

IMPACT OF PRODUCT QUALITY ON CUSTOMER SATISFACTION AND LOYALTY

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Abstract

The main aim of this work is to evaluate the impact of product quality on customer satisfaction and loyalty. The study adopted a survey research design. The population of the study was 264 staff of Adama Beverages Ltd. The data collected were analysed using linear regression analysis. The entire population was used as sample size. Questionnaires were adapted to draw the information from the respondents. The finding of the study revealed that when it comes to customer satisfaction, product quality is a major determinant and that reduction in level of customer loyalty, might be due to variation in the firm's product quality and the customers level of satisfaction as regard the product quality. It is recommended that since product quality happens to be one of the major determinants of customer satisfaction and customer loyalty and as such management of firms must establish an interactive metrics that will keep track of the level of their product quality based on the customer perceptions, as a fall or rise in product quality can either reduce or increase the level of customer satisfaction, which in turn can make the level of customer loyalty.

Keywords: Product, Quality, Customer Satisfaction, Loyalty

Introduction

As the result of the impact of globalization and the developments associated with technological advancement, influx of new entrants into the business environments resulting in new products emergence, rivalry incremental challenges, market shares declinations as well as lower repurchase intentions leading to reduction in organizations' sales volume in line with the challenges of keeping up with the growing customers' desires and expectations makes today firms to take issue of product quality, customer satisfaction and repurchase intentions which will eventually leads to customer loyalty very essential and crucial to the overall survival of the organization (Nuridin, 2018; Atiyahi, 2016). In fact, all organizational production components should be coordinated towards meeting consumer's expectation and desires and as such, organization should leave the old pattern of production because if the customers' desires and expectations are not address by critical improvement on all productions component of the organization, they may switch to that of the company rivals (Razak, 2016).

Moreover, the extent to which products are able to attain to the needs and desires of customers is reported to refers to as product quality (Smith and

Wright, 2004; Suchánek, Richter & Králová, 2015) and that improvement in product quality automatically lead the satisfaction of customers thereby positively influencing repurchase intentions and higher sales (Flynn, Schroeder & Sakakibara, 1994; Lynch, 1999; Porter and Vander Linde, 1995; Nadia, 2001). Repurchase intention is determined by products quality that are capable of meeting the needs and satisfaction of customers (Bei and Chiao, 2001; Wagner, 2005; Atiyahi, 2016). Ehsani and Ehsani (2015) revealed that product quality in relation to price can be used as a resource towards increasing satisfaction of both customer and the organizational profitability. Repurchase intention and customer satisfaction are highly affected by customer perception of product quality and customer value as proposed by Ma and Ding (2010) that customers' desires can be satisfy by customer value delivery while Sugiarti, Thoyib, Hadiwidjojo & Setiawan (2013) revealed that comparing to what the rivals will bring to the market, better customer value will make consumers feel highly satisfied thereby leading to customer loyalty.

The essence of establishing any enterprise is for the purpose of achieving stated goals and objectives and one of the main objective in the mind and thinking of stakeholders while bringing out their hard earn capital resources for the establishment of any firm is strictly for the sole aim of making or earning profit which every managers or business operators must work hard toward attaining such a noble goals and aspirations of stakeholders (Nuridin, 2017). It is worthy to note here though that business enterprises in developing countries especially in Nigeria hardly survive the first ten years as a result of globalizations, intense competitive pressures, frequent changes in government policies, constant technological evolutions, changes in consumers' taste only to mention but a few.

