

**PERCEIVED RISK FACTORS BY PERSONAL COMPUTER
USERS IN THE PRE-PURCHASE PHASE: A CASE OF
USERS IN DIFFERENT INCOME GROUPS IN
NAKURU SUB COUNTY, KENYA**

Robert Peter Ogutu 

Geothermal Development Company, Kenya

rogutu@gmail.com

Hillary Busolo Oundo

Moi University, Kenya

hillvob@gmail.com

Abstract

Personal computer ownership is still low in Kenya despite significant progress made in personal computer development, the many benefits to be derived from computer usage and the many initiatives put in place by the Kenya Government to encourage ownership and usage. Purchase of a personal computer still remains a risky undertaking where decisions must be made notwithstanding the complexity of the product. Previous works on risk management established several inhibiting factors in other contexts. This study investigated perceived risks of personal computer users in Nakuru sub county in the pre purchase phase and posited that perceived risk factors do not significantly differ among the lower, middle and upper income groups and that overall perceived risk levels among the income groups are not significantly different in the pre – purchase phase of personal computers. Purposive sampling was used to select 60 respondents. Study findings revealed significant differences in the overall perceived risk levels among the upper, middle and lower income groups and that of the risk factors under study, financial, functional, social and psychological risk factors showed significant difference among the three income groups while physical and time risk factors showed no significant differences.

Keywords: Perceived Risk, Financial Risk, Time Risk, Functional Risk, Psychological Risk, and Social risk, Information Communication Technology, Personal Computer

INTRODUCTION

Computers have today revolutionized society and become part and parcel of our everyday lives. The technology has penetrated all sectors, including but not limited to banking, agriculture, mining, transportation, research, defense, medical services, accounting and communications with jobs which were previously manual, repetitive, dangerous and demanding getting automated (Misa, 2007). While computer usage has increased significantly in a many countries, particularly in Europe, its growth has been relatively slow, in parts of Asia, Africa and Latin America. Many less – developed nations continue to lag behind the in terms of computer ownership, internet access and email usage (PRC, 2007). The growth of computers and Internet use has been a fixture of the global landscape over the past decade. International Telecommunications Union's 2005 estimates indicate that world personal computer penetration (the number of PCs per 100 people) rose from 4.2 in 1995 to more than 12 in 2004. The environment for ICT access has improved relatively rapidly in most urban areas in Africa. Despite this rapid rate of penetration, a large digital divide remains between the developed and developing world. This gap is especially pronounced in African countries where personal computer ownership is low yet ICTs are crucially important for sustainable development in these countries (Crede, 1998). Estimates by UNESCO show that out of the 816 million people in Africa in 2001, one in 130 had a personal computer thus accounting for 5.9 million people (EPZA, 2005)

Personal computer ownership in Kenya is still low. This is despite the many initiatives put in place by the Kenya Government which include; enactment of several policy statements to spur ICT growth (IST – Africa, 2015). The Kenya ICT Policy (2006), the Kenya Information and Communications Bill (2006), The National Science, Technology and Innovation Policy and Strategy (2008) in addition to ICT Initiatives and projects meant to improve ICT infrastructure in order to bridge the digital divide, lower the cost of communications and leveling the ground through the development and implementation of policy and regulations in order to attract investment within the sector include; the Laptop Programme, Digital Inclusion Projects (Pasha Centres/Digital Villages, Wezesha Initiative), Business Process Outsourcing, Local Content Programme (Tandaa Digital Content Grants, Open Data Portal), Information Security, Konza Technology Park, zero – rating taxes on imported ICT hardware, eGovernment, Skills Programmes are currently ongoing in Kenya (IST – Africa, 2015). ITU's 2015 estimates show PC ownership in Kenya rose from 0.03 PCs per 100 people in 1990 to 1.37 PCs per 100 people in 2005. In the year 2000 there were approximately 150,000 personal computers translating to 1 personal computer per 2000 Kenyans. This rose to about 520,000 personal computers in active use at the beginning of 2004 giving the number of computers per hundred inhabitants as

1.6. CCK's 2011 report places computer ownership at 1.8 per cent of the entire population. Most African governments and private organizations are beginning to address this very serious problem by putting in place policies that will ensure that as many people as possible acquire and know how to use computers (IST – Africa, 2015).

