier was introduced into the market. Its arrival signalled the start of the continuing trend towards ever-greater office efficiency. The late 1950s saw the introduction of the first automatic office copier to use ordinary paper.

The XEROX Corporation today develops, manufacturers and markets the widest array of document-processing products and systems in the industry, supplying more than 130 countries from its worldwide customer operations. The company describes its philosophy as "meeting the needs of the present, without compromising the future generations' ability to fulfil their requirements". Indeed the company's commitment to providing its customers with innovative products and services that fully satisfy their needs has

led to international recognition, with the securing of prestigious awards in many countries (source: Kochan, 1996; p.184).