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Influence of Product Quality on Customer Satisfaction among Employees of the County Government of Bungoma, Kenya

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Abstract: Online shopping is the activity of interacting with and purchasing items, services, and other commodities from a vendor in real time over the internet. This component is evolving, and it was recently ignited by the Covid 19 pandemic epidemic and smartphone technology, which has led to an increase in the number of customers and business owners going online. As a result, customer satisfaction has emerged as an important topic to emphasize, because today's businesses are more concerned with customers than with sellers. As a result, the purpose of this study was to investigate the influence of product quality on customer satisfaction among employees of the County Government of Bungoma, Kenya. The research study was founded on the theories of the Technology Acceptance Model and the Innovation Diffusion Theory. The descriptive research design was used in this study. Close-ended questions were utilized to obtain data. The target population consisted of 7007 employees, and a sample of 218 was drawn using stratified and purposive sampling techniques. A pilot study was conducted to check the reliability of the questionnaire and content validity was utilized to assess the questionnaire's validity. The information gathered was analyzed through descriptive and inferential statistics. The relationship between variable product quality and customer satisfaction was statistically significant β=0.949; beta=0.729 and t=15.032, p0.05). As a result, it was established that improving product quality would significantly boost consumer satisfaction. The study recommended that issues concerning the quality/specifications of the product purchased, the same purchasing circumstances of the products, customer complaints, selling original products, and serving consumers be handled with attention. As a result, policymakers may utilize the findings to develop rules for data protection and cyber security safeguards. This would also have an impact on electronic transaction laws, which are critical for online payments.

Keywords: Online Shopping, Customer Satisfaction and Product Quality, Employees of the County Government of Bungoma.

BACKGROUND TO THE STUDY

Product quality is a collection of a marketable good's qualities and characteristics that adhere to fundamental standards and may be managed by a producer to satisfy customer expectations. According to Team (2022), Product quality describes how well a product fulfills industry standards, satisfies client needs, and accomplishes its intended function. Businesses examine a number of important elements when assessing the quality of a product, including whether it solves a problem, functions effectively, or serves the needs of customers. Firms may assess a product or service quality using a variety of perspectives that highlight how various clients view a product's use. Customer viewpoints, production perspectives, product- and value-based perspectives, as well as transcendental perspectives which weigh a product's value in proportion to its price should all be taken into account when evaluating product quality. Consumer satisfaction is the outcome of comparing expectations and experience; in other words, the customer is happy when the delivery matches or surpasses their expectations. If a service provider meets or exceeds a customer's expectations, they are more likely to make another transaction.(Izyan & Cheng, 2014).

According to empirical study by Nisar & Prabhakar (2017) in which investigation on What factors determine e-satisfaction and consumer spending in e-commerce retailing? Was measured through online survey of a randomly selected group of students at a major university in Sweden. The study found that improved product quality would result in more favorable purchasing outcomes, such as greater satisfaction and that third-party merchants' product quality management had a beneficial impact on customers' satisfaction with online shops. Similarly, (Cui et al., 2012)demonstrated a favorable relationship between product quality and Chinese consumers' happiness with online purchasing.

A study by ThiSong & Mohammad,(2017) in the UK found that Online customer satisfactions increases the likelihood of making good recommendations to others and of making future purchases, but not the willingness to pay more. They also discovered that while there is no observable difference between the effects of other determinants for search products and experience products, the effects of product information, customization, order fulfillment, and responsiveness of customer service are stronger for experience products than search products on customer satisfaction. It assessed how favorably customers will react to the business in the future, making it a forward-looking indicator of corporate success. Sales and market share are two additional indicators of market performance that look backwards. They describe the firm's previous performance but do not predict its future performance.

Ludin & Cheng (2014) study on Factors Influencing Customer Satisfaction and E-Loyalty: Online Shopping Environment among the Young Adults in Malaysia where he examined e-service quality, information quality, website design and security hence the study revealed that unlike website design and security, a customer satisfaction is positively and significantly impacted by e-service quality and information quality. The three most crucial factors for consumers' satisfaction with online shopping are privacy (a technology factor), merchandising (a product factor), and convenience, according to Christian and France's study from 2005, which used a conjoint analysis of consumer preferences based on data gathered from 188 young consumers (shopping factor). Quality is an intrinsic attribute of a product and the expected standard of product or service excellence, as stated in the finding of Christian and France (2005) under the product factor. Improved consumer satisfaction will result from better product quality (Christian & France, 2020).

Locally, the expansion of Kenya's e-commerce scene has been facilitated by rising internet and smartphone penetration as well as rising customer use of digital payments. Customers are more interested in online purchasing, and mobile payment has made e-commerce orders simpler and quicker. The size of Kenya's internet retailing business was estimated at US$89 million by Euromonitor in 2018 and is anticipated to increase significantly to US$1.6 billion by 2023. With more than 10 online stores operating in Africa, Kenya is one of the continent's fastest growing e-commerce markets. It is hardly surprising that Kenya was able to benefit from e-commerce given its position as a leader in East African technology. The switch makes it even more logical when M- Pesa is considered and the ubiquity of mobile payments (Feinstein et al., 2013).With more than one-fifth of the market share, Jumia, which was founded in Nigeria eight years ago and is currently publicly traded on the New York Stock Exchange, dominates the e-commerce sector in Kenya. The "African Amazon" offers a large selection of affordable branded and non-branded consumer goods, including clothing, electronics, and cosmetics. Its online marketplace connects over 81,000 sellers with African customers.