Whenever consumers consider purchasing a new product, a number of factors determine their decision to purchase. Their fears range from successful adoption of the new technology to the unforeseen hazards of embracing the new product. The way they perceive products affects their buying decision which may not be entirely based on objective factors but subjective considerations (Dontigney, 2015). Jarvenpaa and Tedd (1997) identify factors that affect a consumer's purchase decision as; product understanding, shopping experience, customer service, and consumer risk. Consumers therefore are likely to be more involved in purchasing a product because it generates high levels of performance, financial, safety social, psychological, social and time and can therefore have more extreme personal consequences. Since high risk is generally uncomfortable for consumers, they are usually motivated to engage in information processing activities in order to reduce the uncertainty component of risk.

It is against this background that it is important to study and understand the behaviour of consumers in as far as personal computer ownership is concerned. Understanding consumer risk perceptions in the pre – purchase phase will aid in focusing product development and marketing efforts. Only manufacturers and suppliers offering total solutions, advising buyers on hardware, software, installing and maintaining equipment are expected to survive in this fierce competitive industry. Manufacturers and suppliers who understand their customers are bound to be sensitive to their fears and therefore develop better products, promote their products and services more effectively and develop strategies that foster sustainable competitive advantage.

Problem Statement

Kenya is the fastest growing ICT hub in the region yet personal computer ownership is still low despite initiatives put in by government to try and encourage ownership. In today's world, access, usage and ownership of a personal computer are fundamental in linking communities, facilitating businesses and empowering communities socially and economically. Enhancement of access to information and communications services in rural, remote and underserved areas is therefore crucial to accelerating development. The contributing risk factors to low ownership of personal computers in Kenya are not known. This study sort to determine these factors by exploring perceived risks associated with ownership of personal computers in the pre – purchase phase of personal computers users in the Nakuru sub county.

Research Objectives

The main objective of the study was to investigate the perceived risk among the lower, middle and upper income groups in the pre – purchase phase of personal computers in Nakuru Sub County.

Specific Objectives

1. To identify the most significant perceived risk factors among the lower, middle and upper income groups during the pre – purchase phase of personal computers in Nakuru sub county.
2. To determine significant difference in the overall perceived risk levels among the lower, middle and upper income groups in the pre – purchase phase of personal computers in Nakuru sub county.

Hypotheses

H1: Perceived risk factors do not significantly differ among the income groups in the pre – purchase phase of personal computers.

H2: There is no significant difference in the perceived risk levels among the lower, middle and upper income groups in the pre – purchase phase of personal computers.

Significance and Justification of the Study

The results of the study will contribute to a pool of knowledge in the area consumer behavior and specifically on perceived risk during the pre – purchase phase of personal computers. Identifying and documenting consumer perceived risks would help marketers in focusing on product development, directing marketing efforts, meeting customer expectations and eventually hasten embracing of information technology. The study too will inform new entrants into the market and the already existing investors of the type of clientele to expect. By understanding the perceived risks of the consumers firms will be able to develop better products tailor made to addressing consumers perceived risks with a view of minimizing these risks, know which areas to emphasize during promotions and therefore have a competitive edge.

Scope and Limitation of the Study

The study confined itself to personal computer users in Nakuru sub county. Nakuru sub county was selected due to its cosmopolitan population, the presence of learning institutions such as the universities and a host of middle level colleges which provided the target population. The perceived risk factors under investigation included functional risk, physical risk, financial risk,

social risk, psychological risk and time risk. Any generalizability of these results should be done with caution since the study considered personal computer users in Nakuru sub county as the target population.

LITERATURE REVIEW

Perceived Risk Definition

Perceived risk has been defined as a consumer's perceptions of the uncertainty and adverse consequences of engaging in an activity (Dowling et al. 1994). Since consumers constantly make decisions regarding what products or services to buy and where to buy them, optimal information about products will eventually reduce perceived risk, uncertainty and ultimately, exerts a positive effect on product purchase intentions (Hong, 2003). This view is supported by Bauer, 1960 and Taylor, 1974 who opine that consumer behavior is motivated to reduce risk and therefore they are inclined to collect and evaluate information through consumer reports, magazine advertising, brand name, word-of-mouth communication, and customized information so as to reduce risk and facilitate choice (Krishnamurthy, 2001). Where risk is high, the value of external search is also high, as several types of risk can be minimized through time and effort spent in the search for information (Glassman, 2015). An individual's perception of risk varies depending on the person, experience, the product, the situation and the culture. It may be higher if a product is expensive, complex and hard to understand (Solomon, 1991; Schiffman, et al 1999). Indeed the degree of risk that consumers perceive and their own tolerance for risk taking are factors that influence their purchase strategies (Bhatnagar, et al. 2000). Perceived risk can be a factor even if a product choice is simply visible to others and consumers run the risk of social embarrassment if the wrong choice is made. The degree of perceived risk is a function of uncertainty and consequences that would result from a wrong decision (Dowling et al. 1994; Mitchell, et al. 1996). This may include uncertainty inherent in the performance of the product, uncertainty in the place and mode of purchase, the degree of financial, psychological which may harm the consumers' ego and time consequences and the degree of social embarrassment and the risk of the product being harmful (Mathews, 2004).

