

Consumer Behavior Influence on Adoption of Electronic Commerce in Retail Stores

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Abstract

Consumer behavior is a key determinant on the success of products and services in the competitive markets. Electronic commerce has revolutionised customer value delivery. The purpose of this study is to investigate the influence of consumer behavior on adoption of electronic commerce in retail stores with a case reference of three supermarkets in Limuru town, Kenya. More specifically to determine effect of problem recognition, the influence of information search and evaluation, outcome of purchasing decision and result of post purchase behavior by the consumer on adoption of e-commerce. Census data was collected from 115 employees. Regression analysis and F tests were carried out on data to determine the relationship between causative and effect factors. The empirical results showed consumer behavior influences electronic commerce adoption in emerging markets.

Keywords: Electronic commerce, consumer behavior, retail stores, technology adoption.

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Introduction

Consumer behavior is changing the way supermarkets run their businesses with more focus on satisfying consumer needs as a way of driving business growth. This includes communication and feedback between the consumers and businesses in real time using the internet (Ngari, 2014). Electronic commerce (E-commerce) refer any business or economic activity that utilizes applications based on information communication technology (ICT) such as web site to facilitate the buying and selling of goods and

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services in business transactions involving firms, individuals, organizations and governments (Fink & Disterer, 2006; Kotler, Keller, Ancarani, & Costabile, 2014). It can also be defined as all transactions, financial and non-financial, carried out electronically between third parties and organizations (Chaffey, Ellis-Chadwick, Mayer, & Johnston, 2009). The increase in ubiquitous computing devices that have internet connectivity has disrupted the traditional aspects of consumer behavior through redefining the information reach and rich.

Consumer behavior is referred as how persons, groups or organizations chose, purchased, used and disposed of products, services, concepts or experiences that met their needs and desires (Kotler et al., 2014). This behavior was affected by societal, cultural and individual factors. Consumer behavior whether spontaneous or rational plays a significant role on whether he/she buys a product or service (Metzger, 2004; Schiffman, Hansen, & Kanuk, 2008). Consumers value convenience in their purchasing experience online, which is denoted by various factors such as; privacy and security (Metzger, 2004); Pricing, online search attributes and brand name (Degeratu, Rangaswamy, & Wu, 2000); trust and factual information (Chen & Barnes, 2007; Resnick & Montania, 2003) promotional and pricing information (Njuguna, 2014).

Retailing is argued as combination of all actions of selling goods or services directly to end consumers for individual or business use (Kotler et al., 2014). The work of Neven et.al studied supermarkets in Kenya and other East African countries. In Kenya, supermarkets had been growing steadily from the mid-1990s. They said that a supermarkets is of size ranged from 150m² (small supermarkets) to 2250m² for the bigger supermarkets known as hypermarkets (Neven, Reardon, Chege, & Wang, 2006). Due to stress factors resulting from congestion in major cities, citizens are settling in emerging fast growing towns. Our study was carried out in Limuru town in Kenya due to fast growth in population of urban inhabitants and retail markets.

Literature review

Theorizing consumer behavior

Akir et al suggested that although consumer behavior experts held the view that consumer behavior theory could be applied worldwide, there was no theory that could fully account for why consumers acted in the manner they did (Akir & Othman, 2010). It's therefore important to understand this principle in order to focus on the relevant consumer behavior and personalize it to satisfy consumer needs and exploit business opportunities profitably (Kotler et al., 2014). The buyer behavior is shown in Figure 1 from (Peter & Donnelly, 2010). The model illustrates the engagement that a buyer goes through before a buying decision. In the model the authors contends that a buyer interplays social, marketing, situational and psychological influences into his final decision-making. The influences on online buyers we further contend that can further be influenced on whether they have experiences with technology platforms especially the payment module.

