

A SURVEY OF PERCEIVED RISKS ON THE USE OF MOBILE TELEPHONE SERVICES AMONG CONSUMERS IN NAIROBI

BY:

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A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS FOR THE MASTER OF BUSINESS ADMINISTRATION DEGREE, FACULTY OF COMMERCE UNIVERSITY OF NAIROBI.

SEPTEMBER, 2002

DECLARATION

This thesis is my original work and has not been submitted for a degree in another university.


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This thesis has been submitted for examination with my approval as the university supervisor.

Signature.....

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Date.....18/10/2002

Dedication

This piece of work is dedicated to:

Sasha, my sleeping beauty who never cried, may you rest in peace and to my late Father John Kipkemoi who made me believe that the sky was the limit.

Acknowledgment

I wish to acknowledge the support of many who contributed to my success in one-way or another.

First I wish to thank my employer Telkom Kenya limited for the partial sponsorship, all my colleagues and especially Engineer Gathuri Njorohio for facilitating the sponsorship.

My family both nucleus and extended who remained a source of inspiration through out the programme.

And lot of appreciation to all the lecturers in the programme and especially my supervisor Dr.Musyoka .

Thank you all for your support.

ABSTRACT

The study was carried out with the aim of establishing if the users of mobile telephone service perceive any risks, the nature and extent of these risks and the strategies they have adopted so as to cope with their perceived risks.

In order to achieve the objectives a questionnaire with both structured and semi-structured questions was administered to the respondents by a research assistant. A sample of one hundred respondents was selected from the two service providers ie Safaricom and Kencell. The data was collected from the respondents at the service provider's customer service outlets in the city center. The data collected was analyzed using mean scores, frequencies, percentages and presented in tables .A five point likert scale was used to identify and measure the extent of perceived risk by the respondents. Correlation analysis was done so as to relate the extent of risk perception on the use of mobile telephone services to the respondents' demographics which included age, gender, occupation and education level.

From the findings of the study the following conclusions were made:

- Mobile telephone users in Kenya perceive various risks. These are: Performance, physical. social, psychological, financial and time loss risks.
- Users of mobile phones in Kenya have adopted various risk reduction strategies so as to cope with their perceived risks both before and after purchase of mobile telephone services.

TABLE OF CONTENTS

1.	CHAPTER ONE: INTRODUCTION.....	1
1.1.	BACKGROUND.....	1
1.2.	STATEMENT OF THE PROBLEM	4
1.3.	OBJECTIVES OF THE STUDY	5
1.4.	IMPORTANCE AND JUSTIFICATION OF THE STUDY	5
2.	CHAPTER TWO: LITERATURE REVIEW.....	8
2.1.	MARKETING OF SERVICES.....	8
2.1.1.	Definition of Services	8
2.2.	CONSUMER BEHAVIOR	10
2.3.	CONSUMER PERCEPTION	10
2.4.	CONCEPTUAL FRAMEWORK.....	13
2.4.1.	The role of risk taking in consumer behaviour	13
2.4.2.	Definitions of the Theory.....	15
2.5.	IMPLEMENTATION AND VALIDATION OF THE THEORY	18
2.6.	EMERGING INDUSTRIES.....	18
2.7.	MOBILE TELEPHONY INDUSTRY	20
2.8.	NEW SERVICES.....	21
2.9.	THE CONCEPT OF PERCEIVED RISK	22
2.9.1.	Definition	22
2.9.2.	Perceived quality.....	24
2.10.	TYPES OF PERCEIVED RISK	24
2.11.	PERCEIVED RISK REDUCTION STRATEGIES	25
3.	CHAPTER THREE: RESEARCH METHODOLOGY	29
3.1.	RESEARCH SETTING	29
3.2.	THE POPULATION.....	29

3.3.	THE SAMPLE AND SAMPLE DESIGN.....	29
3.4.	DATA COLLECTION METHOD.....	30
3.5.	DATA ANALYSIS	31
3.6.	OPERATIONALIZATION OF TERMS	31
3.6.1.	Perceived risks	31
3.6.2.	Mobile telephone services.....	32
3.6.3.	Consumers of mobile telephone services.....	32
4.	CHAPTER FOUR: DATA ANALYSIS AND FINDINGS.....	33
4.1.	SAMPLE STATISTICS	33
4.2.	RESPONSE RATES	33
4.3.	SAMPLE DEMOGRAPHICS.....	34
4.3.1.	Respondents Gender	34
4.3.2.	Respondents age.....	34
4.3.3.	Respondents education level.....	35
4.3.4.	Respondents occupation.....	36
4.4.	TYPES OF PERCEIVED RISKS.....	36
4.4.1.	Perceived Performance risk	36
4.4.2.	Perceived Financial risk.....	37
4.4.3.	Perceived social risk	41
4.4.4.	Psychological risk	44
4.4.5.	Physical risk	45
4.4.6.	Time loss risk.....	49
4.5.	RISK REDUCTION STRATEGIES.....	52
4.6.	SUMMARY OF MEANS	54
4.7.	CORRELATION ANALYSIS	55
5.	CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS.....	61
5.1.	INTRODUCTION	61

5.2.	PERCEIVED RISKS.....	61
5.2.1.	Perceived financial risk.....	61
5.2.2.	Perceived performance risk.....	62
5.2.3.	Perceived physical risk	62
5.2.4.	Perceived psychological risk.....	62
5.2.5.	Perceived social risk	62
5.2.6.	Perceived time loss risk	62
5.3.	RISK REDUCTION STRATEGIES.....	63
5.4.	IMPLICATIONS.....	63
5.5.	RECOMMENDATIONS.....	64
5.6.	LIMITATIONS OF THE STUDY.....	64
5.7.	SUGGESTIONS FOR FURTHER RESEARCH.....	65
	APPENDICES	66
	APPENDIX 1 .....WORLD HEALTH ORGANISATION (WHO) RECOMMENDATIONS ON THE USE OF MOBILE TELEPHONES	66
	APPENDIX 2 LETTER OF INTRODUCTION	68
	APPENDIX 3 QUESTIONNAIRE.....	69
	APPENDIX 4 LIST OF CUSTOMER SERVICE CENTERS IN NAIROBI CITY CENTRE 74	
	REFERENCES	75

LIST OF TABLES

Table 1:	Ownership of mobile telephones
Table 2:	company response
Table 3:	Gender
Table4:	Age
Table 5:	Education level
Table6 :	Occupation
Table7:	Concerns mobile phone performance
Tables8-10:	Concerns on cost of mobiles
Tables11	Concern on mobile phone theft
Tables12&15:	Self esteem
Table13&14:	Social status
Table16&19:	Health concerns
Table17:	Mobile phone theft
Table18:	Mobile phones and driving
Table 20:	Ease use
Table21:	Accessibility of repair outlets
Table22:	Reason for choice of mobile phones
Table23:	Action taken against theft
Table 24:	Reason for choosing service provider
Table25:	Summary of means
Table26:	Perceived risk and Age
Table27:	Perceived risk and Education level
Table 28:	Perceived risk and Gender
Table 29:	Perceived risk and Occupation

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1. CHAPTER ONE: INTRODUCTION

1.1. Background

Today mobile telephones are an integral part of modern telecommunications. In many countries, more than half the population already use mobile phones and the market is still growing. In Africa, it was expected that 28 million people would have mobile phones by the end of year 2001. Currently the African market potential is estimated at 700 million more subscribers. Globally, it is estimated by industry experts that there will be 1.6 billion mobile phone uses in the year 2005 (<http://www.itu.int>).

In Kenya, the liberalization of the Telecommunications sector in 1998 set out the regulatory framework for a multi-operator environment. The liberalization of the sector saw the licensing of two mobile telephone service operators, Safaricom Ltd a joint venture between Vodafone UK and Telkom Kenya Ltd and Kencell Communications Limited a joint venture between Sameer investments and Vivendi international of France. The licensing of the two operators has seen the growth of the mobile telephony industry in Kenya from a customer base of 85,000 in 2000 to 800,000 in April 2002. (East African Standard 2002).

The mobile telephony industry in Kenya is an emerging industry and most of the customers are first time buyers. It is important therefore to study and understand the behaviour of consumers in this new industry. Buyers of new products are faced with uncertainty since they cannot tell the consequences of their purchase decisions. In a study carried out by Arndt (1970) on the introduction of a new brand of coffee among housewives, it was established that consumers perceive different levels of uncertainty when faced with a choice to try or not to try a new product. Consumer perceptions are also said to affect

their buying habits and may not also be based on objective reality. (Schiffman and Kanuk 2000). Therefore managers in this industry would have a need to develop an insight of consumer perceptions . This would be useful in directing marketing efforts in a profitable manner and ensuring the rapid adoption of this new technology in Kenya.

Various issues have been raised by stakeholders in the industry on the use of mobile telephone services both locally and internationally. Mobile phones are said to emit radioactive waves which could cause brain cancer. Studies carried out by the World health organization remain inconclusive but scientists involved have observed and reported health risks which include changes in brain activity, reaction times, and sleep patterns (<http://www.who.int>). As a result, WHO has issued guidelines to consumers in an attempt to minimize radiation effects if use of mobile phones is found to be harmful.(See Annex 1)

Incidences have also been reported where use of mobile telephones by drivers while driving not only endangered their lives but those of other road users. The severity of this problem is seen by the legislation existing in certain countries such as Canada and some States in the United States of America where use of mobile phones while driving is banned.

Use of mobile phones has also been reported to jeopardize the safety and security of the users. Consumers of these services have been exposed to muggings, thefts and in extreme cases death. Perhaps this issue is well expressed by a customer who was interviewed by the East African Standard on the use of mobile phones and said:

“But the problem is that the phone has put me in a very vulnerable position. I have to think about its safety for I remain a target of petty thieves as well as muggers who would seize every opportunity to snatch it”. (East African Standard, 2002).

There are various models or types of mobile phones as seen in the advertisements by the vendors and the mobile phone operators. Making the right choice may not be easy for consumers. One risks making the wrong product choice and experiencing a lot of anxiety (Keith, 1981). Greenleaf and Lehmann (1995) further note that consumers think less of themselves because they have not made the right product choice or paid an unfavorable price for it.