Perceived Risk in the Pre Purchase Phase

The pre-purchase stage of the consumer decision process consists of problem recognition, information search and the evaluation of alternatives (Neal, et al., 2002). Consumers therefore undertake search behaviour prior to purchase to reduce purchase uncertainty by acquiring relevant information (Murray, 1991) aimed at reducing perceived risk. Several researchers have suggested that perceived risk is reduced during the early stages of the consumer purchasing

process (Zeithaml & Bitner 2003; Cox 1967; Dowling & Staelin 1994; Murray 1991; Murray & Schlater 1990). Described in terms of five distinct stages; need recognition, information search, alternative evaluation, purchase, and post-purchase. Consumer perceived risk (Diacon and Ennew 2001) play important roles in this pre-purchase phase. In the pre-purchase stage, a need arousal triggers consumers to start searching for information and evaluate alternatives before they make a purchase decision (Tsiotsou & Wirtz, 2012). Usually consumers employ multiple sources given their orientation in order to save money, reduce risk, to develop performance expectations (Konus, Verhoef & Neslin, 2008). They use a wide array of sources to gather information (Zeithaml & Bitner 2003; Lovelock & Wirtz, 2011)

Dimensions of Perceived Risk

The concept of perceived risk has been widely researched (Younghwa, et al. 2003; Hong, 2003 & Hanjun, et al. 2004). Core constructs of the perceived risk theory have been decomposed by researchers into several perceived risk dimensions. Roselius (1971) and Jacoby & Kaplan (1972), offer that perceived risk is usually measured as a multi-dimensional construct: financial risk, physical risk, psychological risk, performance risk, time, risk, and social risk (Cunningham, Gerlach, Harper & Young, 2005). Other researchers who have considered these dimensions include; Stone, et al. 1993; Berkman, et al, 1996; Schiffman, et al, 1999; Ha, 2002; Dontigney, 2015). These risks are thought to be present in every choice situation but in varying degrees given the level of uncertainty and consequences associated (Taylor, 1974). The degree of variation may depend on the type of purchase, with irregular and costly purchases (e.g., a laptop computer) considered carrying a higher level of risk than regular or inexpensive purchases (e.g., a book). This study adopted perceived risk in six dimensions as employed by (Peter et al, 1975; Garner, 1986; Stone, 1993; Tan, 1999; Schiffman, et al 1999). These included; financial risk viewed as the net loss to the consumer which may include lack of warranty, high maintenance fees, the possibility that the product may need to be repaired, or replaced; psychological risk being the loss incurred when the product chosen does not fulfill the consumer's self-image and therefore bruise his/her consumers ego; performance/functional risk related to the likelihood that a product will actually function as expected; physical risk being the loss incurred when the product chosen may physically harm the consumer resulting in possible safety problems or injury to one's health; social risk being the fear that the product may negatively affect the way others think of the consumer including disapproval by family or friends (Li and Zhang, 2002); and time risk being the risk that the time spent in product search may be wasted if the product does not perform as expected.