Mofokeng (2021) investigated the impact of online shopping attributes on customer satisfaction and loyalty: Moderating effects of e-commerce experience in Kenya and the findings show that product delivery, perceived security, information quality, and product variety all have an impact on online shoppers' satisfaction. Customers' loyalty to online stores is influenced by customer satisfaction and information quality. The study demonstrated that the association between product delivery and happiness is tempered by e-commerce experience longer than five years.

STATEMENT OF THE PROBLEM

Based on the above empirical studies, online shoppers are not performing well regarding the quality of their products which interns making customers uninterested from online shopping. Most of the studies were also carried out in the major city (Nairobi). Recent research in US has emphasized the prevalence of dangerous goods being sold on online platforms. A Wall Street Journal investigation published in August 2019 found that more than 4 100 products sold on Amazon's US marketplace had been recalled, mislabeled, or were otherwise prohibited (Berzon et al., 2019). 250 products, including electrical goods, toys, cosmetics, and other items, were tested by members of the European consumer organization BEUC in February 2020 for potential safety risks. The results revealed that 66% of the products failed to comply with applicable EU safety laws, posing risks like electric shock, fire, or suffocation (BEUC, 2020). Consumers must have confidence that the products they buy from online marketplaces are safe and are not being recalled, prohibited, mislabeled, or in violation of any applicable safety regulations given the possibility of death or damage. The recently adopted OECD Recommendation on Consumer Product Safety recognizes that consumers should have the same consumer product safety protections online as they do offline (OECD, 2020). This recommendation is independent of technology and is relevant to all supply chain participants, including online marketplaces. A recent study in China also showed that customers actually face risk, such as perceived uncertainty, perceived risk and price when they make purchases through internet platforms (Yang et al., 2020). According to (Yusuf et al., 2019), 30% of items purchased online are returned because they did not meet the quality needed. The same author also demonstrated that when customers shop online, the rates of returns and complaints are rising.

As per the study by Kibandi (2019), on the impact of online shopping and customer buying

behavior : A case study in Jumia Nairobi Kenya suggested that online retailers should build a number of risk-reduction techniques, as well as systems to ensure the quality of their products and provide channels for resolving disputes. It also recommended that online retailer should pay less attention to website design because customers rarely consider the aesthetics, site content, ordering, and transaction processes while making purchases online since there was substantial positive linear association between perceived risks of online shopping and consumer purchasing behavior. Therefore, it was for these reasons that this study was conducted.

PURPOSE OF THE STUDY

The purpose of the study was to determine the influence of product quality on customer satisfaction among employees of the County Government of Bungoma, Kenya.

THEORETICAL FRAMEWORK

The study was guided by Technology Acceptance Model and Innovation Diffusion theories.

TAM theory

TAM has been extensively researched and supported by numerous studies that look at how people embrace new technologies in various information system structures. It is One of the most often used study models to forecast individual users' use and adoption of information systems and technology developed by (Davis, 1989). Perceived utility and convenience of use are two important variables regarding computer use behaviors are presented in this model. According to Davis, perceived utility is the subjective likelihood utilizing a particular application system will improve a potential user's job or personal performance. The degree to which a potential user expects the target system to require no effort is known as perceived ease of use (EOU). TAM claims that perceived usefulness and ease of use are the main factors that influence actual system utilization. External factors have an impact on these two elements. Social, cultural, and political external forces are the key ones that typically manifest. Language, aptitude, and enabling circumstances are social variables. The impact of technology on politics and political crises are the key political causes. The user's assessment of the merits of using a specific information system application is covered by the attitude to use. The indicator of whether someone will use the application is behavioral intention.

Technology acceptance model is One of the most well-liked models that is frequently used to explain how information systems are used. Numerous investigations have been carried out, and as a result, the initial model has undergone revisions. Taylor & Todd, (1995) suggested a new model known as the combined TAM-TPB model that incorporated the Technology Acceptance Model and Theory of Planned Behavior. Venkatesh & Davis, (2000) proposed TAM2, an updated version of the model that included new variables. The Unified Theory of Acceptance and Use of Technology (UTAUT) Model was proposed by (Venkatesh et al., 2003) in a paper that was published in MIS Quarterly in 2003.Researchers from all across the world have used TAM to comprehend how different information system types are received. In a study by (Al-Lawati et al., 2011), TAM attempted to gauge instructors' acceptability of eLearning technologies. To analyze online buying behavior, (Zhou et al., 2007) created the online shopping acceptance model (OSAM), a new model based on the TAM. By including the new variables of perceived risk and trust, (Pavlou, 2003) created a model to forecast the acceptability of e-commerce.

In studies on m-services acceptability, TAM and TAM2 have both been widely utilized and supported. (Liébana-Cabanillas et al., 2017) have specifically used TAM in the unique context of NFC-PMPS to examine the service adoption in Spain and Brazil. The effects of perceived usefulness on attitude and perceived ease of use on perceived usefulness were verified in both trials, although there was no significant correlation between the two, and only the second study took into account the impact of perceived usefulness on intention to use.