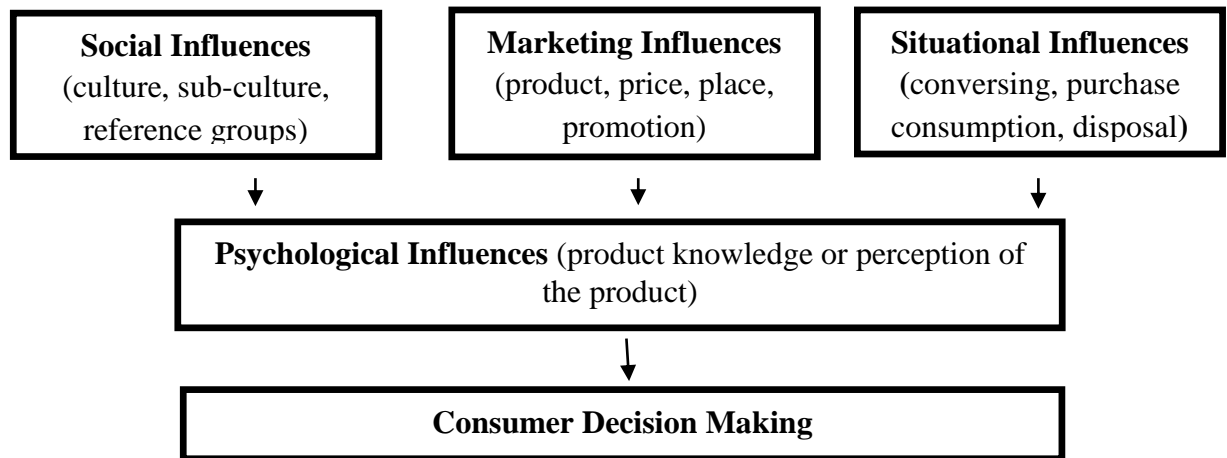


Figure 1 The Buyer Behavior Model
 Source (Peter & Donnelly, 2010)

In online buying, influence of social factors that relate to societal perception of emerging technology. The marketing influences of brick and mortar purchasing changes in the interaction on online environments since there is effect of platform presence (visibility), human technology interaction factors Vis a Vis the pricing. Situational Influences are preceded by experience on the product or technology platform used.

The buyer buying decision goes through five decision making processes namely: Problem recognition, information search, evaluation of alternatives, purchase and post purchase behavior (David, 2001; Kotler et al., 2014). Purchase decisions made are different depending on whether it was a simple or complex product, as well as based on the situation at hand (Jobber & Ellis-Chadwick, 2012; Kibera & Waruingi, 1988). In electronic commerce purchase the risk factor is incorporated based on the dollar cost and opportunity cost of the product or service. High cost purchases involves reasoned action in the evaluation of alternatives process whose factors can be modeled based on Fishbein and Ajzen (Ajzen & Fishbein, 1980) concept of reasoned action shown in Figure 2. The model shows that attitude (like or dislike) toward a buying intention is based on beliefs which may be based on expectations such as quality of brand. The normative beliefs are based on social influences. Buyers behave as per societal expectations of them based on aspects such as culture.

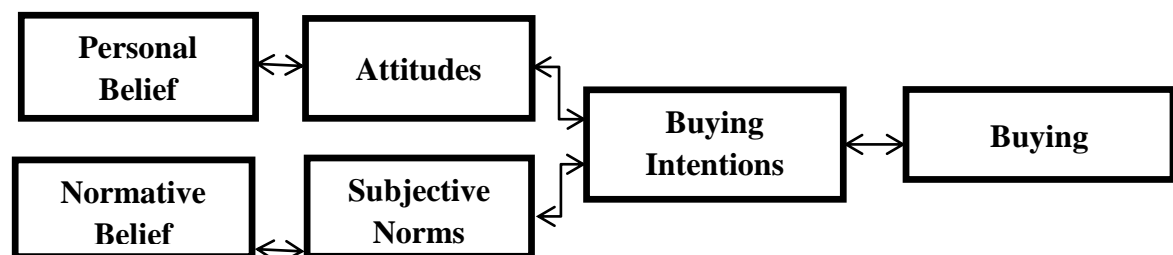


Figure 2 Fishbein and Ajzen concept of reasoned action as modelled in buying decision

Source: (David, 2001)

Low cost buying in electronic commerce can be modeled based on Ehrenberg and Goodhart repeat purchase model which has three stages namely awareness of the product or service, trial or attempted use and finally if satisfied repeat purchase (David, 2001). The model opines that a customer is aware of the brand; if he is satisfied he will buy again. When the risk is low buyer's behavior follows this model. The opportunity cost in technology markets includes the platform complexity in relation to user experience.