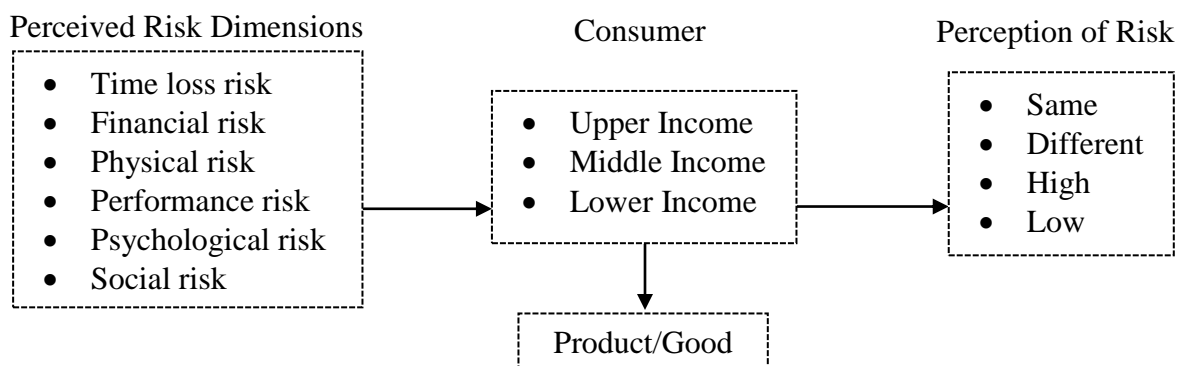
Perceived Risk Model

Consumption behaviour was theorized to depend upon an individual's subjective perception of the risk inherent in a particular product buying propositions (Chisnall, 1994). Different people will tend to view risk according to their personality and experience. Risk is a function of two elements, uncertainty and consequences. A consumer will weigh up carefully the risks involved in purchasing particular products and select the one that minimizes perceived risk. In general risk may be viewed by consumers as having several elements or aspects affecting their buying decisions, these are; financial, performance, physical, psychological, social and time loss (Chisnall, 1994). Different sets or combinations of these elements are likely to be present in specific situations, and decisions will be affected by personal assessments of the total risk involved. For example psychological risk may be perceived because a product might conceivably be inconsistent with the prospective purchasers self-image, time loss may arise from fears that a purchase might not live up to its expectations, perhaps resulting in wastage of time in taking for instance, a home computer back to the suppliers for adjustment or replacement (Chisnall, 1994).

Conceptual Framework

Consumer's perception of risk varies with the product. For example consumers are likely to perceive a higher degree of risk (e.g. functional risk, financial risk, time risk) in the purchase of a motor vehicle than in the purchase of a television set. Consumers therefore tend not to make purchases when they perceive high risks and try as much as possible to minimize perceived risk through search activities before making any purchases (Schiffman, et al 1999). Figure 2 shows that consumers in various income groups will perceive risks whose levels may be different or same and which affects the purchase decision.

Figure 1 : A Conceptual Model on Perceived Risk Factors of Personal Computer Users



Source: Researcher's Model

RESEARCH METHODOLOGY

Research Design

Cross sectional research design was adopted in determining perceived risk among the lower, middle and upper income groups in the pre – purchase phase of personal computers in Nakuru sub county. Nakuru sub county is one of the business, industrial and academic centres in Kenya. Given its cosmopolitan population, the presence of institutions of higher learning and a host of middle level colleges, was able to provide the target population of personal computer users. The sample frame consisted of owners of personal computer who use them. Purposive sampling was used to select a total of 60 respondents who were then grouped in three income groups of lower, middle and upper. Other researchers have also used a sample size of about 60 which they considered to be adequate (Younghwa, 2003). Primary data on perceived risk factors of time, financial, physical, performance, psychological, and social was collected through the use of a questionnaire. This involved the use of a closed ended questionnaire which was self-administered to respondents. The scale items were adopted from (Beneke et al, 2012; Jacoby, et al., 1972). All Likert scale items for variables considered were measured on a 5-point Likert scale (from 1=strongly disagree to 5=strongly agree).

Reliability Test

In this study, Cronbach's (1951) alpha coefficient was used as a quality indicator of the scale items. This statistic has widely been used in research as a quality test indicator (Klaas, 2009). Cronbach alpha reliability coefficient for the 8 Likert scale items in the questionnaire was found to be 0.689 just about the minimum acceptable threshold of 0.70 as recommended by (Nunnally, 1978; Garson, 2006; Hair et al., 2006; & George et al., 2003).

Data Analysis

Both descriptive and inferential analyses were carried out using the Statistical Package for Social Scientists (SPSS) version 17.0. Descriptive analysis included the determination of the percentage response and mean of the 8 Likert scale items. To test both the first and the second hypotheses, the study adopted a Kruskal – Wallis H – test statistic to test whether there is a significant difference in perceived risk factors among the income groups and whether there is a significant difference in the overall perceived risk level of the three income groups of lower, middle and upper. A p – value < 0.05 led to the rejection of the null hypothesis that there is no difference in the perceived risk levels among the lower, middle and upper income groups.