Innovation Diffusion Theory

In 1963, Rodger created the Innovation Diffusion Theory that describes how, why, and how quickly new ideas, technologies, or goods gain traction and spread via certain populations or social systems. E-commerce is a cutting-edge use of information technology by the retail sector compared to traditional shopping. Consequently, IDT can be used to investigate consumer online shopping behavior. In general, the cumulative adoption of an innovation follows a sigmoid curve, with adoption increasing gradually during the early years, sharply increasing halfway through, and then gradually increasing once more as it approaches its saturation level (maximum penetration).The rate of adoption is primarily influenced by five characteristics of an innovation: relative advantage (the degree to which an innovation is perceived to be better than the one it replaces or competes with), compatibility (the degree to which an innovation is perceived to be consistent with the experiences and requirements of potential adopters), complexity (the degree to which an innovation is perceived to be difficult to use), trialability (the degree to which an innovation can be tested), and novelty (the degree to which an innovation is perceived to be novel) (the extent to which the utility of an innovation is visible to the public).It is discovered that an innovation's relative benefit, compatibility, trialability, and observability are all favorably correlated with its rate of adoption, however complexity is adversely correlated with that rate (Roggers, 1983).

An examination of IT adoption research

reveals that the majority of the innovations' traits are found in the literature on IT adoption (Hameed et al., 2012; Puklavec et al., 2014). Both TAM and DOI operate under the assumption that adopters evaluate innovations based on how they perceive them, or that innovations with attractive attributes are more likely to be adopted. Additionally, effort-oriented elements like perceived ease of use and complexity value-oriented aspects like perceived utility and relative benefit and compatibility are frequently noted as key factors influencing the acceptance of inventions. As was already indicated, (Verhoef & Langerak, 2001)investigated the effects of e-relative shopping's advantage, compatibility, and complexity; (Wu & Chen, 2005)and (Chen & Tan, 2004) added e-compatibility shopping's to their TAM. At last, (Eastin, 2002)analyzed the effects of relative, compatibility, reliability, complexity, and edge in terms of e-commerce frequency.

EMPIRICAL LITERATURE REVIEW

According to (Xiao et al., 2022), a good pre-sales support, highly entertaining and shareable website design lead users to feel satisfied and eager to recommend the platform. However, there is still room for advancement in the areas of product quality, post-purchase customer service, and logistics. The study employed a survey and qualitative semi-structured interview to gather its finding.

A survey study conducted by InfoCons to find out what factors Romanians think about before adding a product to their shopping carts has shown the following elements that affect purchasing decisions. 80% of Romanian consumers base their purchasing decisions on pricing. Romanians have a tendency to select the cheapest items: "the cheaper a food is, the more likely it is to be added to the shopping cart". Quality is also regarded as important or very important by 74% of consumers, who also place brand and package high on the importance scale (Spiridon, 2017).According to (Deshpande, 2017), understanding user intentions is essential for knowledge mining and information retrieval processes since the advancement of technology is frequently and hence, online users develop different behavioral guidelines. User behavior always offers a new perspective for research, and the study helps to provide internet users with high-quality services. therefore, both constructive and destructive conduct is displayed by users.

According to empirical study by Nisar & Prabhakar (2017) in which investigation on What factors determine e-satisfaction and consumer spending in e-commerce retailing? Was measured through online survey of a randomly selected group of students at a major university in Sweden. The study found that improved product quality would result in more favorable purchasing outcomes, such as greater satisfaction and that third-party merchants' product quality management had a beneficial impact on customers' satisfaction with online shops. Similarly, (Cui et al., 2012)demonstrated a favorable relationship between product quality and Chinese consumers' happiness with online purchasing.

As per the study by Lin et al.(2011) on the critical factors impact on online customer satisfaction , the study revealed that information quality, system quality, service quality, product quality, delivery quality, and perceived pricing all had a positive and substantial impact on online consumer satisfaction at the P 0.01 level. Furthermore, the most essential element was delivery quality, which was followed by product quality. The information gathered in this study recommends that e-commerce operators should focus more on better products and collaborate with delivery suppliers to give a higher level of delivery quality, such as right order, on time, and safe package. The consequences of this discovery, as well as others, are thoroughly examined in the final part.

CONCEPTUAL FRAMEWORK

Independent variable **Dependent variables**

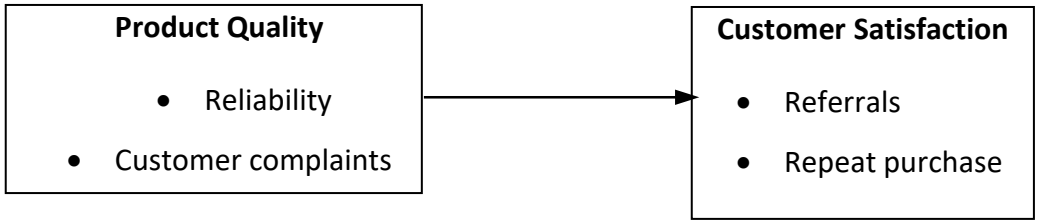

Figure 1: Source: Author (2022)

The independent variable was product quality, which was hypothesized to influence customer satisfaction among Bungoma County Government employees as measured by referrals and repeat purchases.

RESEARCH METHODOLOGY

A descriptive survey design with the intention of generating data from observations made in the actual world was employed in this study. The respondents in this design respond to questions that were presented via

questionnaires. This means that the descriptive research design collects measurable data that may be used to draw conclusions about a target audience using statistics. It also allows collections of much information within short period of time. According to (Brotherton, 2015), descriptive research provides the facts and characteristics of a phenomenon or population under study in order to establish a realistic image of the subject under examination.

The target population of this study was the employees of the county government of Bungoma. This group was targeted because they are believed to be most likely to have shop from online since they are financially stable, have access to smartphones and have knowledge of online shopping process. The total population for this study was 7007 employees of the county government of Bungoma. The county Government has 10 departments. However, the study was carried out on 9 departments and a pilot study was carried out on one (1) department (the Department of Trade, Energy and Industrialization). According to Mugenda (2003), a target population is a group of people from which a researcher hopes to generalize the results of his or her research, and it is from this group that the necessary data is gathered.