The cost of handsets and connectivity have come down tremendously from Ksh 150,000 in 1992 to less than Ksh 5,000 today. But despite these, call charges remain high especially for inter-network calls. Most customers got connected in the hope that their choice of telecommunication service will meet their communication needs. But the story is different for many customers. Some are seen carrying around their phones not to call but to receive messages only. Some have resorted to subscribing to both operators so that they reach their callers who are connected to either of the operators at a reasonable rate. So customers feel they are paying too much for these services than they should and therefore prohibiting constant touch with loved ones and business associates.

Baumol (1957) states that choice is the key issue in consumer behaviour and the outcome of this choice can only be known in the future. Since the outcome can only be known in the future, consumers therefore take risks in purchase decisions because they have to deal with uncertainties about the future (Baumer, 1960).

Consumers are therefore said to perceive financial and performance risks if they are not certain about the functionality of the product or service. They also perceive social and psychological risks if they are uncertain on the effects of the product on their self esteem. They perceive physical risks if they are uncertain on the safety of the product on themselves and their families. They perceive time loss risk if product search and or maintenance will be involving. (Schiffman and Kanuk, 2000, Zikmund and D'Amico 1995).

Though consumers perceive certain risks when making purchase decisions, it is noted that they adapt certain strategies so as to overcome their uncertainty. The most favorable risk reduction methods applicable to most product categories include: Celebrity endorsements, brand loyalty, brand image, tested brands, store image, product trials, money back guarantees, buying expensive models, word of mouth recommendations. (Roselius 1971, Taylor 1974)

Therefore finding out consumer risk perceptions and risk-handling methods in this new industry will aid in focusing product development and marketing efforts. Kardes (1999) notes that managers who really understand their customers, develop better products and services, promote their products and services more effectively and devise marketing plans and strategies that foster sustainable competitive advantage for their product and services.

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1.2. Statement of the Problem

Mobile telephony has changed the lifestyles of many Kenyans. Today, those with mobile phones are able to communicate any time, anywhere. Mobiles phones provide convenience as one does not have to get home or to the office to make or receive a telephone call.

Studies done on the perceived quality of service into the mobile phone industry indicated that there is a significant perceived quality gap. According to Maina (2001), the service providers do not meet the customer expectations on most of the service descriptors. This could be an indicator of the inherent risk on the use of these services.

Another study on the perceived quality of service by port users established that foreign and local port users perceive quality of service at the ports to be below

their expectations and below average and hence explained the general satisfaction with the quality of port services (Mwendar 1996).

Locally there may be no studies carried out in the industry on consumer risk perceptions. Identifying and documenting consumer perceived uncertainties or risks and their risk handling methods would therefore serve to direct marketing efforts and aid the rapid adoption of this new technology. Extensive literature review has also revealed that consumers perceive certain risks in product decision making and that they also adopt certain strategies so as to reduce their uncertainties or risks. Though the industry is witnessing rapid market growth, understanding consumer behaviour is pertinent. Therefore the question the study seeks to address is: **Do users of mobile telephones perceive any risks in Kenya? And if they do, what is the nature of these perceived risks and how have they handled them?**

1.3. Objectives of the study

The objectives of the study are to:

- i) To establish the nature and extent of risks perceived by consumers of mobile telephone services.
- ii) To find how consumers of mobile telephone services have addressed these perceived risks.

1.4. Importance and Justification of the study

Telecommunications services are key in the economic development of a country. (<http://www.wto.org>). An efficient telecommunications infrastructure would not only support the efficiency of other industries but also will attract investors into the country. This is true especially now that major multinationals are said to be planning to relocate to other cities in Africa and the major reason is cited is poor telecommunication services (Daily Nation 2002). Rapid spread of mobile

telephone services will therefore complement the public fixed telephone network operated by Telkom Kenya Ltd and hence support the growth of the telecommunication industries.

The creation of an information society will also depend on the availability of telecommunications services. Currently, teledensity in Kenya based on the landlines stands at 1.05 (International Telecommunication Union 2000), (<http://www.itu.int>). Rapid adoption of mobile telephone services will contribute greatly to reducing the digital divide as outlined in the Poverty Reduction Strategy paper (2001) by the government, and spread of information communications technology (ICT).

Most customers are first time buyers and no doubt the marketers in this industry are faced with task of inducing subscription and getting new customers. Therefore their main task is to inform customers of the basic nature and functions of their new services and convince them that they can actually perform these functions and persuade them that the benefits of purchasing them outweigh the risks (Porter 1980).

In this emerging industry, the regulator will also play the role of protecting consumers against unfair practices. For the regulator to articulate consumer concerns adequately, knowledge of their concerns would be required.

In the light of the above, this study will be useful to:

1. Marketers in the cellular industry in the formulation of marketing strategies.
2. Investors in the industry who will be interested in the consumer characteristics and consumer buying behaviour.

3. Government as part of their wide strategy to create an information society and development of Information Communication Technology (ICT) in Kenya.
4. Regulator in the Telecommunications industry who will need informed knowledge on consumer concerns.
5. Researchers who may wish to carry out further consumer research in the mobile telephone industry.

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2. CHAPTER TWO: LITERATURE REVIEW

2.1. Marketing of Services

Marketing of services involves different techniques from marketing products. But before the 1970's it was thought that the traditional marketing techniques used for physical products would work just as well for services. (Rust et al, 1996). As the developed economies changed, much emphasis was put on producing intangible services as opposed to manufacturing physical goods.

2.1.1. Definition of Services

Various definitions of services exist by various authors. Kotler and Armstrong (1996) have defined services as "any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product". The American Marketing Association (AMA 1960) defines service as "activities, benefits, and satisfaction which are offered for sale or are provided in connection with the sale of goods.

This study will adopt the definition given by Kotler and Armstrong(1996) above, which has the following implications:-

- Intangibility
- Occurrence of an exchange
- Acquisition of something of value by the purchaser as an act or performance.

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2.1.2 Unique Characteristics of Services

Services have certain characteristics that distinguish them from physical goods. These are intangibility, inseparability variability and perishability (Palmer, 2000).

Intangibility

Services are intangible: They cannot be seen, tested, heard or smelt before they are purchased. Services are performances that can be experienced only as they are delivered (Berry et al. 1982). They are therefore said to be riskier than physical goods since they cannot be experienced before they are purchased (Schiffman & Kanuk 2000).

Variability

Services cannot be produced consistently; and the customers are usually present in the production process (Palmer 2000). Production may differ from day to day and from time to time thus making uniform quality difficult to assure. (Booms and Pittner, 1981)

Inseparability

Production of services and consumption is simultaneous. The two processes are inseparable (Carmen et al, 1980). Therefore this makes checking of quality impossible at production. Usually the service may be provided in the customers presence (Rust et al 1996).

Perishability

Unlike most goods, services cannot be stored. This, therefore requires that attention is given to the management of demand and supply (Palmer 2000).

2.2. Consumer behavior

Consumer behavior has been defined as the behavior shown by people in planning, purchasing and using goods and services (Kibera and Waruingi 1988). Organizations that lose sight of their customers cannot compete effectively against firms that stay close to their customers. Analyzing consumer behavior is therefore of utmost importance to business managers.

2.3. Consumer perception

Consumer behaviour is a complex decision process by the individual consumer overtime. A purchase may be preceded by an involving series of related psychological and physical activities, which influence its nature and may be followed by other psychological and physiological activities which may influence similar transactions in future.

According to Ennew et al (1990), the presence of any negative attitudes from any reference group or unforeseen situational factors could affect purchase decisions.

Individuals are said to act and react on the basis of their perceptions and not on other basis of objective reality and each one is said to see the world in their own special way.(Shciffman and Kanuk,2000) Therefore consumer perceptions are of utmost importance to marketers because a customers decision to purchase a product will be influenced to a great extent by the way he perceives a product. The manifestation of consumer perception is captured in figure 1. It shows that perception is among those issues that serve to direct consumer behavior.

Perception is the process by which individuals select, organizes and interpret stimuli into a meaningful and coherent picture of the world (Schiffman and Kanuk 2000). Perceptions are therefore personal and hence people can give a different account of a similar event. They report based on their perceptions.

Kibera and Waruingi (1988) note that our perception of an object or an event is the result of the interaction of two types of factors:

- i) Stimulus factors which are characteristics of the physical objectives such as color, weight, or shape.
- ii) Individual factors which are characteristics of the individual, that is past experience, motivations and expectations.