FINDINGS AND DISCUSSION

Perceived Risk Lever per Income Group

In measuring perceived risk levels in the lower, middle and upper income groups, respondents were asked to rate on a 5 point Likert scale their risk perception by indicating the extent to which they agreed or disagreed with statements provided on six risk factors.

Table 1: Risk perception in the lower income group

Factor	Likert Scale Items Responses					Summary			
	(SD) %	(D) %	(U) %	(A) %	(SA) %	D %	U %	A %	Mean
Functional	0.0	0.0	16.7	25.0	58.3	0.0	16.7	83.3	4.4
Financial	0.0	0.0	8.3	50.0	41.7	0.0	8.3	91.7	4.3
Social	0.0	0.0	33.3	66.7	0.0	0.0	33.3	66.7	3.7
Psychological	8.3	50.0	41.7	0.0	0.0	58.3	41.7	0.0	2.3
Physical	0.0	41.7	50.0	8.3	0.0	41.7	50.0	8.3	2.7
Time	0.0	8.3	83.3	8.3	0.0	8.3	83.3	8.3	3.0
Lower income group mean response score on perceived risk level									3.40

The highly rated risk factor was functional with a mean response score of 4.4 with 83.3% of respondents in agreement, followed by financial at 4.3 with 91.7% of respondents in agreement, social at a mean response score of 3.7. Respondents were undecided on time at a mean response score = 3.0. The least scored risk factor was psychological at a mean response score of 2.3 < 3.0 with 0% of respondents in agreement. Physical risk was rated at a mean response score of 2.7 < 3.0 with 8.3% of respondents in agreement. Respondents viewed their context on perceived risk level in the pre purchase phase of personal computers as being high with an overall mean response score of 3.40 > 3.0.

Table 2: Risk Perception in the Middle Income Group

Factor	Likert Scale Items Responses					Summary			
	(SD) %	(D) %	(U) %	(A) %	(SA) %	D%	U%	A%	Mean
Functional	22.2	14.8	7.4	44.4	11.1	37.0	7.4	55.6	3.1
Financial	3.7	3.7	14.8	51.9	25.9	7.4	14.8	77.8	3.9
Social	3.7	14.8	51.9	22.2	7.4	18.5	51.9	29.6	3.1
Psychological	14.8	29.6	11.1	22.2	22.2	44.4	11.1	44.4	3.1
Physical	3.7	48.1	37.0	11.1	0.0	51.9	37.0	11.1	2.6
Time	3.7	37.0	37.0	18.5	3.7	40.7	37.0	22.2	2.8
Middle income group mean response score on perceived risk level									3.10

The highly rated risk factor was financial with a mean response score of 3.9 with 77.8% of respondents in agreement, tied in the second place are functional, social and psychological with a mean response score of 3.1 at 55.65, 29.6% and 44.4% respectively of respondents in

agreement. The least rated risk factor was psychological at a mean response score of 2.6 < 3.0 with 11.1% of respondents in agreement. Time risk was rated at a mean response score of 2.8 < 3.0 with 22.2% of respondents in agreement. Respondents viewed their context on perceived risk level in the pre purchase phase of personal computers as being high with an overall mean response score of 3.10 > 3.0.

Table 3: Risk Perception in the Upper Income Group

Factor	Likert Scale Items Responses					Summary			
	(SD) %	(D) %	(U) %	(A) %	(SA) %	D%	U%	A%	Mean
Functional	22.2	22.2	33.3	11.1	11.1	44.4	33.3	22.2	2.7
Financial	5.6	72.2	22.2	0.0	0.0	77.8	22.2	0.0	2.2
Social	5.6	38.9	44.4	11.1	0.0	44.4	44.4	11.1	2.6
Psychological	55.6	27.8	11.1	5.6	0.0	83.3	11.1	5.6	1.7
Physical	16.7	27.8	44.4	11.1	0.0	44.4	44.4	11.1	2.5
Time	22.2	27.8	27.8	22.2	0.0	50.0	27.8	22.2	2.5
Upper income group mean response score on perceived risk level									2.35

Generally, respondents viewed their context on perceived risk level in the pre purchase phase of personal computers as being low with an overall mean response score of 2.35. All the risk factors had a mean response score less than 3.0. The highly rated risk factor was functional with a mean response score of 2.7 with 22.2% of respondents in agreement, followed by social at 2.6 with 11.1% of respondents in agreement, physical and time tied at a mean response score of 2.5, financial at 2.2 and psychological at 1.7 with 5.6% of respondents in agreement.