All these put pressures on organizations causing them to easily phase out in the business environment (Porter and Vander Linde, 1995; Nadia, 2001; Cruz, 2015), thereby making enterprise desirous to achieve profitability so as to increase shareholders' wealth through diversification and expansion for continuous existence find it extremely difficult to do so. Therefore, since the profitability of an organization largely and solely rely on the quality

of organizational products capable of leading to customer satisfaction as well as an increase in its sales volume through customer loyalty and repeat purchases (Shaharudin, Mansor, Hassan, Omar & Harun, 201; Sirfaz, Sabir & Naz, 2014). To this end, issues relating to quality management in line with the production of highly qualitative products can never be seen to be overemphasized because organizational survival largely depends on its ability to meet or even surpass the expectations of its clients. Therefore, it is very crucial for any profit oriented firm to look for ways towards meeting the needs and aspirations of its potentials customers because if a company's products are not able to satisfy the customers' needs and specification which may be as a result of defective materials used, improper setting of equipment, operational errors and unskilled manpower on the part of the organization, there is likelihood that consumers will not patronize such product thereby minimizing repeat purchase as well as customer loyalty and the organizations' profitability level (Tsiotsou, 2006; Kusuman & Abdillah, 2014; Asshidin, *et al.*, 2016).

Assessment detail of factors affecting the firm's customer loyalty of its clients becomes crucial due to the fact that it can at least provide information to us and the organization of all pertinent issues that are relating to the general organizational profitability which to a large extent relies on the firm's products and quality management. Consumers perceived these qualities as well as the impact it has on their satisfaction and loyalty thereby increasing their purchasing intentions (Kusuman & Abdillah, 2014; Asshidin, *et al.*, 2016; Kelemu & Mandefro, 2017). Owing to the various complain by consumers and many agencies in Nigeria regarding poor products qualities which can lead to customer dissatisfaction thereby affecting repurchase intentions as well as customer loyalty toward any firm's products makes this research work worthy of conducting which focuses on the impacts of product quality on customer satisfaction and customer loyalty taking into consideration all products produced by Adama Beverage Ltd, Yola.

Literature Review

Product Quality

One of the important element in the business word is providing value to customers which does not only include objects that are tangible but also objects that are intangible, that is including packaging, service characteristics, brand name as

well as performance quality. Customer's satisfaction and value is thus linked to a product's quality which has a significant impact towards service performance or the product (Kotler & Armstrong, 2012). However, according to Rust et al (2002), the term quality has been so overused that its meaning is not easy to determine because of the so much attention that have been devoted by academics and practitioners. Moreover, most authors accept the qualification of product quality by Zeithaml's (1988) which states that, product quality is defined based on either extrinsic cues that is the external quality or the intrinsic cues which is the internal quality of a product. Customer's perception regarding extrinsic cues such as warranty, brand, country of origin or price according to Teas and Agarwal (2000) is based on the quality externally. The dimensions of product quality according to Winder (1996) and Chavan (2003) is the totality of product characteristics that has the capability or capacity of satisfying the expectations of consumers. Clients will be highly happy and consider that a product is of higher quality and is acceptable when a product meets their expectations. These dimensions according to Garvin (1984) include the following: performance, feature, reliability, conformance, durability, service ability, aesthetics, and perceived quality.

Customer Satisfaction

A pleasant feeling customers derived or a disappointment that occur when they compare their own expectations to a product's perceived outcome (performance) was regarded by Kotler and Keller (2012) as satisfaction. Moreover, customer satisfaction occurs when the customer's perception of received value in a transaction is equivalent with the perceived service quality relative to the client's costs of acquisition and price (Jahanshahi, Gashti, Mirdamadi, Nawaser&Khaksar, 2011). Though customers repurchase intentions and behavior was seen to be influenced by customer satisfaction (Tu, Li &Chih, 2013) thereby impacting positively on the profit of the organization as well as future revenue. Satisfaction of customers is their feedback in the form of evaluation after actual purchasing and using a product and also comparing it with their own expectations and desires (Woodruff, Cadotte and Jenkins, 1997).

The extent to which product performance perception matches the expectations of buyers is what customer satisfaction is all about (Kotler and

Armstrong, 2012) There are various indicators of customer satisfaction which include: repurchase interest, loyalty, small desire and intention to make a complain, satisfaction, the reputation of the company and the willingness to recommend the product (Kotler & Keller, 2012). Whereas, the judgment of a specific post-choice transaction on a product which has been duly evaluated is referred to as customer satisfaction (Bastos & Gallego,2008). However, the perception of Customers regarding the value received in a transaction or relationship is what is known as customer satisfaction- when the value received is equivalent to the perceived service quality relative to acquisition costs by customer and any transaction price, then we say there is satisfaction (Hallowell, 1996).