Technology adoption and level of electronic commerce

The process of technology adoption by both retailers and customers is key towards the success of electronic markets. We adapted the Technology Acceptance Model (TAM) by (Davis, 1989), to illustrate the presumed factors. External factors such as system quality, training and education are proposed to trigger perceived ease of use as well as the usefulness of the technology by both retailers and consumers. If technology is useful and easy to use, the user develops a positive attitude that influences their intention to use behavior and finally the need to actually use the electronic commerce system. The model assisted in exploring reasons why users were resisting particular technology so as to establish efficient ways of encouraging consumers to accept and use e-commerce. It's vital to determine the relationship between consumer's behavioral intention to use e-commerce with chosen factors of perceived attitude towards usage, perceived usefulness, and perceived ease of use. Barriers to effective adoption of Electronic commerce can be analyzed based on level of technology adoption in the business (Allcock, Plenty, Webber, & Yeates, 1999). There various aspects external to business and consumer that affect the success of technology which can be classified as factors before adoption such as overall telecommunication infrastructure , while adopting e.g. transaction security and enforcement structures such as legal systems and after adopting e.g. evolving values of consumers (Hamed, Ball, Berger, & Cleary, 2008). In our research we focused on the supply side that is the retailers' attitude towards adoption.

Research conceptual framework

This study gives a framework comprising of need recognition, information search and evaluation, purchase behavior and post purchase behavior independent variables; and how they correlate with e-commerce adoption dependent variable. This study employs the buyer behavior model, consumer purchase decision model and technology acceptance model in a bid to predict and explain how consumer behavior influences adoption of e-commerce among supermarkets. The Figure 3 below is the conceptual framework adopted in the empirical survey.