The study utilized a stratified sampling and purposive sampling techniques which divided the total population in to different sub-groups (strata) and the sample was taken from each group where it grouped the employees based on their departments and sample employees were selected from each stratum to give the information about the product quality in an online shopping and it purposively targeted the employees who shops online respectively. The employees were proportionately sampled selected from each department to get the actual respondent. Nassiuma's 2000 formula was used to arrive at the sample size.

According to Nassiuma (2000) standard errors between 2% and 5% and coefficients of variation between 21% and 30% are appropriate for most surveys. As a result, the study employed a standard error of 2% and a coefficient variation of 30%. To guarantee low variability and minimize error, the greater limit for the coefficient of variation and standard error was chosen. The following is the (Nassiuma, 2000) formula: $n = \frac{Nc2}{(c2+(N-1)e2)}$ where n= sample size, N= accessible population c = coefficient of variation, e = standard error,

$n=7007x0.3^2/0.3^2+ (7007-1)\ 0.02^2= 218.0300$

n=218

A closed-ended questionnaire that has a Likert scale with five response levels that is (Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree) was used in gathering information on both the independent and dependent variables which are product quality and customer satisfaction respectively. general information was gathered through giving several options in the box for the respondent to select their appropriate answers.

a pilot study was carried out on 1 department (the Department of Trade, Energy and Industrialization) where a total of 22 employees were used representing 10% of the sample size of 218 respondents. Their findings were excluded from the final analysis. This was carried out to ensure the questionnaire's reliability before it was implemented. Refer to Table 2 for the lists of the departments.

RESEARCH FINDINGS

Response Rate

The aim of the analysis was to determine the response rate so that the researcher could determine if it was sufficient for interpreting and reporting the results. A total of 218 questionnaires were distributed to the respondents. Out of these 17 questionnaires were not returned constituting 7.8%. A total of 201 questionnaires were returned, thus giving a response rate of 92.2% which was acceptable for this study. According to Mugenda & Mugenda (2012) a response rate of 50% is appropriate, and a response rate of more than 70% is exceptional for any academic report study and presentation. The distribution is shown in the Table 1 below.

Table 1: Response Rate of the Respondents

Description	Total	percentage
Targeted participants	218	100%
Not returned	17	7.8%
Returned	201	92.2%
Response rate	201	92.2%

Descriptive Analysis

Demographic Characteristics of the Sample

This section presents the conclusions about the demographic profiles of the respondents. The data on the survey was evaluated in terms of gender disparities, age, educational backgrounds, department working in, how often you shop online, types of E-commerce platform, what stuffs are bought online, problems faced while shopping online the barriers that keep you away from online shopping. The following are the outcomes of the demographic characteristics:

Gender Distribution in the Sample

Males and females were included in the

survey. The gender composition of the respondents in the research sample had to be determined.

Table 2 Gender of Respondents

Indicate your Gender		
	Frequency	**Percentage**
Male	135	67.2
Female	66	32.8
Total	201	100.0

From the findings shown Table 2, the male comprised of 135(67.2%) of the respondents as compared to 66(32.8%) of the female respondents. As a result of the analysis, the results concluded that a bigger portion of the respondents were male showing an imbalance in the gender distribution**.**

Age Distribution in the Sample

The respondents varied in age from 18 to over 42 years. The pie chart in Figure 1 depicts the distribution of respondents across different age groups.