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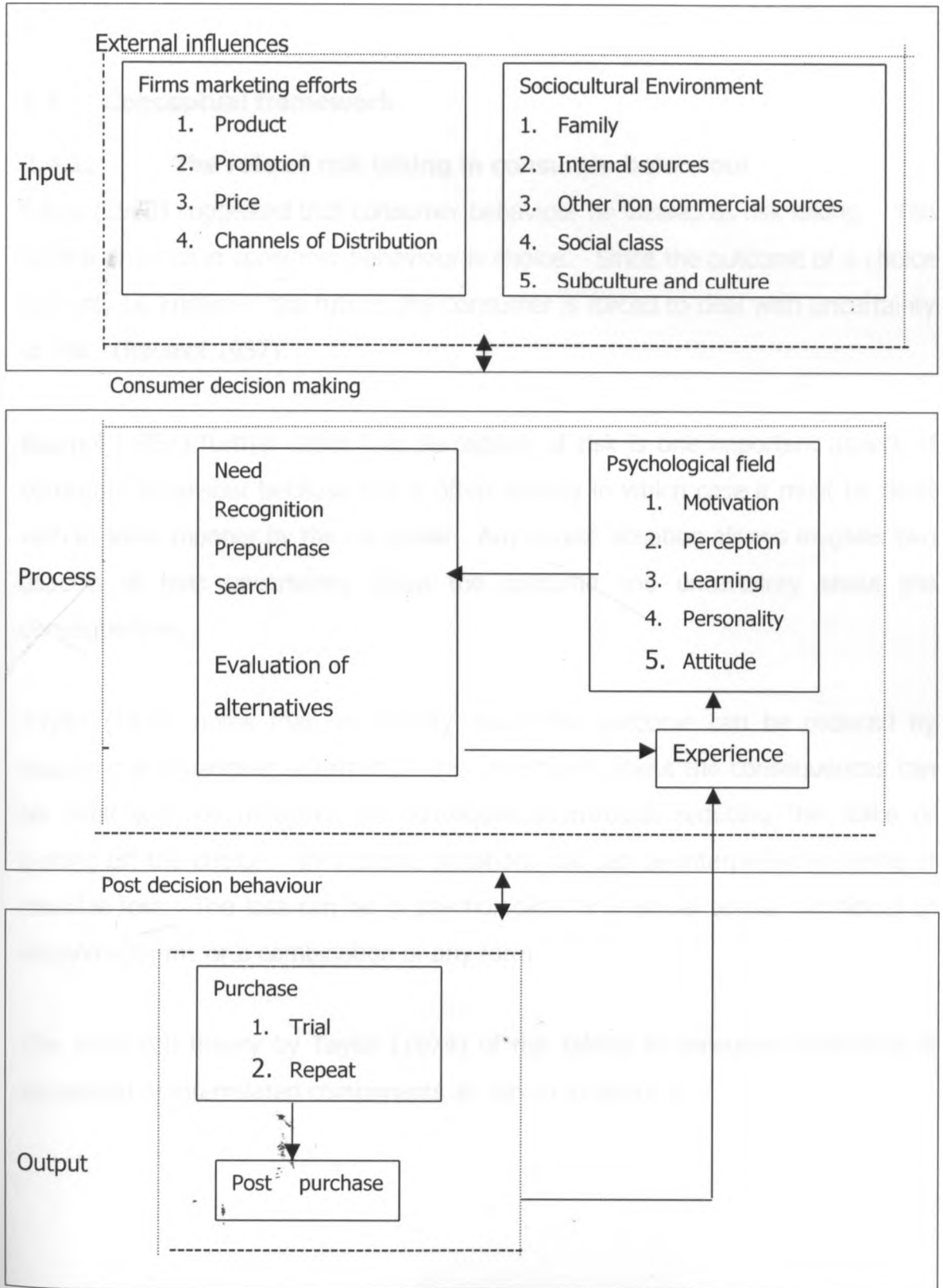


Figure 1: A simple model of consumer decision-making. Adopted from Schiffman and Kanuk Consumer behaviour, India, Prentice Hall, 2000, Sixth edition.

2.4. Conceptual framework

2.4.1. The role of risk taking in consumer behaviour

Bauer (1960) suggested that consumer behaviour be viewed as risk taking. The central problem in consumer behaviour is choice. Since the outcome of a choice can only be known in the future, the consumer is forced to deal with uncertainty or risk. (Baumol 1957).

Baumol (1957) further notes that perception of risk is one important aspect of consumer behaviour because risk is often anxiety in which case it must be dealt with in some manner by the consumer. Any choice situation always involves two aspects of risk: uncertainty about the outcome and uncertainty about the consequences.

Taylor (1974) notes that uncertainty about the outcome can be reduced by acquiring and handling information and uncertainty about the consequences can be dealt with by reducing the consequences through reducing the stake or putting off the choice. In a choice situation, risk can be interpreted in terms of possible loss. The loss can be in psychological or in social terms, functional or economic terms or a combination of any form.

The proposed theory by Taylor (1974) of risk taking in consumer behaviour is composed of interrelated components as shown in figure 2.

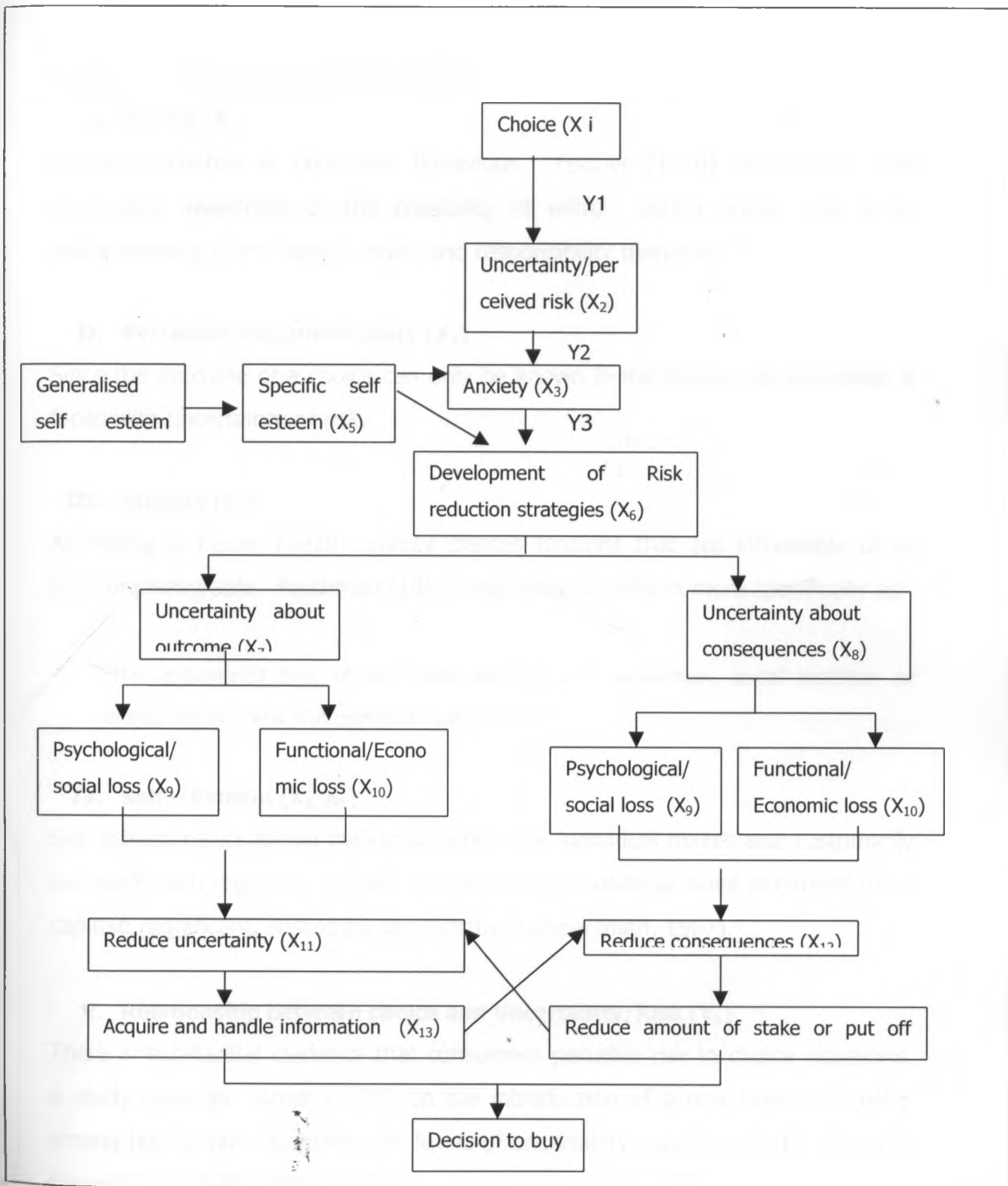


Figure 2: A model of risk taking in consumer behaviour, Taylor J.W in "Role of Risk on Consumer Behaviour", *Journal of Marketing* April 1974, Vol. 38 No.2

2.4.2. Definitions of the Theory

I. Choice (X_1)

Choice is central to consumer behaviour. Fischer (1970) notes that the consumers awareness of the possibility of willful action brings with it an understanding of the fact of choice and responsibility therefore...".

II. Perceived risk/uncertainty (X_2)

Since the outcome of a choice can only be known in the future, the consumer is faced with uncertainty or risk.

III. Anxiety (X_3)

According to Fisher (1970) anxiety creates tensions that are intorelable or at least unpleasurable. Reichman (1955) describes the effects more specifically as:

"the anticipated loss of love and approval, or separation, social isolation or disruption of one's interpersonal relationships".

IV. Self – Esteem (X_4, X_5)

Self esteem refers to the evaluation which the individual makes and customarily maintains with regard to himself; it expresses an individual belief in himself to be capable, significant, successful and worthy (Coppersmith, 1967).

V. Relationship between choice and Uncertainty/Risk (Y_1)

There is substantial evidence that consumers perceive risk in choice situations. A study done by Arndt (1970) on the introduction of a new brand of coffee among housewives, identified the levels of uncertainty perceived in the choice to try or not to try the new product.

A study by Cox and Rich (1964), among women who shopped in department stores, established telephone shoppers perceived significant amount of risk but

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also seemed unwilling or unable to deal with their uncertainty in such a way as to reduce the perceived risk to the point where it would be comfortable.

VI. Relationship between Risk and Anxiety (Y_2)

There is no published research that supports this relationship but according to May (1950) "whenever a possibility is visualised by an individual, anxiety is potentially present".

VII. Choice, Anxiety and Risk Reducing Strategies (Y_3)

According to the theory of risk taking in consumer behaviour, choice situation involves uncertainty which creates some level of anxiety. Since anxiety is uncomfortable, consumers are thought to develop strategies to reduce the risk in choice situations and thereby reduce the inherent anxiety. According to a study conducted by Roselius (1971) to rate the usefulness of eleven different methods of reducing risk among housewives, there were significant differences in consumer preferences for risk reducing strategies in relation to the types of loss perceived as possible in a particular buying situation.

VIII. The Composition of Perceived Risk (X_7 , X_8)

The theory postulates that every choice situation has two separate types of risk involved in the decision. One risk is uncertainty about the outcomes of the decision, and the other type of risk is uncertainty about the consequences of making a mistake.

IX. Reduction of Uncertainty (X_{11})

a) Information handling (X_{12})

The theory recognises that there are different channels of information available to the consumer and that different channels are seen as more or less appropriate in reducing various types of risk. A study done by Arndt (1970), on introduction of a new brand of coffee supported this proposition in that it established that the

amount of perceived risk in trying a new product was closely related to the use of word of mouth recommendation.

b) Transmission of Information (X₁₃)

The flow of information was found to be a two-way process rather than a one way by Arndt (1970). He found that as much opinion leaders volunteered information, they were also asked for it.

c) Information processing (X₁₃)

An attempt was made to understand how consumers evaluate information relating to the buying process. Cox and Bauer (1964) studied the affects of new information on a group of women who made judgements about the quality of identical pairs of stockings. They found out that women put differing amounts of confidence on the new information depending upon the individuals confidence in her ability to judge the stockings, and her ability to judge the new source of information.