Customer Loyalty

Customer loyalty is one of the purposes companies are marketing strategy implementation. Musanto (2004) opined that the behavior of customers who buy a product continuously and to establish customer loyalties to a particular organization is what known as loyalty. Loyalty is the commitment customers have to a certain supplier, brand or store which reflected based on their positive behavior throughout their repeat purchase (Mittal, 2004). The company's main purpose in establishing as well as creating a relationship with their clients is to create or build loyalty behavior that is very strong.

Customer loyalty dimensions are four categories (Griffin, 2002), namely: 1) Make purchases regularly; Customers will make purchase regularly when they engage in a transaction with the organization thereby deriving satisfaction with what the process. Moreover, this will help them in forming a close and a cordial relationship with the client as well as what he or she desire. 2) Clearly demonstrate immunity to the pull of rivals; Clients are confident with the usage of the products thereby making it very hard for them to easily switch to other competitor's products because they have confidence in the company and its brand. Therefore, they refuse to acknowledge other products.3) Recommend products to others; customers will also recommend the product to others, this will make them good spokesperson to other customers and a greater asset to the organization besides recommending the products and brands of the company to others. 4) Buy inter-line products and services; Here, customers

may add other items from the purchased product because they are not just purchasing one category of product after another, but they are purchasing for their product accessories as well.

Theoretical Framework

This study is anchored on the negativity theory. It is very important to note that this particular theory which was propounded by Carlsmith and Aronson (1963) revealed that any expectations and performance will produce what is called ‘negative energy’ thereby disrupting the individual by creating in him or her feeling of negativity towards the product which provide foundations in the process of disconfirmation for the development of negative theory in consumerism processes. Therefore, negative theory stipulates that in a situation where expectations are strongly held by the consumers, that any disconfirmation will cause negative responses from them and as such, dissatisfaction will take place accordingly especially in a situation where performance perception is by far lesser than expectations or also in a situation where performance perceptions is greater than expectations by far (Ferrel, Michael & Hartlines, 2010; McLaughlin, 2010). Consequently, the aforementioned definition indicates that the satisfaction of customer is determined by the fulfillment level expectations attached to the product. Therefore, the level of quality of product is generally based on the degree to which expectations as well as desires has been considered met by the consumer. Hence, the main product quality criterion or factor is the satisfaction of customer. Therefore, company must be able to manufacture quality product that is capable of meeting customer’s desires and expectations.

Methodology

The study focused on the impact of product quality on customer satisfaction and loyalty. Descriptive survey research design was adopted. A structured questionnaire was used to elicit data from the respondents. However 264 copies of closed ended questionnaire were administered to the respondents and were found useful for the analysis. Both validity and reliability test were carried out for the study. The instrument was subjected to content validity test while the

reliability test ensures that the instruments measure consistently as required. Alpha Cronbach value of 0.957, 0.993 and 0.919 was obtained for product quality, customer satisfaction and customer loyalty respectively. These values indicate an excellent reliability, and the instrument of data collection for this study, measures consistently what it intends to measure.

Table 1: Alpha Cronbach Reliability Test

Variables	Cronbach's Alpha	N of Items
Product Quality	0.957	10
Customer Satisfaction	0.993	10
Customer Loyalty	0.919	10

Statistical tools used for the study is linear regression. Furthermore, test for Heteroscedasticity (using the scatterplot of standardized residuals) was carried out and the analysis was performed having in mind the regression diagnosis output so as to ensure the output generalization of the analysis within contexts the study.

Model Specification and Estimation

The regression model for the study is specified and estimated below;

The regression equation is specified below:

$$Y = a + \beta_1 x_1 + \beta_2 x_2 + e(i)$$

Where:

Y= Customer satisfaction (as dependent variable).

a= Constant.