Overall Perceived Risk Level

In measuring overall perceived risk levels respondents were asked to rate on a 5 point Likert scale their risk perception by indicating the extent to which they agreed or disagreed with statements provided on six risk factors. The results are presented below.

Table 4: Overall Risk Perception

Factor	Likert Scale Items Responses					Summary			
	(SD) %	(D) %	(U) %	(A) %	(SA) %	D%	U%	A%	Mean
Functional	17.5	14.0	17.5	29.8	21.1	31.6	17.5	50.9	3.2
Financial	3.5	24.6	15.8	35.1	21.1	28.1	15.8	56.1	3.5
Social	3.5	19.3	45.6	28.1	3.5	22.8	45.6	31.6	3.1
Psychological	26.3	33.3	17.5	12.3	10.5	59.6	17.5	22.8	2.5
Physical	7.0	40.4	42.1	10.5	0.0	47.4	42.1	10.5	2.6
Time	8.8	28.1	43.9	17.5	1.8	36.8	43.9	19.3	2.8
Overall mean response score on perceived risk level									2.93

Three risk factors were perceived highly, financial with a mean response score of $3.5 > 3.0$ with 56.1% of respondents in agreement, followed by functional at $3.2 > 3.0$ with 50.9% of respondents in agreement, social at a mean response score of $3.1 > 3.0$ with 31.6% of respondents in agreement. Generally, respondents viewed their context on perceived risk level in the pre purchase phase of personal computers as being low with an overall mean response score of 2.93.

Results of Hypothesis Testing

Study findings show significant differences among the lower, middle and upper income groups in financial risk factor [$H(2) = 32.129, p = 0.001 < 0.05$], functional risk factor [$H(2) = 12.814, p = 0.002 < 0.05$], Social risk factor [$H(2) = 12.345, p = 0.002 < 0.05$], psychological risk factor [$H(2) = 12.571, p = 0.002 < 0.05$]. Test results on the physical risk factor [$H(2) = 0.246, p = 0.884 > 0.05$] and time risk factor [$H(2) = 2.125, p = 0.346 > 0.05$] showed no significant differences among the income groups. On the whole the overall perceived risk levels did significantly differ among the income groups at [$H(2) = 25.122, p = 0.001 < 0.05$]. The null hypothesis that there is no significant difference in the overall risk level among the income groups was thus rejected.

CONCLUSION AND SUMMARY OF FINDINGS

The study revealed significant differences in perceived risk levels among the lower, middle and upper income groups in the pre – purchase phase of personal computers. Whereas in the lower and middle income groups, financial risk was identified as the most important risk factor, respondents in the upper income group identified functional as the most important risk factor. Results further show respondents significantly differed on four risk factors financial, functional, psychological and social risk factors in the pre – purchase phase of personal computers and that there was no significant difference in the way respondents in the various income groups viewed physical and time risk factors. The implication to marketers being the adaptation of the same strategy where there are no differences and a differentiated strategy where differences exist.

RECOMMENDATIONS

Marketers should use financial, functional, psychological and social risk factors as a basis for differentiating personal computers since risk facets were significantly different among the various income groups. This could be attained by a variation of the marketing mix to satisfy unique needs of the varied income groups. Since individuals act and react on the basis of their

perceptions, not on the basis of the objective reality, proper positioning, and appropriate advertising could influence perceptions regarding perceived risks (Sciffman et al 1999). This therefore means that an individual's perceived risks of a product can be manipulated. This could be done by showing that benefits derived from personal computer ownership far outweigh the perceived risks and more especially financial, functional, psychological and social risk factors, and developing personal computers that address unique needs of the various groups.

SUGGESTIONS FOR FURTHER RESEARCH

Two items for future research are proposed. In this study reasons as to why personal computer users buy computers were not established. There is need to determine this as it will help in determining why various consumers are averse to the risks that affect them. The study established differences among the three income groups on each risk factor. There is need therefore to identify perceived risk factors unique to various income groups.