X. Reduction of Consequences (X₁₂)

Studies supporting this phase of the theory are not conclusive but suggest that consumers either choose not to make the decision or reduce the amount of involvement in terms of investment. (Cox, Bauer 1964).

XI. The role of self-esteem/self confidence (X₄, Y₅)

Self esteem and self confidence are said to influence consumer behaviour in two ways. First, self-esteem contributes to the amount of anxiety that results from perception of the situation. Fischer (1970) states that it is the realization that something must be accomplished or possessed and the sense that one's competence may be inadequate to the task, that is essential to the experience of anxiety.

Secondly, self esteem influences consumers behaviour by being instrumental in the selection of appropriate risk reduction strategies. (Coopersmith 1967). This is further explained by Hirsch et al (1972) who studied 300 housewives in Cincinnati on their store selection and product purchasing and concluded that for each product studied, consumers self esteem and their self assessed ability to choose a store in which to buy seemed to bear on how much risk they perceived. Thus linking the concepts of generalized self-esteem, specific self-esteem and perceived risk.

2.5. Implementation and Validation of the Theory

Taylor (1974) proposed the following general format for the implementation and empirical validation of the theory of risk taking in consumer behaviour:

- Measure self confidence in relation to choice of the product category.
- Measure perceived risk in product category.
- Measure type of loss associated with product category.
- Measure perceived risk in brand choice.
- Measure preferences for various risk-reducing strategies.
- Measure the appropriate size of groups of consumers with common characteristics in perception of risk, self-confidence, and preferred risk – reducing strategies for use in evaluating cost/effectiveness of various marketing programmes.

2.6. Emerging Industries

Emerging industries are newly formed or reformed industries that have been recently created by technological innovations, shifts in relative cost relationships, emergence of new consumer needs, or other economic and sociological changes that elevate a new product or services to the level of a potentially viable business opportunity Porter (1980)..

Therefore buyers of an emerging industry's product or service are inherently first time buyers and the marketing task is one of inducing substitution or getting buyer to purchase the new product or service instead of something else. The buyers must be informed about the basic nature and functions of the new product or service and be convinced that it can actually perform these functions and also be persuaded that the risk of purchasing it are rationally borne given the potential benefits (Porter 1980).

One of the crucial questions for strategic purposes in an emerging industry is often the assessment of which markets for the new industry's product will open up early and which will come later. This assessments not only helps focus product development and marketing efforts but also is essential since early markets often exert a major influence on the manner in which an industry develops (Porter 1980).

Emerging industries share common characteristics which include the following (Porter,1980):

Technological uncertainty: The uncertainty may relate to the product configuration that will ultimately prove to be the best or the production technology that may prove to be the most efficient.

Strategic uncertainty: No right strategy is clearly identified in an emerging industry. Different firms use different approaches to product or market positioning, marketing, servicing among others. Firms may also have poor information about competitors, characteristics of customers and industry conditions in an emerging phase. Reliable industry sales and market share data are often unavailable.

High initial costs but cost reduction: Small production volume and initial heavy investment combine to produce high cost. Reduction in cost is due to increase in sales leading to accumulated volume of output, increased efficiency of employees due to job familiarity and upcoming ideas in terms of improved procedures.

First time buyers: Buyers of the emerging industry's product or service are inherently first time buyers. Thus marketing tasks is to attract customers, retain customers and create brand loyalty.

Short time horizon: The pressure to develop customers or produce products to meet demand in this industry is so great that bottleneck and problems are dealt with expedience rather than as a result of an analysis of future conditions. Industry conventions are often born out of pure chance.

Subsidy: In most cases there is subsidization of early entrants from either the government or non-government sources. Subsidies often and a great degree of instability to an industry.

2.7. Mobile telephony industry

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The mobile telephony industry is an emerging industry whose growth rate is high. In the year 2002, the industry registered phenomenal growth. Despite the negative growth of the Kenyan economy at negative 0.3% the mobile industry expanded by Kshs 4138 in the year 2000 (Economic Survey 2001).

In June 2001, the total number of subscribers was 300,000 (Economic Survey 2001) and as of April 2002, there were about 800,000 mobile phone users in Kenya (East African Standard). The market potential for the services in Kenya is estimated at 10million people(Market trends).

The services are tailored around pre-paid and post paid solutions. Currently the two operators provide the following value added services besides voice telephony.

- Voice mail
- Short messaging services (SMS)
- International roaming
- Call forwarding
- Call conferencing
- Info-line services
- Internet browsing.

2.8. New Services

According to Schiffman and Kanuk (2000) there is no universally accepted definition of the terms "product innovation" or "new product".

Various approaches have been considered to try and define a new product and or a new service. They can be classified as: firms, product, market and consumer oriented definitions of innovations.

i) Firm Oriented definitions

This approach treats the newness of a product from the perspective of the company marketing it. If a product is new to a company, then it is considered new. It ignores whether the product is new to the market place (Schiffman and Kanuk, 2000).

ii) Product oriented definitions

This definition focuses on the features inherent in the product itself and on the effects these features are likely to have on consumers established usage patterns (Schiffman and Kanuk, 2000).

iii) Market – oriented definition

A market oriented approach judges the newness of a product in terms of how much exposure consumers have to the new product. Under this approach a product is considered new if it has been purchased by a relatively small percentage of the potential market and it has been in the market for a relatively short period of time.

iv) Consumer – oriented definitions

According to this approach, a new product is any product that a potential consumer judges to be new. It is based on consumer perceptions and not physical features or market realities.

This study shall adopt the market-oriented definition that considers a product to be new based on the % of sales in the potential market and the period of time it has been in the market.

2.9. The Concept of Perceived Risk

2.9.1. Definition

Perceived risk is defined as the uncertainty or fear that a consumer feels when considering a purchase of a new product (Schiffman, Kanuk 2000). Consumers are uncertain because they cannot predict the outcome of their purchase decisions. Perceived risk by consumers is subjective. That is to say that it may or may not exist or it may not bear a strong relationship to what actually exist.

Perceived risk is also said to be a function of the individual, the product and the situation. Research on perceived risk and trials of new products indicate that the innovative consumer is low risk perceiver whereas the high risk perceiver is not keen on trying out new products (Schiffman and Kanuk 2000).

Studies of risk perceptions among adolescents revealed that adolescents who engaged in high risk activities e.g drug use differ significantly from those who do not engage in high risk activities (Hirsch et al 1993).

Certain product categories are also perceived to be riskier than others. For example a consumer may perceive higher degree of risk when purchasing a motor vehicle than when purchasing a telephone headset. Studies have also revealed that services are perceived to be riskier than products because they do not lend themselves to trials before purchase (Kath and John 1990)

Certain product distribution channels are also perceived to be riskier than others. For example mail, telephone and catalogue orders were perceived to be riskier than the traditional retail outlets since the customers do not have the opportunity to inspect the goods before purchasing. Positive experiences and favourable word of mouth have since seen arise in mail orders and catalog buying(Schiffman and Kanuk 2000).

Perceived risk may also be present if the product is expensive or is complex and hard to understand. Perceived risk can also be a factor when a product choice is visible to others and one runs the risk of embarrassment if the wrong choice is made (Solomon, 1979).

Perceived risk or uncertainties can influence consumer decision making to a great extent. Greenleaf and Lehmann (1995) noted in their study that among other things consumers delayed their purchase decisions because of perceived risks. The nature of perceived risks identified by the study were classified as financial and performance risks, psychological and social risk, physical and time loss risks.

2.9.2. **Perceived quality**

Broadly quality can be defined as superiority or excellence and by extension perceived quality can be defined as the consumers judgment about a products overall excellence or superiority.(Aaker,1983).So perceived quality is different from the objective quality or actual quality and is not a specific attribute oof a product. Zeithaml (1988) also notes that perceived quality is a global assessment that resembles attitude and is usually made within a consumers evoked set .Organisations therefore have to strive to close the quality perception gap. This requires them to view quality form the consumers point of view.

2.10. **Types of Perceived Risk**

Consumers perceive several kinds of risks in a purchase situation (Schiffman and Kanuk,2000 ,Ennew et al,1990). These include:-

- i) **Financial risk:** The consumers concern here would be that he may lose money, pay too much for the product or miss buying something else.
- ii) **Performance risk:** This is the fear that the product may not perform its function well, or it may not work or it may breakdown.
- iii) **Physical risk:** This is the fear that the product may be or become harmful or injurious to one's health.
- iv) **Psychological risk:** The product may not fit in well with the consumer's self-image or self-concept.
- v) **Social risk:** The fear that the product may negatively affect the way others think of the consumer.
- vi) **Time risk:** The fear that the product may fail completely thus wasting the consumer's time, convenience and effort in getting it adjusted, repaired or replaced.

Thus, overall risk is a combination of several factors perceived by consumers when buying a product (Loudon et al 1979).

Social risk	Economic risk	
	Low	High
Low	<ul style="list-style-type: none"> ▪ Wine (Home) ▪ Stocks ▪ Kitchens suppliers ▪ Pens ▪ Gasoline 	<ul style="list-style-type: none"> ▪ Personal computers ▪ Auto repairs ▪ Clothes washer ▪ Insurance ▪ Doctor/Lawyer
High	<ul style="list-style-type: none"> ▪ Fashion accessories ▪ Hairstyles ▪ Gifts ▪ Wine (entertainment) 	<ul style="list-style-type: none"> ▪ Business suit ▪ Living room furniture ▪ Automobile ▪ Snowboard <p>*Cellular telephones</p>

Figure 3. Adopted and modified from Hawkins.D,Best.R,Coney.K Irwin McGraw Hill,Boston 1998 Consumer Behaviour: Building Marketing Strategy Seventh edition.

* Cellular telephones would have a high financial and social cost if they failed to perform as per consumer expectations.

2.11. Perceived Risk Reduction Strategies

Buyers often face the dilemma of wanting to purchase a product, and yet hesitate to buy because it involves taking the risk of suffering some types of loss. Roselius (1971) notes that when faced with this dilemma the consumer is confronted with a variety of methods, which could be used to reduce risk or Loss.