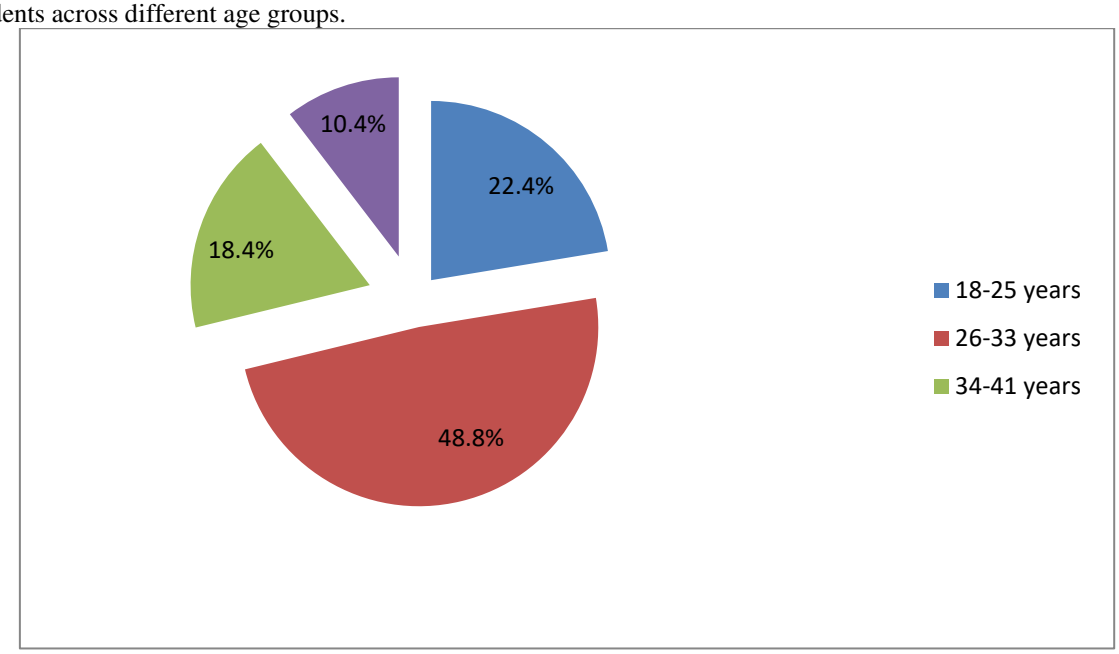

Figure 1: Age distribution in the sample

Figure 1 shows that respondents from 18-25 years old accounted for 45(22.4%), while those between 26-33 years old accounted for 98(48.8%). It was further evident that there was 37(18.4%) who were in the age bracket of 34-41 years and those above 42 years were represented by 10.4%. Age distribution of the respondents was varied. Age distribution in any work set up helps the management to ensure a proper human resource planning, and also to make them be prepared for any sort of changes in their system like retirement, recruitment, training and so forth

Educational level Distribution in the Sample

The respondents had a wide range of educational accomplishments. The researcher was particularly interested in establishing the respondents' education level. The findings are as shown in Figure 2. Findings indicated that 11(5.5%) of respondents had primary education level, 71(35.3%) had secondary education level, and 52(25.9%) had college level, 50(24.9) had University education level while 17(8.5%) had graduate level education. Therefore, the findings concluded that the majority of the respondents were educated and therefore understood and responded to the questionnaires objectively.

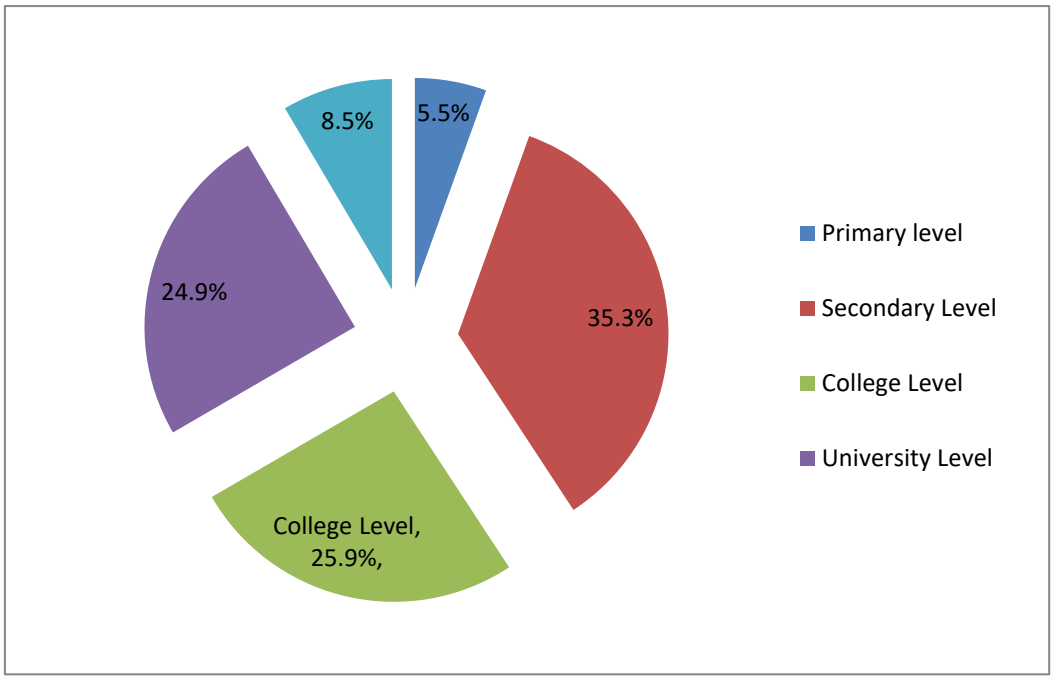

Figure.2: Education Level distributions in the sample

Indicate your department

Table 3: Indicate your department

Please indicate your department		
Indicate your department	Frequency	Percentage
Department of Agriculture, livestock, irrigation, fisheries and Cooperative development	28	13.9
Department of education and vocational training	27	13.4
Department of Environment, water and tourism	21	10.4
Department of Finance and Economic planning	36	17.9
Department of gender, youth, Culture, and Sports	57	28.4
Department of public services and Management	10	5.0
Department of road, transport, infrastructure and public works	10	5.0
Department of health and sanitation	7	3.5
Department of land, urban and physical planning	5	2.5
Total	201	100.0

The respondents who responded to the questionnaires were drawn from the following nine (9) departments from the County Government of Bungoma: Department of Agriculture, Livestock, Irrigation, Fisheries and Cooperative Development 28(13.9%), Department of Education and Vocational Training 27(13.4%), Department of Environment, Water and Tourism 21(10.4%), Department of Finance and Economic Planning 36(17.9%), Department of gender, youth, Culture, and Sports 57(28.4%), Department of public services and Management 10(5%), Department of Road, Transport, Infrastructure and Public Works 10(5%), Department of Health and Sanitation 7(3.5%) and the Department of land, urban and physical planning 5(2.5%).