REFERENCES

- Beneke, J., Greene, A., Lok, I., & Mallett, K. (2012). The influence of perceived risk on purchase intent: the case of premium grocery private label brands in South Africa. *Journal of Product & Brand Management*, 21 (1), 4 – 14.
- Berkman, H., & Lindquist, J. (1996) *Consumer Behaviour*, NTC Business Books, Lincolnwood.
- Bhatnagar, A., Misra, S., & Rao, H. R. (2000). Online risk, convenience and internet shopping behavior. *Communications of the ACM*, 42(11), 98-105.
- Blois, K., (2000) *Marketing*, Oxford University Press Inc., New York.
- CCK, (2011). National ICT Survey, Retrieved from http://www.researchictafrica.net/countries/kenya/Report_of_the_National_ICT_Survey_2010.pdf, site visited on 14th June 2013
- Charles, F.(1998) *Computer Electromagnetic Radiation and Its Health Effects*, <http://www.klis.com>, site visited on 19th January 2004.
- Chisnall, P. (1994) *Consumer behaviour*, 3rd edition, McGraw – Hill Inc., New York.
- Choi, J., Lee, K., (2001) *Risk Perception and E – Shopping: A Cross – Cultural Study*, <http://www.ingenta.com>, site visited on 10th June 2004.
- Churchill, G., & Peter, P. (1994) *Marketing: Creating Value For Customers*, Austen Press, Boston.
- Crede, A., & Mansell, R. (1998). *Knowledge societies in a nutshell: Information technologies for sustainable development*. Ottawa, Canada: IDRC.
- Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika*, 31, 93-96.
- Cunningham, S. M. (1967), The major dimensions of perceived risk. In D. Cox (Ed.), *Risk taking and information handling in consumer behavior* (pp. 82-109). Harvard: Harvard University Press.
- Curtis, G. and Cobham D. (2002) *Business Information Systems*, Prentice Hall, London.
- Dontigney, E. (2015). Types of Perceived Risk, <http://smallbusiness.chron.com/types-perceived-risk-71594.html>, site visted on 12th December 2015

- Dowling, G. R., &Staelin, R. (1994).A model of perceived risk and intended risk-handling activity.Journal of Consumer Research, 21(June), 119–134.
- Export Processing Zones Authority (EPZA) (2005). Kenya's ICT Industry, <http://www.epzakenya.com/UserFiles/files/ictKenya.pdf>, site visited on 11th May, 2013
- Garner, S. J., 1986, "Perceived risk and information sources in servicing purchasing," The Mid-Atlantic Journal of Business, 24(2), 49-58
- Garson, G. D. (2006). Reliability Analysis. Retrieved from <http://www2.chass.ncsu.edu/garson/pa765/reliab.htm>, site visited on 3rd February 2010.
- George, D., &Mallery, P. (2003). SPSS for windows step by step: A sample Guide & reference. Boston: Allyn& Bacon.
- Glassman, M., (2015). How to Counter Your Customer's Perceived Risk, <http://www.sellingpower.com/content/article/index.php?a=3615/how-to-counter-your-customer-s-perceived-risk&page=1>, site visited on 12th December 2015.
- Ha, H.Y. (2002). The Effects of Consumer Risk Perception on Pre-purchase Information in Online Auctions: Brand, Word-of-Mouth, and Customized Information. Journal of Computer-Mediated Communication, 8(1).
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., &Tatham, R. L. (Eds.). (2006). Multivariate data analysis (6th ed.). New Jersey: Pearson Prentice Hall.
- Hanjun, K., Jaemin, J., JooYoung, K., and Sung, S., (2002) Cross – Cultural Differences in Perceived Risk of Online Shopping, <http://www.jiad.org>, site visited on 10th June 2004.
- Hong – Youl, H. (2001) The Effects of Consumer Risk Perception on Pre-purchase Information in Online Auctions: Brand, Word-of-Mouth, and Customized Information; <http://www.ascusc.org>, site visited on 5th December 2003.
- IST – Africa, (2014). Guide to ICT Initiatives and Research Capacity in IST-Africa Partner Countries, 1 (28), http://www.ist-africa.org/home/files/IST-Africa_ICTInitiatives_ResearchCapacity_v1_281114.pdf, site visited on 12th December 2015.
- Jacoby, J., & Kaplan, L. B. 1972.The Components of Perceived Risk. Paper presented at the Third Annual Convention of the Association for Consumer Research, 382-393.
- Jarvenpaa, S., and Todd, P. (1996/1997).“Consumer Reactions to Electronic Shopping on the World Wide Web”.*International Journal of Electronic Commerce*. 1 (2), 59-88.
- Klaas, S. (2009). On the Use, the Misuse, and the Very Limited Usefulness of Cronbach's Alpha, *Psychometrika*, 74 (1), 107 – 120
- Krishnamurthy, S. (2001). A Comprehensive analysis of permission marketing. *Journal of Computer-Mediated Communication*, 6(2). Retrieved from <http://www.ascusc.org/jcmc/vol6/issue2/krishnamurthy.html>, site visited on 12th April, 2005.
- Lombardo, J. (2015).Understanding the Consumer Decision-Making Process, <http://study.com/academy/lesson/understanding-the-consumer-decision-making-process-a-marketing-must.html>, site visited on 12th December 2015.
- Mason, R. and Lind, D. (1996) Statistical Techniques in Business and Economics, 9th edition, McGraw – Hill, New York.
- Mathews, H., Wen-yeh, H., Holly, S., and Alan, D. (2002) Effect of Brand Name on Consumers' Risk Perceptions in Online Shopping, <http://www.cfs.purdue.edu>, site visited on 11th October 2004.
- Misa, T. J. (2007). Understanding 'How Computing Has Changed the World', IEEE Computer Society. Retrieved from http://www.tc.umn.edu/~tmisa/papers/2007_Annals-3-change-world.pdf, site visited on 20th May 2010.
- Mitchell, V.-W., and McGoldrick, P. J. (1996). Consumer's risk-reduction strategies: a review and synthesis. *The International Review of Retail, Distribution and Consumer Research*, 6(1), 1-33.