Popielarz (1967) observed that when a buyer perceives risk in a purchase he could pursue one of the following four different strategies of risk reduction:

- i) He could reduce perceived risk by either decreasing the probability that the purchase will fail or by reducing the severity of real or imagined loss suffered if the purchase does fail.
- ii) He could shift from one type of perceived loss to one for which he has more tolerance.
- iii) He could postpone the purchase in which he would be shifting from one general risk type of another.
- iv) He could make the purchase and absorb the unresolved risk.

Risk relievers are advice or action initiated by the buyer or seller to relieve risk. Risk relievers are therefore methods which relieve risk – related hesitancy to buy by serving as catalysts to facilitate purchase. It is postulated that buyers have a set of many risk – relieving devices which range from most preferred to least preferred which they call upon when needed (Roselius 1971).

A study carried out by Roselius (1971) showed that brand image and brand loyalty were most favoured risk relievers among housewives who were asked to rank 11 risk relievers on the basis on how helpful they are in reducing the threat of various kinds of loss.

The eleven methods of risk relief used in the study and were found to be representative, applicable to various methods of purchase and kinds of products by Roselius (1971) and their definitions are listed below:

i) Endorsements:

Buy the brand whose advertisement has endorsements or testimonials from a person you like, from a celebrity or from an expert on the product.

ii) Brand Loyalty

Buy the brand you have used before and have been satisfied with in the past.

iii) Major brand image

Buy a major, well-known brand of the product and rely on reputation of the brand.

iv) Private testing

Buy whichever brand has been tested and approved by a private testing company.

v) Storage Image

Buy a brand that is carried by a store, which you think is dependable, and rely on reputation of the store.

vi) Free Sample

Use a free sample of the product on a trial basis before buying.

vii) Money back guarantee

Buy whichever brand offers a money back guarantee with the product.

viii) Government Testing

Buy the brand that has been tested and approved by an official branch of the government.

ix) Expensive Model

Buy the most expensive and elaborate model of the product

x) Shopping

Shop around on your own and compare product features on several brands in several stores.

xi) Word of Mouth

Ask friends or family for advice about a product.

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3. CHAPTER THREE: RESEARCH METHODOLOGY

A descriptive study was carried out so as to enable the researcher to investigate further issues raised by the respondents as opposed to using simple data gathering.

3.1. Research setting

The study was carried out in Nairobi among users of mobile telephone services. The definition of a user of mobile telephone services for the purposes of the study was either consumers of Safaricom Ltd or Kencell communications services.

3.2. The Population

The population of study consisted of all consumers of mobile telephone services within Nairobi city centre. Nairobi was selected by the researcher because of accessibility, limitation of resources i.e. time and finances and the fact that consumers in Nairobi have been exposed to the services for longer period compared to those in other towns..

3.3. The Sample and Sample Design

A sample size of 100 consumers was considered adequate to provide a general view on the perceived risks on the use of mobile telephony and form the basis of drawing conclusions. Maina(2001) used a sample size of 100 customers successfully when studying the perceived quality of mobile telephone services among customers in Nairobi.

The sample size of 100 respondents were selected at the service outlets of Safaricom and Kencell within the city centre. The list of the outlets is shown

Appendix4. 50 users of mobile phones were interviewed from each firm. They were selected systematically. Every 3rd consumer entering the service outlet was asked to complete the questionnaire. Anybody entering the service outlet and was not connected was excluded from the sample. First time buyers were also excluded and the next consumer considered since first time buyers did not have any post purchase experience with mobile telephone services.

3.4. Data Collection Method

Data for this study was collected using a questionnaire(Appendix3). The respondents of the questionnaire were users of mobile telephone services who are consumers of either Safaricom Ltd or Kencell Communication Ltd services.

The Questionnaires were self-administered and distributed to the selected respondents by a Research assistant. Respondents filled in the questionnaires as they waited to be served at the customer service centers. Use of a research assistant ensured a high return rate.

The questionnaire had both open ended and closed questions. A five point likert scale was used to measure the extent of perceived risks on the use of mobile telephone services. The questionnaire was divided into three parts.

Section A had two parts. Part 1 had questions which were used to identify users of mobile phones and their service provider. Questions in Part11 were aimed at identifying and measuring rate of the perceived risks on the use of mobile telephone services in the following areas:

- Performance risk
- Financial risk
- Physical risk
- Social risk

- Psychological risk
- Time loss risk

These questions in Section A were designed to answer the first objective of the study. Questions in section B were designed to establish the risk handling strategies the respondents have come up with and to address the second objective of the study. Section C was used to collect the bio-data of the respondents. An introduction letter (See Appendix 2) was issued to the respondents before they were asked to complete the questionnaire.

3.5. Data Analysis

The questionnaires were edited for completeness and consistency before processing. Data was coded to enable responses to be grouped into categories.

Descriptive statistics used to summarize the data include frequencies and percentages. Mean scores were used for comparison purposes. Data is presented in tables.

Correlation analysis was carried out to show the magnitude and direction of relationship between the degree of perceived risk to certain aspects of the demographics of the respondents like occupation, age, gender and education level.

3.6. Operationalization of Terms

3.6.1. Perceived risks

The study used a number of statements generated regarding the concerns of consumers of mobile telephone services so as to identify and classify the type of risks perceived and also measure the degree of risk perception using a five point Likert scale. The study did not measure the preferences for the various risk reduction strategies as outlined by Taylor(1974) but sought to identify them by

using questions in Section B which are tailored to address the perceived risks identified in Section A .

3.6.2. Mobile telephone services

Mobile telephone services refer to wireless telecommunication services using portable handsets based on radio technology.

3.6.3. Consumers of mobile telephone services

Consumers of mobile telephone services were defined as individuals who actually have a subscription and a mobile number given by either Safaricom Ltd or Kencell communications and are the users of the services

4. CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1. Sample statistics

A total of one hundred questionnaires were administered by use of a research assistant at the Safaricom and Kencell service centers. The researcher did not visit other dealers since a preliminary check revealed that more customers visit the service provider outlets as opposed to the dealer outlets. All the respondents interviewed owned a mobile phone as shown in the table below and therefore had a first hand experience on the use of mobile telephones and can relate easily to the variables under investigation.

Table 1:Ownership of mobile telephones

	Frequency	Percent	Valid Percent	Cumulative percent
Yes	100	100.0	100	100.0
No	0	0	0	0
Total	100	100.0	100.0	100.0

4.2. Response rates

All the 100 questionnaires were duly completed and returned to the researcher and after editing they were all found to be usable. An equal number of respondents was drawn from each service provider i.e. Kencell and Safaricom as shown in the table below.

Table 2:company response

Company	Targeted Response	Actual Response	% Response
Safaricom	50	50	50%
Kencell	50	50	50%
Total	100	100	100

From the above table it can be concluded that the study achieved a response rate of 100% which was found to be adequate for the purpose of the study.

4.3. Sample demographics

The sample demographics considered for the study include gender, age, occupation and education level. The findings are shown in the tables below.

4.3.1. Respondents Gender

The respondents were not equally distributed in terms of gender. From the findings in the table below, it can be concluded that most of the respondents in the study (74.7 percent) were male whereas 25.3% were female.

Table 3:Gender

Gender	Frequency	Percent	Valid percent	Cumulative percent
Male	74	74.0	74.7	74.7
Female	25	25.0	25.3	100.0
Total	99	99.0	100.0	
Missing	1	1.0		
Total	100	100.0		

4.3.2. Respondents age

Most of the respondents in the study (63.4) were aged between 21to 30 years as shown in table4 overleaf.

Table4: Age

Age bracket	Frequency	Percent	Valid percent	Cumulative percent
Below 20 years	2	2.0	2.2	2.2
21-30	59	59.0	63.4	65.6
31-40	21	21.0	22.6	88.2
41-50	7	7.0	7.5	95.7
51-60	3	3.0	3.23	98.9
Above 60 years	1	1.0	1.1	100.0
Total	93	93.0	100.0	
Missing	7	7.0	100.0	
Total	100	100.0		

4.3.3. Respondents education level

The highest level of education achieved was used as a measure of education.

Most of the respondents were well educated as projected in table 5 below most (83.7percent) had attained college or university education. This made self-administration of the questionnaires easy.

Table 5:Education level

Level	Frequency	Percent	Valid percent	Cumulative percent
Primary	1	1.0	1.1	1.1
Secondary	14	14.0	15.2	16.3
College	53	53.0	57.6	73.9
University	24	24.0	26.1	100.0
Total	92	92.0	100.0	
Missing	8	8.0		
Total	100	100.0		

4.3.4. Respondents occupation

The respondents can be categorized as civil servants, artisans students, professionals, business employees, businessmen housewives, and Farmers. The majority of the respondents were professionals i.e. 28.1% and the least were farmers. This can be explained by the fact that the study was carried out in the Central business district.

Table6 : Occupation

Occupation	Frequency	Percent	Valid percent	Cumulative percent
Civil servant	4	4.0	4.5	4.5
Artisan	7	7.0	7.9	12.4
Professional	25	28.1	28.1	40.4
Business employees	11	12.4	12.4	52.8
Student	14	15.7	15.7	68.5
Business	25	28.1	96.6	96.6
Housewife	2	2.0	98.9	98.9
Farmer	1	1.0	100.0	100.0
Total	89	89.0		
Missing	11	11.0		
Total	100	100.0		

4.4. Types of perceived risks

The following tables show the scores for each of the statements on a five point likert scale used to identify and measure the extent of perceived risk.

4.4.1. Perceived Performance risk

From the findings in the table below, 36% of the respondents were not worried about performance of mobile phones before connection whereas the majority

of the respondents (46 percent) affirmed that they were concerned about performance of the phones before connection and 18% of the respondents were not decided on the issue.

Table 7:Concern on performance of mobile phones

Before I was connected I was concerned that the phone would not work well	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	10	10.0	10.0	10.0
disagree	26	26.0	26.0	36.0
Neither disagree nor agree	18	18.0	18.0	54.0
Agree	30	30.0	30.0	84.0
Strongly agree	16	16.0	16.0	100.0
Missing	2	2.0		
Total	100	100.0	100.0	

4.4.2. Perceived Financial risk

Statements in Tables 8 to 10 were used to identify and measure the extent of perceived financial risk .