Descriptive Analysis Related to Online Shopping

Table 4: Descriptive Statistics Related to Online Shopping

Description	**Frequencies and Percentages**			
Please indicate how often you shop online	Daily 17(8.5%)	Weekly 32(15.9%)	Monthly 41(20.4%)	Yearly 55(27.4%)
What E-commerce platform do you typically use?	Jumia 32(15.9%); Kilimall 30(14.9%)	Sky Garden 31(15.4%)	Alibaba 24(11.9%) Facebook 72(35.8%)	Instagram 9(4.5%); Others 3(1.5%)
What kind of products/services do you purchase online?	Electronics 25(12.4%); Food 27(13.4%)	Travel 36(17.9%); Books 61(30.3%)	Cosmetics 10(5%)	Others 8(4%)

What are the barriers that keep you away from online shopping?	Safety of payment; 11(5.5%); Trust 57(28.4%)	Shipping costs 27(13.4%) Slow delivery 34(16.9%)	Lack of understanding 64(31.8%)	Failure to navigate 4(2%); Lack of updates 4(2%)

Results on the question asked on how often respondents did shop online, showed that daily were 17(8.5%), weekly were represented by 32(15.9%), monthly by 41(20.4%) and yearly by 55(27.4%). The question asked on what E-commerce platform the respondents used, revealed that those who used Jumia were 32(15.9%, Kilmall were 30(14.9%), Sky Garden were 31(15.4%), Alibaba were 24(11.9%), Facebook were 72(35.8%), Instagram were 9(4.5%) and others were represented by 3(1.5%). The results on the kind of products/services purchased online were as follows: Electronics 25(12.4%), food 27(13.4%), travel 36(17.9%), books 61(30.3%), cosmetics 10(5%) while others were 8(4%). The respondents also responded on the question asked on the on barriers that keeps one away from online shopping. The responses were: safety of payment represented by 11(5.5%), trust by 57(28.4%), shipping costs by 27(13.4%), slow delivery by 34(16.9%), lack of understanding by 64(31.8%), failure to navigate by 4(2%) and lack of updates by 4(2%).

Descriptive Statistics of Product Quality on Customer Satisfaction

The study sought to determine the respondents' opinion on whether product quality influences customer satisfaction in County Government of Bungoma. Descriptive results are as shown in the Table 5. The variable on product quality had six (6) items. The means and standard deviations of the respondents' responses were computed from the five-point Likert Scale of Strongly Agreed (SA = 5), Agree (A = 4), Undecided (U = 3), Disagree (D = 2), strongly disagree (SD = 1). The item on whether the quality/specifications of the product bought was the same had a mean of 3.78 with standard deviation of 1.45.

Table 5: Product quality on Customer satisfaction

Statement	**SD**	**D**	**U**	**A**	**SA**	**Mean**	**Std. dev.**
Quality/specifications of the product bought is the same	16 8%	43 21.4%	13 6.5%	27 13.4%	102 50.7%	3.78	1.45
There are same purchase conditions of the products	26 12.9%	12 6%	25 12.4%	22 10.9%	116 57.7%	3.95	1.45
There is rare product inconsistently	11 5.5%	47 23.4%	15 7.5%	21 10.4%	107 53.2%	3.83	1.42
There are few customer complaints	15 7.5%	50 24.9%	11 5.5%	20 10%	105 52.2%	3.75	1.48
I enjoy services of the online products I buy	49 24.4%	30 14.9%	6 3%	4 2%	112 55.7%	3.50	1.77
Products sold are original and serve the customer well	12 6%	54 26.9%	21 10.4%	4 2%	110 54.7%	3.73	1.48

Quality of Financial Reporting	Mean(%Mean)	Std. Dev.	Minimum	Maximum
	3.76(75.2%)	1.51	1.0	5.0

The item on whether there were same purchase conditions of the products had a mean of 3.95 with standard deviation of 1.45. There was rare product inconsistently had a mean of 3.83 with standard deviation of 1.42. There were also few customer complaints with mean of 3.75 with standard deviation of 1.48. Respondents were of the views that they enjoyed services of the online products they buy with mean of 3.50 with standard deviation of 1.77. Lastly, the products sold were original and served the customer well had a mean of 3.73 with standard deviation of 1.48. Results from the six (6) questions had an average mean score of 3.76 representing 75.2%. The respondents gave varied views on the question asked on the product quality in relation to customer satisfaction in County Government of Bungoma.

Assumptions Tests

Diagnostic tests were conducted to confirm for anomalies since linear regression is sensitive to exception effects before carrying linear regression, it was important to check the assumptions of normality, linearity, homoscedasticity and absence of multi-collinearity. A linear regression modelling approach was used in the study to assess the causal and effect relationship between determinants of online Shopping and customer satisfaction in County Government of Bungoma (Chatterjee & Hadi, 2012).

Normality and Linearity Tests

The normality of the data was tested to establish that the assumption of normalcy in distribution was achieved. For linearity tests, Y values were taken on the vertical y axis, and standardized residuals (SPSS

calls them ZRESID) were then plotted on the horizontal x axis. Results showed that scatter plot followed a linear pattern (that is, not a curvilinear pattern) showing that linearity assumption was met as shown in Figure 3. P-P plot graphs were created for all the predictor variables versus the dependent one to further assess for normality of the data received. The P-P plots were used to assess or test the normality of the data acquired by comparing two probability distributions by charting their percentiles against each other using the graphical method. Figures below depict the findings, accordingly. Linearity means that the predictor variables in the regression have a straight-line relationship with the outcome variable. If residuals are normally distributed and homoscedastic, then there is linearity.

