Full Length Research Paper

The Impacts of E-Business on Customer Satisfaction: The Case of Selected Insurance Companies in Bale Robe Town

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Abstract
The purpose of this study is to investigate the impacts of E-business services on customer satisfaction in selected insurance companies in Robe town. The study measured E-business and its relation with customer satisfaction in the selected public Ethiopian Insurance Corporation and private United Insurance Companies. The sample consisted of 268 respondents' selected based on random sampling procedure. Primary data were collected by using 5-point Likert scale questionnaire and interview with customer service managers and customer service supervisors of the selected insurance companies. A total of 226 questionnaires were properly filled and returned. The result of the study showed that service quality dimensions; assurance, empathy and reliability have strong influence on E-business user's satisfaction level respectively and weak impact with tangibility and responsiveness to customer satisfaction level in selected insurance companies in Robe town. The correlation results indicate that there is a positive correlation between the dimensions of service quality and customer satisfaction. The results of the regression test showed that offering E-business quality service have impact on overall customer satisfaction. Thus, the major problem faced by insurance companies in relation to E-business network failure due to poorly developed telecommunication infrastructure, lack of reliable power supply and lack of ICT knowledge from internal customers, lack of integration E-business with bank service and lack of promotion from branches. In order to sustain a reliable service using new technology, insurance companies should work with government bodies (Ethiopian Telecommunication and Ethiopian Electric Power), should work on integration with bank and should work on promoting E-business for customers to gain competitive on insurance industry.

Key words: E-business, Service quality, Customer Satisfaction

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Introduction
Information technology (IT) has become the backbone of every industry in the 21st century, especially for the service industries all over the world. Service quality plays an important role in the customization process of service delivery, improvement of the productivity and profitability of the organizations as well as in the satisfaction process of the customers of the organizations.

Today's business environment is very dynamic and intense as a result of technological advancement and Automating Business process as a competitive advantage of any organization. Electronic Business is the automation of processes, controls, and information production using computers, telecommunications, software and other gadgets that ensure smooth and efficient running of activities. It is a term that largely covers the

coupling of electronic technology for the information needs of a business at all levels (Agbolade, 2011). E-business is not just about buying over the internet; it is about increasing the value of the organization by improving the way it operates (Ronel, 2013).

Considering the present situation, insurance companies are now trying to move their focus from the product to the customers as well as they are trying to get competitive advantage over their competitors through the use of E-business enabled services. Insurance companies can replace paper based processes with a highly productive solution, automate documents to reduce errors and processing time, provide easy access to information in legacy systems, analyze business performance and worker queue volumes in real-time, and balance workload and staffing for the human intensive part of the process (Partha *et al*., 2014).

In Ethiopia, eighteen insurance companies are giving service   currently, and four of them are operating in Robe town. However, only Ethiopian insurance company and united insurance company are enjoying the E-business services. Ethiopian Insurance Corporation used two software's; AGRESSO (used to Finance Department) and INSIS (used for Operation department) and United Insurance Company used PREMIA software's that access online portal for all services. Thus, this study was identifying the impact of E-business service quality dimensions on customer satisfaction in case of selected insurance company.

Statement of the Problem

Insurance companies in Ethiopia are in a tough competition to attract customers by delivering various services. It is better for customers to have broad choices to select best insurance company for them to satisfy their needs. In pursuit of round the clock customer services and keep abreast with the developing global E-business technology, some insurance companies in Ethiopia are fast moving toward launching new technology based products and services. A good example in this aspect is the case of Ethiopian Insurance Corporation and United Insurance Company where they started to provide E-business service by interconnecting all their branches.

In service setting, customer satisfaction mainly depends on the process of service delivery is a fact that highlights the important role of the front-line employees. One of the most influential implications of E-business is that it changes the way services are generated and delivered to the customer. Services can, thus, be provided more efficiently, and entirely new types of services are developed (Licht and Moch, 1997).

In a highly competitive and customer-centered market economy, service organizations are forced to provide high-quality services that generate customer satisfaction, loyalty, enlarge market share and improve their performance results (Pantouvakis, 2010). The application of customer relationship marketing is vital in today's fierce competition because when there are proper communication and smooth relationship with customers organization should retain their customers (Kotler and Armstrong, 2010).