From the table below, 41.8% of the respondents did not think that the purchase of a mobile phone represented a good amount of their income, 13.3% were

neutral and 44.9% indicated that buying mobile phones represented a good amount of their income.

Table 8:Concern on cost of mobile phones

The purchase of mobile phone represented a good amount of my budget/income	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	14	14.0	14.3	14.3
disagree	27	27.0	27.6	41.8
Neither disagree nor agree	13	13.0	13.3	55.1
Agree	27	27.0	27.6	82.7
Strongly agree	17	17.0	17.3	100.0
Total	98	98.0		
Missing	1	1.0		
Total	100	100.0		

From Table 9 below, 48.5% of the respondents did not regard the purchase of mobile phones to be expensive whereas 33.3% indicated that mobiles phones are expensive. The cost of mobile phones has dropped drastically from about Kshs 200,000 in the 1990s to less than Kshs 5000 currently.

Table 9:Cost of mobile phones

I considered the purchase of a mobile phone expensive	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	15	15.0	15.2	15.2
disagree	33	33.0	33.3	48.5
Neither disagree nor agree	18	18.0	18.2	66.7
Agree	20	20.0	20.2	86.9
Strongly agree	13	13.0	13.1	100.0
Total	99	99.0	100	
Missing	1	1.0		
Total	100	100		

The findings in Table 10 overleaf also show that the 47%of the respondents indicated that they were not concerned with the cost of replacing their mobile phones incase they were stolen or they malfunctioned whereas 37% indicated that they were concerned on the cost of replacing stolen or faulty mobile phones.

Table 10:Cost of replacing faulty mobile phones

I was concerned that I could not afford to replace my phone incase it was stolen or it malfunctioned	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	17	17.0	17.0	17.0
disagree	30	30.0	30.0	47.0
Neither disagree nor agree	16	16.0	16.0	63.0
Agree	22	22.0	22.0	85.0
Strongly agree	15	15.0	15.0	100.0
Total	100	100.0	100.0	

On the issue of mobile phone theft, majority of the respondents i.e. 64.6% in table 11 below indicated that they were not concerned with mobile telephone theft whereas 29.2%indicted tat mobile phone theft was of concern to them.

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Table 11: Concern on mobile phone theft

I am worried about mobile phone theft	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	43	43.0	44.8	44.8
disagree	19	19.0	19.8	64.6
Neither disagree nor agree	6	6.0	6.3	70.8
Agree	5	5.0	5.2	76.0
Strongly agree	23	23.0	24.0	100.0
Total	96	96.0	100.0	
Missing	4	4.0		
Total	100	100		

4.4.3. Perceived social risk

Statements and data reflected in Tables 12 to 15 seek to identify any perceived social risks by the respondents. Over half of all the respondents (53.6 percent) interviewed indicated that they got connected so as to enhance their self esteem whereas 38.8% did not think that owning a mobile phone did enhance their self esteem as shown in Table 13 below.

Table 12:Self esteem

I got connected so that people could think highly of me	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	27	27.0	27.8	27.8
disagree	10	10.0	10.3	38.8
Neither disagree nor agree	8	8.0	8.2	38.1
Agree	15	15.0	15.5	46.4
Strongly agree	37	37.0	38.1	61.9
Total	97	97.0	100	100.0
Missing	3	3.0		
Total	100	100		

In Table 13 overleaf it can be concluded that 44.9%of the respondents do not think that mobile phone connection enhances their social status whereas 37.8% think that a mobile phone connection enhances their social status.

Table 13:Social status

Owning a mobile phone is consistent with the way others view me	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	18	18.0	18.4	18.4
disagree	26	26.0	26.5	44.9
Neither disagree nor agree	17	17.0	17.3	62.2
Agree	18	18.0	18.4	80.6
Strongly agree	19	18.0	19.4	100.0
Total	98	19.0	100	
Missing	2	98.0		
Total	100	2.0		

From Table 14 overleaf ,45.8% of the respondents dis- affirmed the statement that the product fitted well with their self image whereas 47.7% indicated that the product fitted well with their self image and 12.2% were undecided on the issue.

Table 14:Social status

Owning a mobile phone is consistent with the way others view myself	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	15	15.0	15.6	15.6
disagree	29	29.0	30.2	45.8
Neither disagree nor agree	12	12.0	12.2	58.3
Agree	23	23.0	24.0	82.3
Strongly agree	17	17.0	17.7	100.0
Total	96	100.0	100.0	
Missing	4			
Total	100			

4.4.4. Psychological risk

Table 15 in the next page shows the extent of psychological risk perceived by the respondents. From the table it can be concluded that 46.9% of the respondents were not worried of suffering psychological tension as a result of buying the wrong phone or choosing the wrong service provider whereas It can also be concluded that 41.9% of the respondents were concerned about suffering psychologically if they made the wrong choice.

Table 15: self esteem

I was worried about making a wrong choice and regretting later	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	24	24.0	24.5	24.5
disagree	22	22.0	22.4	46.9
Neither disagree nor agree	11	11.0	11.2	58.2
Agree	23	23.0	23.5	81.6
Strongly agree	18	18.0	18.4	100.0
Total	98	98.0	100.0	
Missing	2	2.0		
Total	100	100.0		

4.4.5. Physical risk

Data in Tables 16 to 20 show the extent of health and physical concerns of the respondents on the use of mobile telephones.

From the analysis in table 16 overleaf, 55.7% of the respondents indicated that they were not concerned with radioactive waves emitted by mobile phones, 14% were neutral on this issue and 29.9% indicated that they were concerned with the emission of radioactive waves emitted by mobile phones.

The issue of radioactivity is of concern in Western countries such that the World Health Organization (WHO) has issued guidelines on the use of mobile telephony and commissioned research in this area (Appendix 1). The low response on this matter can be attributed to the little information disseminated locally on the matter.

Table 16:Health concerns

I am concerned about the reactive waves emitted by mobile phones	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	29	29.0	29.0	29.9
disagree	25	25.0	25.8	55.7
Neither disagree nor agree	14	14.0	14.4	70.1
Agree	9	9.0	9.3	79.4
Strongly agree	20	20.0	20.6	100.0
Total	97	97.0	100.0	
Missing	3	3.0		
Total	100	100.0		

Table 17 in the next page shows that 52.5% respondents are not worried about being injured by mobile telephone thieves whereas 38.4% indicated that they were worried about being injured by mobile phone thieves, and 9.1% were neutral on this issue.

Table17:Mobile phone theft

I am worried about being injured by mobile phone thieves	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	31	31.0	31.3	31.3
disagree	21	21.0	21.2	52.5
Neither disagree nor agree	9	9.0	9.1	61.6
Agree	15	15.0	15.2	76.8
Strongly agree	23	23.0	23.2	100.0
Total	99	99.0	100.0	
Missing	1	1.0		
Total	100	100.0		

From Table 18 overleaf it can be concluded that 60.6% of the respondents do not think that driving while talking on a mobile phone poses any risk to the drivers or other road users though an a link has been made between the rate of traffic accidents and use of mobile telephones while driving. Driving while talking is even banned in some US states and in Canada.(Appendix1)

Table18:Mobile phones and driving

Use of mobile phones while driving is risky to the driver and other road users	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	48	48.0	48.5	48.5
disagree	12	12.0	12.1	60.6
Neither disagree nor agree	4	4.0	4.0	64.6
Agree	8	8.0	8.1	72.7
Strongly agree	27	27.0	27.3	100.0
Total	99	99.0	100	
Missing	1	1.0		
Total	100	100.0		

In Table 19 overleaf it can be concluded that 63.3% of the respondents did not think it was important to use an anti radiation gadget despite talk that use of mobile phones could cause a health hazard whereas 26.5% indicated that it was important to use an anti-radiation gadget. Though research in this area is not conclusive ,consumers have been advise to minimize their talktime and to use hands free devices so as to minimize the effects of radiation in case they are found to harmful.(Appendix1)

Table 19:Health concerns

I think it is important to use an anti radiation gadget	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	41	41.0	41.8	41.8
disagree	21	21.0	21.4	63.3
Neither disagree nor agree	10	10.0	10.2	73.5
Agree	11	11.0	11.2	84.7
Strongly agree	15	15.0	15.3	100.0
Total	98	908.0	100.0	
Missing	2	2.0		
Total	100	100.0		

4.4.6. Time loss risk

The analysis in tables 20 and 21 overleaf show the extent of perceived time risk loss on the use of mobile telephones.

Table 20:Ease of use

It takes time and effort to learn how to use a mobile phone	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	12	12.0	12.2	12.2
disagree	24	24.0	24.5	36.7
Neither disagree nor agree	24	24.0	24.5	61.2
Agree	22	22.0	22.4	83.7
Strongly agree	16	16.0	16.3	100.0
Total	98	98.0	100.0	
Missing	2	2.0		
Total	100	100.0		

From Table 20 above it can be concluded that 36.7%of the respondents think that is it easy to use mobile phones upon connection whereas 38.7% find difficulty in using mobile phones and 24.4% were undecided.

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Table 21: Accessibility of repair outlets

Repair outlets are accessible	Frequency	Percent	Valid percent	Cumulative percent
Strongly disagree	15	15.0	15.3	15.3
disagree	32	32.0	32.7	48.0
Neither disagree nor agree	16	16.0	16.3	64.3
Agree	19	19.0	19.4	83.7
Strongly agree	16	16.0	16.3	100.0
Total	98	98.0	100.0	
Missing	2	2.0		
Total	100	100.0		

On the issue of accessibility of the repair outlets of mobile phones, 48% of the respondents thought that the repair outlets were accessible therefore making mobile phone repair convenient whereas 35.7% think that repair outlets were not accessible therefore making mobile phone repair difficult and 16.4% of the respondents were undecided.