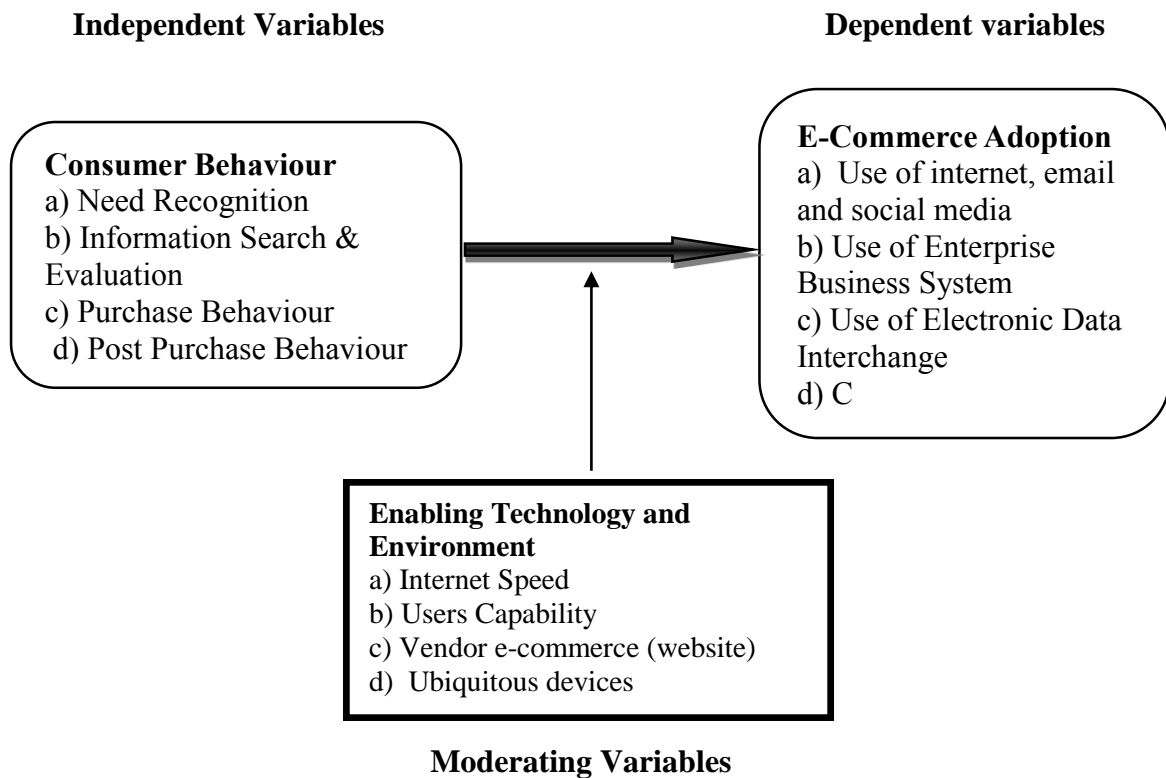


Figure 3 Conceptual framework

Methodology

Research population and sampling

The case study involved a detailed investigation of 115 employees from a group of three supermarkets in Limuru town in Kenya. As the study was dealing with a small population, census method was suitable since the number of respondents could be well managed with the resources and time available. In this study, descriptive research was used to find out the relationship between consumer behavior and adoption of e-commerce.

Data Collection and Processing

The study used primary sources of information which was first-hand data gathered by the researcher. This data had the benefit of providing current information about the phenomena. This was significant as the study aimed to establish the influence of consumer behavior on adoption of e-commerce at supermarkets level. A questionnaire with semi structured and Likert scale statements was used to enable collection of substantial information.

The research study involved linear regression as it sought to establish if there was an association between four independent variables and one dependent variable. The linear regression model equation (1) is provided below.

$$y = k + ax_1 + bx_2 + cx_3 + dx_4 \quad (1)$$

Where:

k = a constant

x_1 = Need recognition by consumer

x_2 = Information search and evaluation by consumer

x_3 = Purchase behavior by consumer

x_4 = Post purchase behavior by consumer

y = Electronic commerce

a, b, c, and d represent regression coefficients for independent variables x_1 , x_2 , x_3 , and x_4 respectively

Data analysis and research findings

The data analysis was therefore based on 99 questionnaires that were filled 86% return rate of the distributed questionnaires.

Demographic attributes of the responses shows out of the 99 questionnaires that were analyzed, 55 were found to have been filled by male respondents while 44 had been filled by female respondents. This represented 55.6% and 44.4% for the male and female genders respectively. The researchers also wanted to find out the education level of the respondents. Only 17 out of the 99 representing 17.2% of employees of the three supermarkets indicated that they had secondary and lower level of education. Cumulatively, 82.9% of the employees had acquired at least a college level education and above as shown in table 4. From data, it was inferred the three supermarkets engaged relatively well educated employees who by Kenyan standards require at least a Kenya Certificate of Primary Education as the basic level of education qualification.

On technology adoption especially the software which is key to support business processes for electronic commerce integration. All supermarkets had an enterprise business system either focusing as an enterprise resource planning tool or customer relationship management system.

F-test was carried out to find out if there existed a relationship between the four independent variables and the one dependent variable. F value computed in the above Analysis of Variance (ANOVA) table exists to check the relationship between predictor variables and the dependent variable. The F value is a measure of accuracy depending on the size of the variance observed in the analysis of variance. The F value is also employed in testing whether statistical models have been aligned to a set of data. There were 99 respondents and four predictor variables. The computed value was 7.35 at 5%

significance level. The mean value for the residues should be lower than the computed value of the F test for there to be a relationship between the independent variables and the dependent variable. In the ANOVA table, the mean square for the residues of 0.07 is less than the F test of 7.35 showing that there is a statistical relationship between the predictor variables and the dependent variable.

The linear Regression Coefficients were extracted from the research data as shown in Table 1 below.