E-business service focuses on the use of ICT to enable the external activities and relationships of the business with customers. Electronic business methods enable enterprises to link their internal and external data processing systems more efficiently and flexibly and serve better to the needs and expectations of their customers. E-business uses web-based technology to improve relationships between insurance companies and customers (Srivastava and Singh, 2013).

As leading insurance companies the Ethiopian Insurance Corporation have large number of customers but have limited on using E-business software's in terms of integrating the financial and operation services to satisfy their customers in one window. Instead of United Insurance Company have PREMIA software's that interconnected all branches to enable data and policyholder to make the payment of premium in any branch to get the receipt immediately using online portal but not fully functional specially on interconnecting with any bank in case of Robe Town branch. Due to the intensive competitive situation, it is necessary for insurance companies to maintain and improve service quality providing technologically developed innovative instant service to satisfy the customers. Any lack in the service quality may cause dissatisfaction among the customers and may lead to switch over to the competitors thereby causing aharmful condition to the business. Therefore, this study is designed to examine the impact of E-business service quality dimensions on customer satisfaction and to show E-business service limitations on dimensions of service quality to give solutions to identified problems on E-business in selected insurance companies.

Research Hypothesis

The most common service quality measurement model (Parasuraman *et al.*, 1988) that is used widely have five dimensions including tangibility, reliability, responsiveness, assurance, and empathy, has been conceptualized the hypothesis of the research which aim to identify the relationship of those five dimensions with customer satisfaction.

Proposed hypothesis are: Null Hypothesis

H01: Tangibility has no significant impact on Customer Satisfaction.
H02: Reliability has no significant impact on Customer Satisfaction.
H03: Responsiveness has no significant impact on Customer Satisfaction.
H04: Assurance has no significant impact on Customer Satisfaction.
H05: Empathy has no significant impact on Customer Satisfaction.

Scope of the Study

The study is limited to insurance companies that have E-business Software's used to give online service for customers in Robe Town. Accordingly, the study described the impacts of E-business service quality dimensions on customer satisfaction in selected insurance companies in Robe.

Research Methods

To gain a reach understanding of the major impacts of E-business on the level of customer's satisfaction based on empirical research across different industries, including pest control, fast food, dry cleaning, insurance and bank are provided evidences that support the distinction over SERVQUAL model based on performance only, maintained the same items scale proposed by Parasuraman *et al.* (1988). Moreover, as (Mark et al., 2009) stated, case study methodology use both explanatory and descriptive research design and that multiple methods are useful for providing better opportunities to test hypothesis and also allows the research findings can be trusted and inferences. This study was quantitatively analyze using multiple linear regression model and semi-structured interview and qualitatively analyze and triangulate with the quantitative result.

Data Source

The study used primary data source which include data collection instruments semi structured interview and questionnaire. A questionnaire was distributed to respondents who use E- business service in the Robe Town insurance companies. The questionnaire was design based on previous empirical literature and its consistency was pre- test using Cronbach Alpha. The components of E-business and outcomes of customer satisfaction items was measured on 5- point Likert - scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Target Population, Sampling Method and Sample Size

The population of this study was customers from of the selected public and private insurance companies, which are Ethiopian Insurance Corporation and United Insurance Company that have E-business and the population of this study was active customers. The sampling method for the target population used simple random sampling. In random sampling, each individual in the population has an equal probability of selected which is important for the external validity of the study (Creswell, 2009). Accordingly, the total study population 820 in the two insurance companies and Sample size of 268 respondents is taken fromselected insurance companies. To calculate sample size, simplified formula provided is used i.e. n = N/1+N (e) 2 = **268**

Table 1: Sample size from total population

Insurance Name	Active number of Customers	Percentage of population	Sample Size
EIC	470	57.31	154
UIC	350	42.69	114

Reliability of the study

Reliability refers to the degree to which a set of variables are consistent with what they are intended to measure (Hacker *et al*., 2003). Accordingly, the reliability of the study survey is dependent on the extent of respondent's satisfaction in using E-business services. The reliability of this research study was categorized under five dimensions of service quality determinant factors, which was computed by Cronbach Alpha value using statistical package for social scientists (SPSS) version 22 software. According to Hair, et al., (2006), if α is greater than 0.7, it means that it has high reliability.

Measurement and Scaling

The aim of this study is to examine the impact of five E-business service quality dimensions on customer satisfaction. The researcher was employee Multiple Linear Regression models to determine the significance level of the variables for the customer satisfaction in E-business.