$\beta_1, \beta_2,$ are unknown parameters associated with changing variables which must be estimated.

The explanatory variables are:

X_1 =Product quality

X_2 = customer loyalty

e_i = Random error term and subscription ‘i’ indexes a particular observation.

Analysis and Results

Descriptive Statistics

Descriptive statistics of the responses of the respondents as regards the survey items, in light of the study variables (Product quality, customer satisfaction and customer loyalty) was used.

Table 2: Product Quality

	Items	Mean	Std. D.	Remark
1	The product has excellent qualities	3.1992	1.54291	Agreed
2	The packaging is very reasonable and informative	3.1829	1.53433	Agreed
3	The product has a very rich taste	3.8089	1.21893	Agreed
4	The product is highly nutritional	3.5772	1.34927	Agreed
5	The product standouts from other alternatives	3.3902	1.23641	Agreed
6	I highly recommend it to my friends and colleagues	4.0081	1.21216	Agreed
7	The product quality is exceptional	3.5366	1.27643	Agreed
8	The probability of me shifting to another brand is close to zero	3.8821	1.14211	Agreed
9	Continuous innovation and rich add-ons actually matched my improvement expectations	1.3008	1.45369	Disagreed
10	The constant additions to the product make have kept me satisfied with the brand	1.0203	1.26958	Disagreed

Table 2 revealed the responses of the respondents as regards items on product quality section of the questionnaire. The respondents agreed to item number 1 to item number 8. They disagreed with item number 9 and 10.

Table 3: Customer Satisfaction

	Items	Mean	Std. D.	Remark
1	The taste of the product is very okay and has prompted me to repeat purchase	3.8618	1.25406	Agreed
2	I agree that the price of the product is very affordable	3.6626	1.31086	Agreed
3	The distribution is very wide and no scarcity exists, meeting up with my demands at all times	1.5935	1.30517	Disagreed
4	I attest to the nutritional superiority of this product	1.6179	1.32800	Disagreed
5	The product “quantity wise” is commendable	3.8902	1.21896	Agreed
6	The product meets my expectations at all dimensions	2.4748	1.25841	Disagreed
7	My demand has increased despite reduction in Adama Beverages promotion and advertisement	3.7764	1.05502	Agreed
8	Health and Nutrition wise, the product is extremely ok	3.5569	1.37128	Agreed
9	The product packaging is always perfect	4.2480	.94734	Agreed
10	When it comes to this product solutions, I always ask for this brand first (only absent of this brand triggers me to purchase from other alternatives)	3.7683	1.33675	Agreed

Table 3 revealed the responses of the respondents as regards items on customer satisfaction section of the questionnaire. The respondents agreed to all items except item number 3, 4 and 6. This implies a high level of satisfaction exists.

Table 4: Customer Loyalty

	Items	Mean	Std. D.	Remark
1	My Repeated purchase is over 10 times	3.8252	1.20794	Agreed
2	I have increased intake of this product due to its incomparable taste and flavour	3.9593	1.20474	Agreed
3	I have recommended this product to more than 2 persons	3.3374	1.40407	Agreed
4	I believe this product deserves my loyalty	3.9431	1.15918	Agreed
5	Over the past year, my loyalty to this product has grown stronger	3.5528	1.34743	Agreed
6	Adama Beverage values people, customer health and	3.9106	1.12492	Agreed

	nutritional needs, and relationships ahead of short-term goals			
7	In total, I have been a customer of Company Adama Beverages for over 3 years	1.8862	1.25651	Disagreed
8	My chances of repurchasing any offerings of Adama Beverages is excellent	3.2033	1.44256	Agreed
9	My intention to repurchase is being stirred up by this product brand serving as the industry standard	4.2683	.95681	Agreed
10	I am extremely satisfied with the products of adama beverages and I am not looking for alternatives	3.6870	1.32002	Agreed

Table 4 revealed the responses of the respondents as regards items on customer loyalty section of the questionnaire. The respondents agreed to all items, except item number 7. This implies a high level of customer loyalty.