- Murray, K. B. (1991). The test of services marketing theory: information acquisition activities. *Journal of Marketing*, 23(January), 263-278.
- Neal, C. M., Quester, P. G., and Hawkins, D. (2002). *Consumer Behaviour Implications for Marketing Strategy* (3rd ed.). Sydney: McGraw-Hill Irwin.
- Nunnally, J. C. (Ed.). (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Onunga, J. (2003) *Computer Studies*, Mariwa Publishers, Nairobi.
- Peter, J. P. and Tarpey, L. X., 1975, "Comparative analysis of three consumers decision strategies," *Journal of Consumer Research*, 2(1), 29-37
- PewResearchCenter, (2007) *Computers and Technology*, <http://www.pewglobal.org/2007/10/04/chapter-8-computers-and-technology/>, site visited on 5th November, 2010.
- Schiffman, L. and Leslie, L. (1999) *Consumer Behaviour*, 7th edition, Prentice Hall, New York.
- Simon, E. (1996) *Distributed Information Systems: Future Directions*, McGraw – Hill, London.
- Solomon, M. (1991) *Consumer Behaviour: Buying, Having and Being*; Division of Simon and Schuster Inc., Toronto.
- Stone, R. N. and Gronhaug, K., 1993, "Perceived risk: Further considerations for the marketing discipline," *European Journal of Marketing* ,27(3), 39-50.
- Stone, R. N., &Gronhaug, K. (1993).Perceived risk: Further considerations for the marketing discipline. *European Journal of Marketing*, 27, 39–50.
- Suzar, E. (2002) *Protecting Yourself from Being Continuously Cooked in ELF Radiations*, <http://www.suzar.com>, site visited on 18th January 2004.
- Suzar, E. (2002) *Protecting Yourself From Cyber Radiations*, <http://www.eppspro.com>, site visited on 18th June 2004.
- Tan, S. J., 1999, "Strategies for reducing consumers' risk aversion in Internet shopping," *Journal of Consumer Marketing*, 16(2), 163-180.
- Taylor, J.W. (1974). The role of risk in consumer behavior. *Journal of Marketing*, 38(2), 54–60.
- Towett, T. (2002) *A Survey of Perceived Risks on the Use of Mobile Telephone Services Among Consumers in Nairobi; An Unpublished Research Project*, University of Nairobi, Nairobi.
- Younghwa, L., Kwang – Sucho, and Kwang – Hee, H. (2001) *Perceived Risks and Product Information by the Product Categories at Cyber-shopping malls*; <http://www.logos.mind.sccs.chukyo-u.ac>, site visited on 6th December 2003.
- Zaltman, G. and Wallendorf, M. (1983) *Consumer behaviour: Basic Findings and Management Implications*, John wiley and Sons Inc., New York