4.5. Risk reduction strategies

Table22: Reason for choosing mobile handsets

Why did you choose your types of mobile handset	Frequency	Percent	Valid percent	Cumulative percent
It a well known mobile phone :brand	47	47.0	48.0	48.0
It is sold by a reputable dealer	15	15.0	15.3	63.0
It is expensive therefore it is good	2	2.0	2.0	65.3
It can be repaired free: warranty	14	14.0	14.3	79.6
I was allowed to test before buying	3	3.0	3.1	82.7
My friend/relative had bought it	4	4.0	4.1	86.7
Other: specify	13	13.0	13.3	100.0
Total	98	98.0	100.0	
Missing	2	2.0		
Total	100	100.0		

As outlined earlier in the literature review consumers find ways of relieving their anxiety so as to purchase products .In Table 22 above it can be concluded that most respondents in this study (48% percent) chose their type of phones because of the brand name. Well known brands give consumers assurance in terms of performance.

Table23: Action taken against theft

What action have you taken to protect your phone from being stolen	Frequency	Percent	Valid percent	Cumulative percent
I use it in safe places	42	42.0	42.4	42.4
I have locked it so that it is not reusable	22	22.0	22.2	64.4
I have used a security marking system	10	10.0	10.1	74.7
None	25	25.0	25.3	100.0
Total	99	99.0	100.0	
Missing	1	1.0		
Total	100	100.0		

Most of the respondents(74.7 percent) of the respondents use some form of security against mobile telephone theft. This is contrary to the findings in Table 11 where most of the respondents (64.6percent) indicated that they were not worried about mobile telephone theft. Only 29% of the respondents have not used any protection against theft. This large number of respondents using some anti theft method confirm the current concern in the industry which has given rise to firms offering solutions in this area.

Table24:Reason for choosing service provider

How did you choose your service provider	Frequency	Percent	Valid percent	Cumulative percent
Based on information from the advertisement	39	39.0	39.8	39.8
Based on information form salespeople	11	11.0	11.2	51.0
Based on information from friends and relatives	42	42.0	42.9	93.9
Other: specify	5	5.0	5.1	99.0
Total	98	98.0	100.0	100.0
Missing	2	2.0		
Total	100	100.0		

Most respondents (42.9 percent) affirmed that they choose their service providers based on information form friends and or relatives whereas advertisements by the service providers aided 39.8 percent of the respondents in choosing their service providers.

4.6. Summary of means

Table 25:Summary of means on perceived risks

Type of risk	Frequency	Missing	Mean
Financial	93	7	2.8
Performance	100	0	3.1
Physical	98	2	2.5
Psychological	96	4	2.8
Time	97	3	2.9
Social	93	7	3.0

Mean score: Ranked on a 5point Likert scale with 1=strongly disagree and 5=strongly agree.

Table 25 shows above shows the overall mean scores for the perceived risks on the use of mobile telephone services. From the table it can be concluded that the respondents generally perceive various risks as on the use of mobile telephony.

4.7. Correlation analysis

Correlation analysis has been carried out on the respondent's demographics i.e. age, gender, occupation and education level and their perceived risks as shown in the tables overleaf.

Table26:Perceived risk and respondents age

Financial Risk Performance risk Physical risk Psychological risk Social risk Time loss risk * Please tick the age bracket in which you fall:

Please tick the		Financial Risk	Performance risk	Physical risk	Psychological risk	Social risk	Time loss risk
Below 20 years	Mean	4.2500	3.00	4.0000	1.00	2.0000	3.2500
	N	1	2	2	2	2	2
	Std. Deviation	.	.00	.3536	.00	.9428	.3536
21-30 years	Mean	2.7321	3.14	2.4688	2.76	3.0061	2.8793
	N	56	59	56	58	55	58
	Std. Deviation	.9976	1.21	1.3669	1.54	1.0820	.9334
31 – 40 years	Mean	2.9605	3.05	2.7500	3.05	3.0000	3.1000
	N	19	21	20	21	19	20
	Std. Deviation	1.0648	1.36	1.4712	1.24	1.1386	.9262
41 – 50 years	Mean	3.0000	3.14	3.3214	4.00	2.9524	2.7143
	N	7	7	7	7	7	7
	Std. Deviation	1.0308	1.77	1.6375	1.73	1.0789	1.4679
51 – 60 years	Mean	2.5833	4.33	1.5000	3.00	4.5556	3.3333
	N	3	3	3	2	3	3
	Std. Deviation	.1443	.58	.5000	.00	.3849	.7638
Above 60 years	Mean	3.7500	5.00	2.2500	2.00	3.6667	3.5000
	N	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.
Total	Mean	2.8276	3.17	2.5983	2.88	3.0383	2.9451
	N	87	93	89	91	87	91
	Std. Deviation	.9980	1.27	1.4034	1.50	1.1014	.9558

From the above table the following conclusions can be made about the degree of risk perception and the age of the respondents:

- Respondents aged below twenty years perceive higher financial(4.2) and physical risk(4.0), when compared to the other age groups in the study.
- Respondents who are above sixty years old perceive higher performance risk(5.0) and time loss risk(3.5) comparatively.
- Respondents aged between 41-50 perceive higher psychological risk(4.0) comparatively.

Table 27: Perceived risk and respondents education level

Financial Risk Performance risk Physical risk Psychological risk Social risk Time loss risk * Please indicate your education level

Please indicate		Financial Risk	Performance risk	Physical risk	Psychological risk	Social risk	Time loss risk
Primary	Mean	2.0000	4.00	1.2500	1.00	1.0000	1.0000
	N	1	1	1	1	1	1
	Std. Deviation	.	.	.	.	.	.
Secondary	Mean	2.9643	3.21	2.7115	2.57	3.0000	2.8846
	N	14	14	13	14	13	13
	Std. Deviation	1.0913	1.31	1.4890	1.65	1.1055	1.1929
College	Mean	2.8125	3.21	2.6106	2.96	3.1176	3.0472
	N	48	53	52	52	51	53
	Std. Deviation	.9846	1.28	1.4589	1.45	1.0018	.8563
University	Mean	2.8125	3.00	2.5652	2.96	2.9697	2.8333
	N	24	24	23	24	22	24
	Std. Deviation	1.0142	1.32	1.2819	1.52	1.2886	.9854
Total	Mean	2.8276	3.16	2.5983	2.88	3.0383	2.9451
	N	87	92	89	91	87	91
	Std. Deviation	.9980	1.28	1.4034	1.50	1.1014	.9558

The relationship between the education levels of the respondents and the extent of risk perception is analysed as follows:

- Respondents with the least education (i.e. primary) perceive higher performance risk(4.0) and less financial risk(2.0) when compared to other age groups in the study.
- Respondents with a higher education (i.e. secondary ,college and university) perceive higher psychological and physical risk when compared to other age groups in the study.

Table 28: Perceived risk and Respondents gender

Financial Risk Performance risk Physical risk Psychological risk Social risk Time loss risk * Please indicate your gender

Please indicate		Financial Risk	Performance risk	Physical risk	Psychological risk	Social risk	Time loss risk
Male	Mean	2.7899	3.18	2.4930	3.01	3.1520	2.9155
	N	69	74	71	72	68	71
	Std. Deviation	1.0215	1.28	1.3249	1.49	1.1054	.9296
Female	Mean	2.9130	3.16	2.8438	2.56	2.7639	3.1400
	N	23	25	24	25	24	25
	Std. Deviation	.9403	1.25	1.5390	1.45	1.0425	1.0054
Total	Mean	2.8207	3.17	2.5816	2.90	3.0507	2.9740
	N	92	99	95	97	92	96
	Std. Deviation	.9982	1.26	1.3821	1.48	1.0972	.9497

The degree of risk perception can be related to the respondents gender as follows:

- The perception of performance risk is similar for the both sexes.(3.1)
- The female respondents perceive higher financial risk (2.9) than the male correspondents.(2.7)
- The male respondents perceive higher social risk(3.1) than the female ones and less time risk (2.9)than the female respondents(2.7).

Table 29: Perceived risks and Respondents occupation

Financial Risk Performance risk Physical risk Psychological risk Social risk Time loss risk * What is your occupation

What is your occupation		Financial Risk	Performance risk	Physical risk	Psychological risk	Social risk	Time loss risk
Civil servant	Mean	3.8125	3.25	2.6667	3.00	2.5000	2.5000
	N	4	4	3	4	4	3
	Std. Deviation	.9214	2.06	1.4216	1.83	1.1386	1.3229
Artsian	Mean	3.0000	2.43	2.6071	2.43	2.7143	3.2857
	N	7	7	7	7	7	7
	Std. Deviation	.6455	1.40	1.3218	1.62	1.4960	1.6293
Professional	Mean	2.7386	3.32	2.4000	3.24	3.4697	3.0417
	N	22	25	25	25	22	24
	Std. Deviation	1.0479	1.25	1.2374	1.48	.7535	.8712
Business employees	Mean	2.1364	3.09	1.8409	3.18	3.0303	2.4545
	N	11	11	11	11	11	11
	Std. Deviation	.7855	1.14	.7523	1.47	.7667	.6876
Student	Mean	3.2115	3.00	3.3269	2.86	2.7381	3.1071
	N	13	14	13	14	14	14
	Std. Deviation	1.0147	1.11	1.3400	1.56	1.0226	.6844
business	Mean	2.9565	3.28	2.8696	2.61	3.2063	3.1667
	N	23	25	23	23	21	24
	Std. Deviation	1.0047	1.31	1.7170	1.47	1.2404	.8555
Housewife	Mean	2.2500	4.50	1.2500	3.50	4.0000	2.5000
	N	2	2	2	2	2	2
	Std. Deviation	.0000	.71	.0000	.71	.9428	.0000
Farmer	Mean	1.5000	4.00	1.2500	3.00	4.6667	3.0000
	N	1	1	1	1	1	1
	Std. Deviation						
Total	Mean	2.8404	3.19	2.5824	2.93	3.1341	3.0000
	N	83	89	85	87	82	86
	Std. Deviation	1.0065	1.27	1.4001	1.48	1.0656	.9107

The following relationship can be established between the respondents occupations and the degree of risk perception:

- Civil servants perceive higher financial risk(3.8) when compared to the other professions.

- Housewives perceive higher performance(4.5) and psychological risk(4.0) than the other professions
- Students perceive higher physical risk(3.3) when compared to the other categories in the study.
- Artisans perceive higher time loss risk(3.2) when compared to the other professions .

5. CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

The findings in chapter four are discussed here guided by the objectives of the study under the following headings.