Table 5: Summary Statistics

	N	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Product Quality	246	3.5907	.62240	-.020	.155
Customer Satisfaction	246	3.7650	.65203	-.576	.155
Customer Loyalty	246	3.7573	.57528	-.264	.155

Descriptive statistics in relation to all the study variables are reported in Table 5. The descriptive statistics table reveals the Mean, standard deviations and skewness with their standard error. Moreover, the low variations of the standard deviations and the mean's values indicate data gathered fits together properly. Nonetheless, from the column of the skewness, all the variables are negatively skewed, this implies normality in terms

of distribution of the sampled customers' responses.

Regression Analysis

Table 6 and 7 reports regression analysis of product quality and customer satisfaction, alongside model summary and test of heteroscedasticity.

Table 6: Model Summary (Product Quality on Customer Satisfaction)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827 ^a	.651	.647	.63637

- a. Predictors: Product Quality
- b. Dependent Variable: Customer Satisfaction

From Table 6, R which is the correlation coefficient between product quality and customer satisfaction has a positive value of 0.827. R Square which measures covariance between product quality and customer satisfaction has a value of 0.651 indicating that 65.1% variation in customer satisfaction is due to product quality.

The Adjusted R square has a value of 0.647, this is more reliable than our R Square value because it takes into account our sample size. The standard error which measures the variability of actual customer satisfaction values from the predicted customer satisfaction values has a value of 0.63637, this is the same as standard deviation.

Table 7: Regression Analysis (Product Quality on Customer Satisfaction)

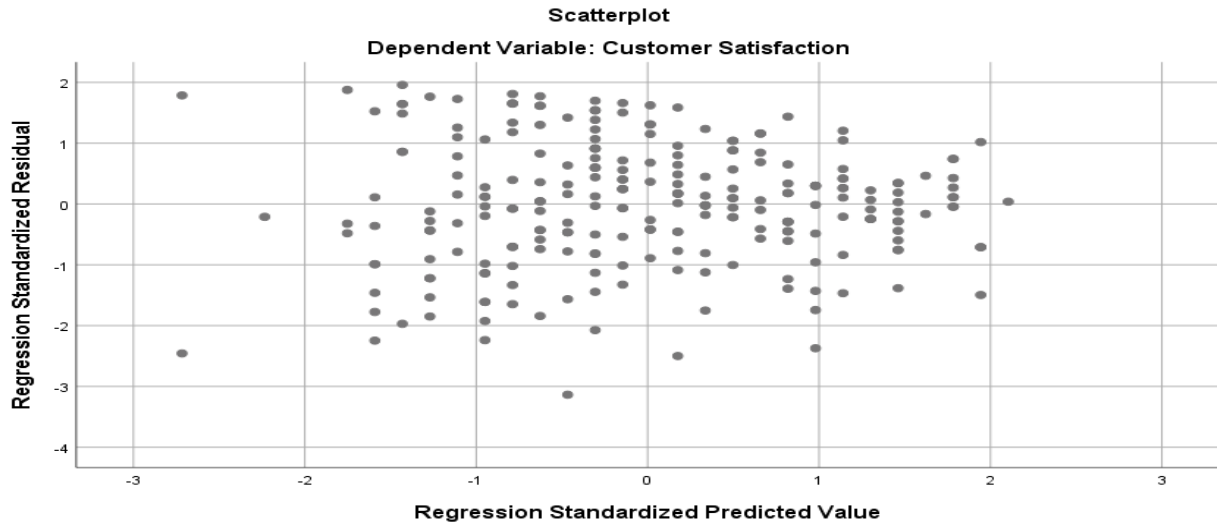
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Product Quality	.837	.065	.827	3.634	.000

- a. Dependent Variable: Customer Satisfaction

Table 7 which entails result of the regression analysis between product quality and customer satisfaction has positive t-value of 3.634, this implies a positive relationship exists product quality and customer satisfaction. The level of significance stood at 0.000 (0.01), which is less than the p-value of 0.005. The Beta Value stood at 0.827. From the standardized residuals in Figure 1, the presence of homoscedasticity is easily seen

on the plot, which implies the values of the responses of the sampled respondents are relatively close. No wider variations exist, as seen from the cloudy nature of the dots. Little outliers are experienced but not enough to result to the disturbance of heteroscedasticity. This is a good fit for regression model, which utilizes survey (scaled) data. Summarily, the regression result is not spurious.