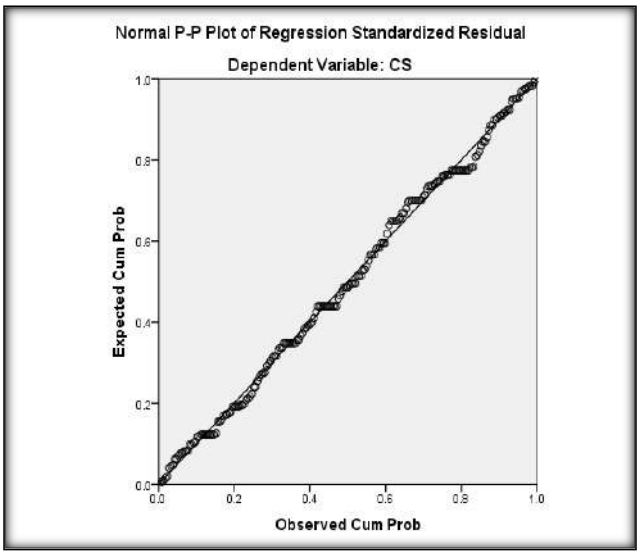

Figure 3: Linearity Test of Y Values and Standardized Residuals for Product Quality on Customer satisfaction

Figure 3, shows that the residual points are relatively laying along the straight diagonal line from bottom left to top right; this indicates a linear relationship between product quality customer satisfactions in the County Government of Bungoma, Kenya.

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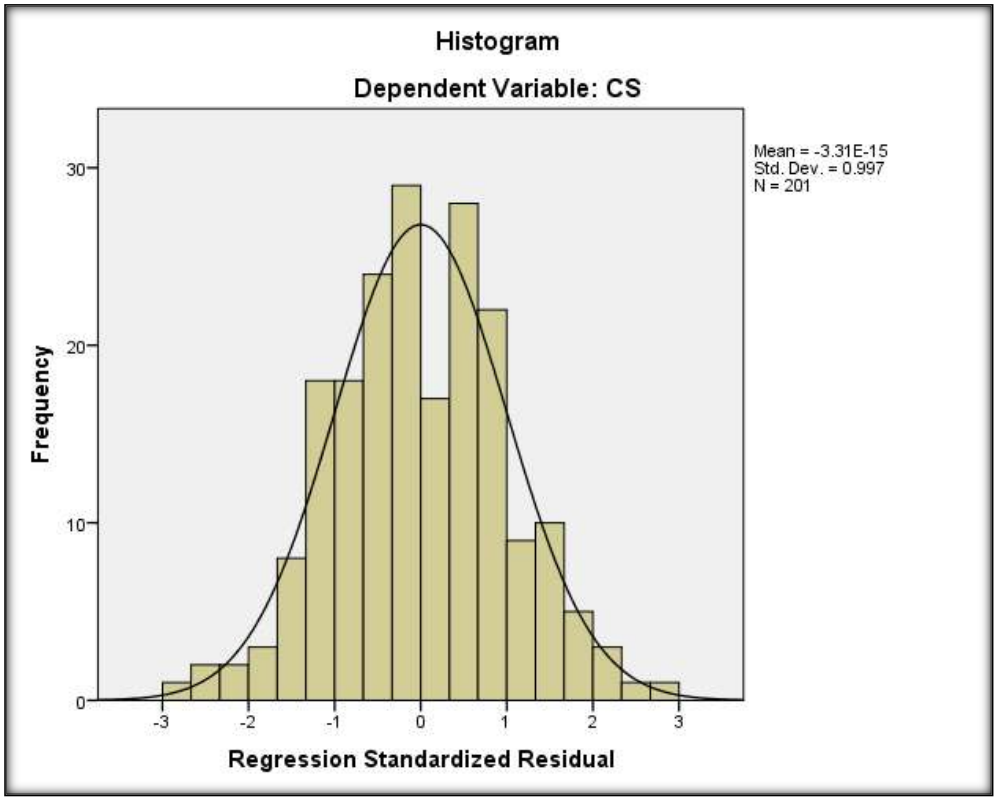

Figure 4: Normality Test: Histogram of Regression Standardized Residual of Product quality versus Customer satisfaction

Figure 4 shows that data of product quality customer satisfaction in the County Government of Bungoma, Kenya is normally distributed. This is because the histogram has a "bell" shape with more values located near the center and fewer values located out on the tails.

Homoscedasticity Test

Heteroscedasticity happens at instances where the error term of the variance, which is ideally should be constant, differs. Homoscedasticity test was conducted by use of the linear regression and the results are as shown in Figures below. Results illustrated that data for the four constructs of this study did not vary significantly, hence an indication of homogeneity and lack of heteroscedasticity.