5.2. Perceived risks

From the findings presented in chapter four it can be concluded that the users of mobile telephony perceive the following outlined risks :

- Performance risks
- Financial risks
- Physical risks
- Social risk
- Time loss risk
- Psychological risk

The highest perceived risk is performance risk(mean score 3.1),followed by social risk(mean score 3.0), time loss risk(2.9)financial and psychological risk (mean score 2.8),and physical risk(mean score 2.5).This confirms the theory advanced by Taylor(1974) that consumers perceive certain risks in purchase situations.

5.2.1. Perceived financial risk

On the overall it can be concluded that the users of mobile telephony feel that they would loose financially if their phones malfunctioned or were stolen.

5.2.2. Perceived performance risk

It can also be concluded that users of mobile telephony before purchase are worried about the functionality of their phones. They fear that the phones would not work well or breakdown.

5.2.3. Perceived physical risk

From the findings it can be concluded that users of mobile phones fear that these products may become harmful to their health. This actually reaffirms the guidelines issued by WHO on the use of mobile telephony. WHO has issued guidelines advising consumers to limit their talk time on mobile phones so as to minimize the effects incase use of mobile phones is found to be harmful. WHO has also funded research whose objective is to establish the link between use of mobile phones and cancer.(Appendix1)

5.2.4. Perceived psychological risk

The findings of the study also confirm the association made between product choices and consumers self esteem. It can be concluded that use of mobile telephony fits well in to the self-image of its users and gives them a positive image.

5.2.5. Perceived social risk

The findings also show that use of mobile telephony enhances the social status of its users and gives them a positive image. Therefore it can be concluded that customers also get connected so as to enhance their social status.

5.2.6. Perceived time loss risk

From the study it can be concluded that one requires some time and effort to learn to use a mobile phone.

5.3. Risk reduction strategies.

Though the respondents were not asked to rank their risk relievers in order of the most helpful to the least it can be concluded that users of mobile telephone services prefer to buy well known brands so as to reduce the risk of the product not performing. This confirms the study by Roselius (1971) which showed that brand image and brand loyalty were the most favored risk relievers. The other risk reduction strategies found be useful by the respondents are: store image, expensive model, warranty, testing, and Word of mouth recommendation.

5.4. Implications

The finding of the study has the following implications on the use of the mobile telephony.

- Mobile phone users perceive certain risks that could cause delay in making product or service purchase decisions.
- Users who perceive real or imagined fears after purchase and do not find a suitable way of relieving their fear may continue to use the service but remain dissatisfied customers and pass on unfavorable information.
- Favorable word of mouth may be an important marketing and sales tool since most customers get information from their friends or relatives so as to choose their service provider.
- Customers may not reap maximum benefits from their mobile sets or enjoy other inherent services since the general perception is that much time and effort is required.
- Security of mobile phones is a priority to the users of the service.
- The mobile phone technology could still be viewed as a status symbol
- Major brands or well known brands are preferred by consumers because of functionality.
- There is little awareness on the use of mobile telephony and any related physical hazards like radioactivity and road safety.

5.5. Recommendations

In light of the above findings, it is recommended that mobile phone service providers should:

- Create marketing communications that are aimed at resolving the perceived risks of both current and potential consumers.
- Market only reputable brands as part of a strategy to convince customers on functionality
- Measure the user groups with similar perceived risks and target them with focused advertising messages.
- Provide excellent customer service to their customers so as to create favorable word of mouth recommendation.
- Incorporate the appropriate security measures against theft of mobile in the service package for example marking of phones.
- Intensify customer education campaigns on how to use mobile phones especially now as they roll out their networks in to the rural parts of Kenya.
- Market mobile phone technology as a basic tool of communication as opposed to a status symbol.
- Provide public information on mobile telephony technology in line with the World Health Organization (WHO) recommendations outlined in Appendix 1.

5.6. Limitations of the study

The study's limitations can be summarized as:

a) Geographical scope

All the respondents were drawn from Nairobi city center and therefore generalization of the conclusions would require a larger population from a wider geographical scope.

b) Resources

The lack of finances and time constraints limited the sample size and geographical scope of the study.

5.7. Suggestions for further research

There is need to further advance this research in relation to the theory of risk taking in consumer behavior and specifically match each type of perceived risk with the preferred risk reduction strategy on a wider scope and measure the different customer groups with similar risk perceptions and the cost effectiveness of having focused marketing efforts.

APPENDICES

APPENDIX 1WORLD HEALTH ORGANISATION (WHO) RECOMMENDATIONS ON THE USE OF MOBILE TELEPHONES

In response to public concerns, WHO established the International Electromagnetic Fields (EMF) project to assess the scientific evidence of possible health effects of EMF. A large epidemiology study is being coordinated into over 10 countries by the International Agency for Research on cancer (IARC) a special cancer research Agency of WHO to identify if there are links between use of mobile phones and head and neck cancers. The study is expected to be completed in 2003.

Meanwhile WHO has issued the following recommendations:

- i) Limiting the length of calls or using hands free devices to keep mobile phones away from the head and body.
- ii) Obeying local restrictions on mobile phone use to avoid electromagnetic frequency interference e.g at Hospitals Intensive care areas, and in aircrafts.
- iii) Driving safety: Motorists should strongly refrain from using mobile phones while driving since research has established the risk of traffic accidents while using mobile phones.
- iv) Protective measures: Fences or barriers or other protective measures to prepuce to areas where exposure limits may be exceeded.
- v) Consultation with communities in siting base stations: Siting of base stations should not only be accessible but should take into account public concerns.
- vi) Providing information: An effective system of health information and communication between government, industry and the public is needed

to raise the level of general understanding about mobile phone technology and reduce any fears, mistrust both real and perceived. (<http://www.who.int>.)

**Josephine Towett
Box 759, 00100
NAIROBI**

Dear Sir/Madam,

RE: REQUEST FOR RESEARCH DATA

I am a Master of Business Administration student at the University of Nairobi carrying out a research project in partial fulfillment of the degree requirements. The research topic is : **"A survey of perceived risks on the use of mobile telephone services among consumers in Nairobi"**.

I hereby request you to complete the attached questionnaire.

The information obtained is purely for academic purposes and will be held in strict confidence.

Thank you.

Yours faithfully,

JOSEPHINE TOWETT

APPENDIX 3 QUESTIONNAIRE

SECTION A

PART 1

1. Do you have a mobile phone?
Yes [] No []
2. Which mobile phone company are you connected to?
Safaricom []
Kencell []

PART 11

3. Please indicate on the scale below by ticking (✓) the extent to which you agree or disagree on the following statements on the use of mobile phone services: Strongly Agree = 5; Agree = 4; Neither agree nor disagree = 3; Disagree = 2; Strongly disagree = 1.

Strongly Agree Agree Neither agree or disagree Disagree Strongly disagree

1. Before I was connected, I was concerned that the phone would not work well [] [] [] [] []
2. The purchase of mobile phone represented a good amount of my budget/income [] [] [] [] []

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
3. I considered the purchase of a mobile phone expensive	[]	[]	[]	[]	[]
4. I was concerned that I could not afford to replace my phone incase it was stolen or it malfunctioned.	[]	[]	[]	[]	[]
5. I am worried about mobile phone theft.	[]	[]	[]	[]	[]
6. I got connected so that people could think highly of me.	[]	[]	[]	[]	[]
7. Owning a mobile phone is consistent with the way others view me.	[]	[]	[]	[]	[]
8. Owning a mobile phone is consistent with the way I view myself.	[]	[]	[]	[]	[]
9. I was worried about making the wrong choice and regretting latter.	[]	[]	[]	[]	[]
10. I am concerned about the					

	Strongly agree	Agree	Neither agree or disagree	Disagree	Strong disagree
radioactive waves emitted by mobile phones	[]	[]	[]	[]	[]
11. I am worried about being injured by mobile phone thieves	[]	[]	[]	[]	[]
12. Use of mobile phones while driving is risky to the driver and other road users.	[]	[]	[]	[]	[]
13 I think it is important to use an anti-radiation gadget.	[]	[]	[]	[]	[]
14. It takes time and effort to learn how to use a mobile phone.	[]	[]	[]	[]	[]
15. Repair outlets are accessible	[]	[]	[]	[]	[]

SECTION B

1. Why did you choose your type of mobile handset? Please tick below appropriately.

- a) It is a well known mobile phone(brand) []
- b) It is sold by a reputable dealer []
- c) It is expensive therefore it is good []
- d) It can be repaired free (warranty) []
- e) I was allowed to test before buying []

- f) My friend/relative had bought it []
- f) other (specify)

2. How did you choose your service provider? Please tick appropriately.

- a) Based on information from the advertisement []
- b) Based on information from salespeople []
- c) Based on information from friends and relatives []
- d) other (specify)

3. Have you taken any action to protect your mobile phone from being stolen?

Tick below appropriately

- a) I use it in 'safe' places only []
- b) I have locked it so that it is not re-usable if stolen []
- c) I have used a security marking system []
- d) None []
- e) Others specify

4. There is talk about mobile phones emitting radioactive waves that could cause cancer. What action have you taken to minimize any such effects?. Please tick below appropriately.

- a) I use an anti-radiation gadget []
- b) I minimise my talk time when using a mobile phone []
- c) I use a hands-free gadget so that the phone is not close to my head or body []
- d) None []
- e) Others specify

SECTION C

- 1. What is your occupation -----
- 2. Please indicate your gender [] Male [] Female

3. Please tick the age bracket in which you fall:

Below 20 years []

21-30 years []

31 – 40 years []

41 – 50 years []

51 – 60 years []

Above 60 years []

4. Please indicate your education level

i) Primary []

ii) Secondary []

ii) College []

iii) University []

IV) Other (specify).....

THANK YOU FOR YOUR COOPERATION.

**APPENDIX 4 LIST OF CUSTOMER SERVICE CENTERS
IN NAIROBI CITY CENTRE**

SAFARICOM CUSTOMER SERVICE CENTERS

1. Safaricom Customer Service Center-Kenyatta Avenue, I&M Building
2. Safaricom Customer Service Center-Extelcoms –Haille Sellaise Avenue

KENCELL CUSTOMER SERVICE CENTERS

- 1.Koinange street shop –Koinange street

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