Figure 1: Scatter Plot for Heteroscedasticity Test (Product Quality on Customer Satisfaction)



Product quality and customer satisfaction on customer loyalty: Table 8 and 9 presents the Regression analysis of Product quality and Customer Satisfaction, alongside model summary and test of heteroscedasticity.

Table 8: Model Summary (Product Quality and Customer Satisfaction on Product Quality)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.941 ^a	.892	.887	.48590

a. Predictors: (Constant), Customer Satisfaction, Product Quality

b. Dependent Variable: Customer Loyalty

From Table 8, R which is the correlation coefficient between product quality and customer satisfaction on customer loyalty has a positive value of 0.941. R Square which measures covariance between product quality and customer satisfaction on customer loyalty has a value of 0.892 indicating that 89.2% variation in customer loyalty is due to product quality and customer

satisfaction. The Adjusted R square has a value of 0.887; this is more reliable than our R Square value because it takes into account our sample size. The Standard Error which measures the variability of actual customer loyalty values from the predicted customer loyalty values has a value of 0.48590; this is the same as standard deviation.

Table 9: Regression Result (Product Quality and Customer Satisfaction on Product Quality)

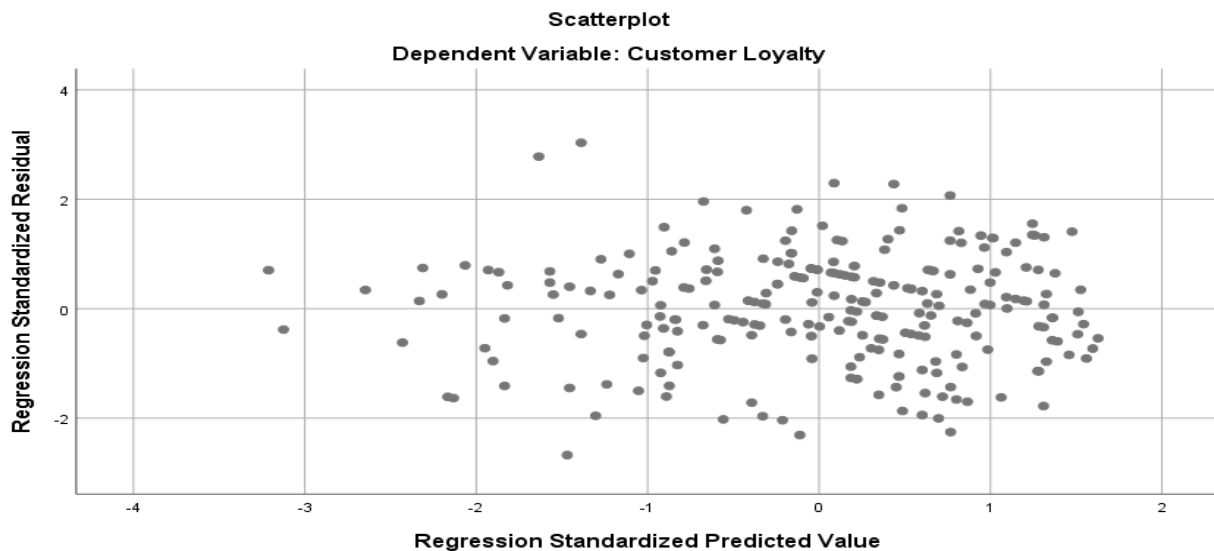
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Product Quality	.853	.051	.757	1.026	.006
Customer Satisfaction	.863	.049	.925	9.476	.000

a. Dependent Variable: Customer Loyalty

Table 9 which entails result of the regression analysis between product quality and customer loyalty has a positive t-value of 1.026, this implies a positive relationship exists between product quality and customer loyalty. The level of significance stood at 0.006, which is less than the p-value of 0.005. The Beta Value stood at 0.757. Customer satisfaction has a positive t-value of 9.476, which implies a positive relationship exist between customer satisfaction and customer loyalty. The level of significance stood at 0.000 (001), which is less than the p-value of 0.005. The