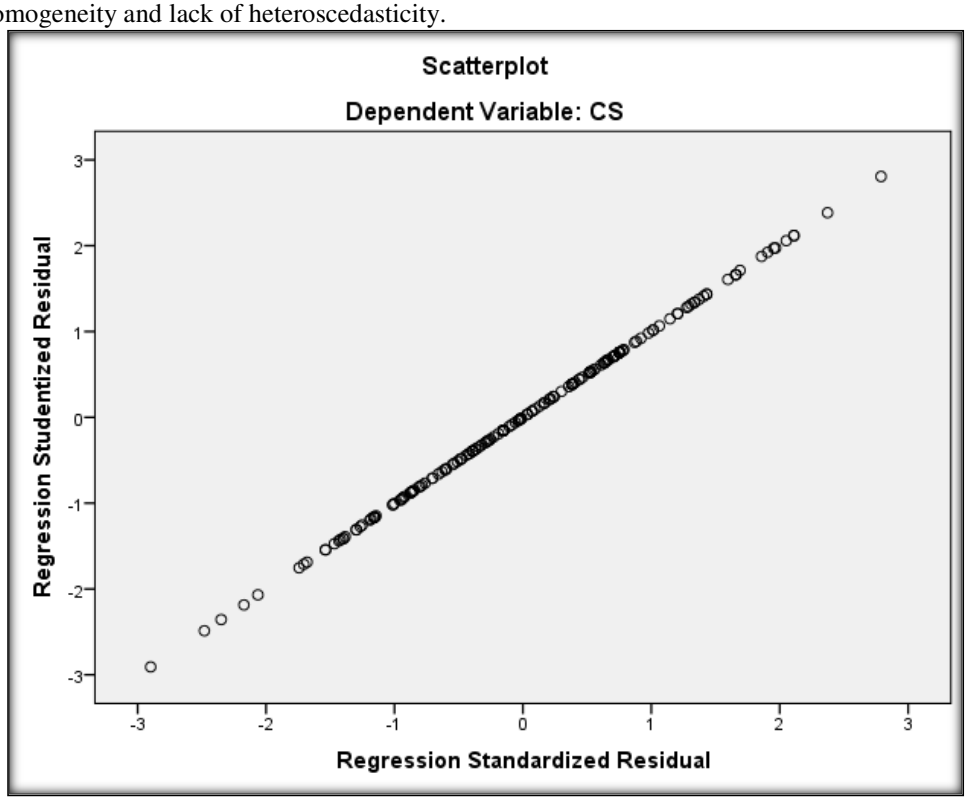

Figure 5: Scatter Plot of Standardized Residuals for the Product Quality on Customer Satisfaction

Figure 6 shows that the residual points in the scatter plot are roughly distributed in a rectangular shape and concentration of most points are at the centre; this indicates homoscedasticity thus the linear regression assumption of homoscedasticity holds.

Hypothesis Testing

The study aimed to determine the influence of product quality on customer satisfaction in the Bungoma County Government.

Table 6: Model Summary for Product quality and Customer satisfaction

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.729[a]	.532	.529	.69870	.532	225.957	1	199	.000

a. Predictors: (Constant), product quality

b. Dependent Variable: customer satisfaction

It was hypothesized that: $H_0 2$ There is no significant relationship between product quality and customer satisfaction in County Government of Bungoma. To test the Hypothesis, the model $Y=\beta_0 + \beta_1 X_1 + \varepsilon$ was fitted. Table 6 indicates the model summary for the regression between product quality and customer satisfaction. An R-squared of 0.532 indicates that 53.2% of customer satisfaction was explained by changes in product quality.

Table 7: ANOVA for Product Quality and Customer Satisfaction

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	110.309	1	110.309	225.957	.000[b]
	Residual	97.149	199	.488		
	Total	207.458	200			

a. Dependent Variable: customer satisfaction

b. Predictors: (Constant), product quality

The independent variable product quality was regressed against dependent variable customer satisfaction and the results were found positive and significant as shown in Table 7. The F test gave a value of F (1,199) =225.957, $p<0.05$, which supports the goodness of fit of the model in explaining the variation in the dependent variable. It also means that product quality is a useful predictor of customer satisfaction in County Government of Bungoma. Table 7 shows the regression coefficients between product quality and customer satisfaction. Results were statically significant ($\beta=0.949$; beta=0.729 and $t=15.032$, $p<0.05$) hence variable product quality significantly influences customer satisfaction.

Table 8: Regression Coefficients between Product Quality and Customer Satisfaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
1	(Constant)	.363	.242		1.501	.013
	product quality	.949	.063	.729	15.032	.000

a. Dependent Variable: customer satisfaction

The results from the regression model showed in Table 8 that the model could be used to predict the level at which product quality affects customer satisfaction. The regression model between product quality customer satisfaction was $Y=\beta_0 + \beta_1 X_1 + \varepsilon$. Based on the findings obtained, the derived fitted model equation was as given: $Y=0.363 + 0.949X_1$

Since β_1 is significantly different from zero and therefore the null hypothesis was rejected and concluded that there was strong and significant influence of product quality on customer satisfaction ($\beta=0.949$, $p<0.05$). For every 1 unit increase in product quality, there was a related shift in customer satisfaction in County Government of Bungoma by 0.729 units. These finding are comparable to those of Nisar & Prabhakar (2017) who established that improved product quality would result in more favorable purchasing outcomes, such as greater satisfaction and that third-party merchants' product quality management had a beneficial impact on customers' satisfaction with online shops. Similarly, Cui et al. (2012) demonstrated a favorable relationship between product quality and Chinese consumers' happiness with online purchasing.

CONCLUSIONS

It was concluded that there was strong and significant influence of product quality on customer satisfaction. For every 1 unit increase in product quality, there was a related shift in customer satisfaction in County Government of Bungoma by 0.729 units. This meant that addressing quality/specifications of the product bought and ensuring same purchase conditions of the products are upheld, ustomer complaints and selling of the original products and serving the customer well would automatically enhance customer satisfaction.

RECOMMENDATIONS

It is recommended that issues related to quality/specifications of the product bought, same purchase conditions of the products, ustomer complaints and selling of the original products and serving the customers should be handled carefully since customer satisfaction is hinged on them.

SUGGESTIONS FOR FURTHER RESEARCH

i) A similar study should be conducted in other county governments in Kenya to ascertain if consistent results could be obtained. Other determinants

of online shopping could be explored on their influence determined on customer satisfaction.

ii) It is also suggested to include a moderating variable on the relationship between online shopping product quality and customer satisfaction.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this Manuscript. In addition, the ethical issues; including plagiarism, informed consent, misconduct, data fabrication and/ or falsification, double publication and/or submission, redundancy has been completely observed by the authors.

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