Table 1 Linear Regression Coefficients

	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.92	0.18	0.000	10.76	0.000	1.56	2.27
The business uses internet to advertise products available for consumers to view and buy.	-0.22	0.05	-0.50	-4.55	0.000	-0.31	-0.12
The business uses internet to search for promotions popular with consumers (coupons and deals) and executes to attract more consumers.	0.08	0.05	0.21	1.67	0.098	-0.01	0.17
Internet connectivity is fast and affordable making it convenient for the business to use online business transactions with its suppliers.	-0.04	0.04	-0.10	-0.890	0.374	-0.12	0.05
The business follows up on consumers to find out if they were satisfied with the products or service using email and short message services and if not happy , the issue is addressed immediately	-0.03	0.04	-0.09	-0.84	0.405	-0.11	0.04

Interpretation of Regression Coefficients yields,

$$y = k + ax_1 + bx_2 + cx_3 + dx_4$$

$$y = 1.92 - 0.22x_1 + 0.08x_2 - 0.04x_3 - 0.03x_4$$

Where:

$k = 1.92$ which shows that the dependent variable is affected by this value irrespective of the independent variables

$$a = - 0.22$$

This is a negative value because as compared to the value of b which is 0.08, the supermarket business mostly uses internet to conduct promotions to consumers who subsequently order for the advertised items. Since the supermarkets sampled are traditional retail businesses, they are less inclined to advertise their products online. They rely more on creative in store merchandising to display their products to attract consumers.

$$b = 0.08$$

This positive value indicates that the business uses the internet to search for promotions popular with consumers (coupons and deals) and executes them to attract more consumers. Referring to $a = -0.22$ above, it shows that the promotions popular with consumers are however not executed through the internet but rather in store using traditional ways such as using point of sale materials like posters to communicate the promotional offers.

$$c = -0.04$$

This negative value shows that respondents generally are not in agreement that internet connectivity is fast and affordable. However, since this value is close to positive, it suggests that there is an increasing business inclination to take up online business with the cost of connectivity dropping and the benefits of connectivity far outweighing the costs.

$$d = -0.03$$

This shows that the supermarket business is still slow at obtaining feedback from consumers since they have not fully tapped into e-commerce. However, the value is close to positive indicating that these businesses are being compelled to adopt e-commerce to facilitate their efficient communication, feedback and response to queries from consumers.

Conclusions

While the supermarkets had adopted e-commerce at different levels, there was need to fully understand online consumer behavior so as to adequately employ such to benefit from the uptake of e-commerce. This would take root once the management fully appreciated the role online consumer behavior played in enhancing internet business for growth and profitability of this industry. In spite of the perceived issues of internet connectivity and cost, the benefits of using e-commerce far outweighed the costs. In agreement with previous research, the study further established that online consumers actively searched and evaluated information available online before buying

Recommendations

The results indicated there was reasonable influence of consumer behavior on adoption of e-commerce by the supermarkets. To build on these findings the researcher offered the following suggestions to enhance internet business transactions between supermarkets and consumers.

Small supermarket industry recommendations

1. The businesses should also set up training programs for employees to regularly up skill them on relevant technology to build their e-commerce capability.

2. Consumer being key to any business means that the supermarkets management requires to designing suitable systems for online interaction with their consumers. In this way, they would be in a position to receive feedback on consumer issues and provide real time solutions. This could comprise of e-mails, short messaging services and social media for daily connecting with consumers. This is an efficient, cost effective and beneficial business practice that would go a long way towards enhancing customer satisfaction and loyalty necessary for sustainable business.

Recommendations for further studies

While the study was able to establish that three consumer behavior independent variables (need recognition, search and evaluation of information and outcome of post purchase by consumer) had a positive influence on e-commerce adoption, there was a negative influence on e-commerce adoption by one variable (outcome of post purchase behavior by the consumer). Further studies need to be carried out to evaluate base lining techniques that can improve the customer online shopping experience especially small scale supermarkets where cost of customer support need to be tandem with business growth .

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