Beta Value stood at 0.925. From the standardized residuals in figure 2, the presence of homoscedasticity is easily seen on the plot, which implies the values of the responses of the sampled respondents are relatively close. No wider variations exist, as seen from the cloudy nature of the dots. Little outliers are experienced but not enough to result to the disturbance of heteroscedasticity. This is a good fit for regression model, which utilizes survey (scaled) data. Summarily, the regression result is not spurious.

Figure 4.2: Scatter Plot for Heteroscedasticity Test (Product Quality and Customer Satisfaction on Customer Loyalty)



Discussion of Findings

The findings of the study revealed that customer satisfaction and product quality are major determinant. Any variation in level of customer satisfaction, product quality seems to account for 65.1% of such variation. This implies that as product quality increases, customer satisfaction increases as well, and any reduction in customer satisfaction can be attributed to reduction in product quality 65.1% of the times. The regression predicted that any significant

improvement or increment in product quality can trigger an increase in customer satisfaction level by 82.7%. This supports the Kotler and Keller (2012) theory, that customers satisfaction is a function of the extent to which customers perceived that the product quality matches or exceeds their expectations.

Customer loyalty, product quality and customer satisfaction accounts for 89.2% variation. This implies that reduction in level of customer

loyalty, might be due to variation in the firm's product quality and the customers level of satisfaction as regard the product quality. The regression model predicts that product quality has positive relationship with customer loyalty, and as the product quality increases so does the customer loyalty. The predicted percentage stood at 89.2% (implying variation in product quality can either increase or decrease level of loyalty by 89.2%). In light of customer satisfaction, it is predicted that an increase in customer satisfaction will likely result to increase in customers loyalty by 92.5%. This is in line with the position of Kotler and Keller, (2012), "A customer can only re-purchase a goods and services if and only if such good and services were able to meet their expectation meaning that there are similarities between the performance of the goods and services with the hope of the customers which will spur them to re-purchase the products again".

From the linear regression model, customer loyalty is a function of customer satisfaction, and customer satisfaction is a function of the firm product quality. In light of Adama beverages, this linearity exists (that is to say, their product quality, increase or decrease the level of customer satisfaction, and the level of customer satisfaction determines the level of their loyalty towards the offerings of Adama beverages.

Conclusion and Recommendations

This study employed Survey research design to evaluate the impact of product quality on customer satisfaction and customer loyalty. The findings of the study reveal that customer loyalty is a function of customer satisfaction, and customer satisfaction is a function of the firm product quality. In light of Adama beverages, this linearity exists (that is to say, their product quality, increase or decrease the level of customer satisfaction, and the level of customer satisfaction determines the level of their loyalty.

From the Findings of this study, product quality happens to be one of the major determinants of customer loyalty and satisfaction, and as such management of firms must;

- i. Establish an interactive metrics that will keep track of the level of their product quality based on the customer perceptions, as a fall or rise in product quality can either reduce or increase the level of customer satisfaction, which in turn can make the level of customer loyalty.

- ii. Consider their product quality, their customer satisfaction and customer loyalty, holistically and as a system due to the linear relationship that exist between them, (as good product quality, results to high level of satisfaction among customers and consequently, this increases their loyalty towards the firm product).
- iii. Establish a new culture of quality within the unit of quality management of the company thereby making available qualitative product that will be able to meet the expectations and needs of customers which will lead to customers being satisfied with the product and to also increase their level of loyalty to the organization which will result in repeat purchase and good recommendation to other potential customers.

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