Customer satisfaction in E-business = f (electronic business service quality dimensions)

Basically, CSEB = $\alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$

Where, CSEB = Customer Satisfaction in E-business

X_1 = Tangibility, X_2 = Reliability, X_3 = Assurance, X_4 = Responsiveness, X_5 = Empathy

Here α is constant and β is coefficient of estimate and ε is the error term. Customer satisfaction in E-business is dependent variable and X1 to X5 are independent variables.

Method of Data Analysis

In order to facilitate the interpretation, the finding of the study both quantitative and qualitative were use in analyzing with SPSS version 22.To present and analyze the data the statistical tools use for this study, namely descriptive analysis, correlation and multiple regression analysis.

Results and Discussion

Descriptive Statistics of the Service Quality Dimensions Composite scores

Responsiveness has the highest score of 3.3606 followed (Table 1) by assurance with a score of 3.3274. The least important perception according to the finding on empathy with a score of 2.3894 is to do more on empathy of E-business. This indicates that there are weaknesses in Insurance provide 24 hours services within a week, Insurance has employees who give customers individual attention, Language in E-business display is easy to understand and E-business applications allows online insured service and payment.

Table 2: descriptive statistics of the service quality dimensions composite scores

Descriptive Statistics			
	N	Mean	Std. Deviation
Tangibility	226	3.1711	.72093
Reliability	226	3.1980	.62832
Responsiveness	226	3.3606	.71526
Assurance	226	3.3274	.67201
Empathy	226	2.3894	.83329

Analysis of Customer satisfaction items

According Table3, Say positive things about the insurance E-business services to other people item of Customer satisfaction has mean score of 3.46. This indicates that most of the clients agree to say positive things about the E-business of the insurance. Encourage friends and relatives to select insurance companies that have online service item of Customer satisfaction has mean score of 3.42. This indicates that most of the clients agree to encourage friends and relatives to select insurance companies that have E-business software's. Intend to continue doing with the insurance companies that have E-business software's item of Customer satisfaction has mean score of 3.54. This indicates that most of the clients agree to say to continue doing with the insurance companies that have E-

business software's. The item Have strong preference on your insurance company of Customer satisfaction has mean score of 3.60. This indicates that most of the customers agree to say strong preference on their insurance company.

Table 3: Analysis of Customer satisfaction items

Descriptive Statistics			
	N	Mean	Std. Deviation
Say positive things about the insurance E-business services to other people	226	3.46	.874
Encourage friends and relatives to select insurance companies that have online service	226	3.42	.897
Intend to continue doing with the insurance companies that have E-business software's	226	3.54	.693
Have strong preference on your insurance company	226	3.60	.731

Inferential Findings

In this research were conducted the reliability test using the Cronbach's alpha in order to identify the consistency of the items in the data instrument. The reliability coefficient applied in this research allowed to identify the stability, consistency and also enhance the accuracy of assessment of the data instrument used in this research and it coefficient varies between 0 and 1 (Tavakol and Dennick, 2011), where Bryman and Bell (2011) considered acceptable internal reliability when greater than 0.80, and others authors considered as excellent internal reliability when the Cronbach's alpha is greater than 0.9, good between 0.8 and 0.9, acceptable between 0.7 and 0.8, questionable between 0.6 and 0.7, and the others results lower than 0.5 can be explained by a low number of items, poor inter-relatedness between items or heterogeneous constructs. Analyzing the five constructs of service quality dimensions of E-business and the customer satisfaction based on reliability test show that all the constructs has presented good internal reliability (Table 4).

Table 4: Reliability and Sample Characteristic

Test Constructs	Number of items	Cronbach's Alpha
Tangibility	3	0.863
Reliability	4	0.723
Responsiveness	4	0.811
Assurance	5	0.840
Empathy	4	0.942
Customer satisfaction	4	0.762

Hypothesis Testing

The following two tests were done to determine the correlations:

- Person correlation
- Regression analysis

Correlation matrix is used in this study to show the strength of relationship among variables considered in the hypothesis. The correlation matrix further indicates that all E-business service quality dimensions were positively correlated with customer satisfaction. The findings displayed that the respondent who perceived a greater awareness of service quality practice exhibited the more positive reactions in favor of customer satisfaction.

Person Correlation analysis (Overall service quality dimensions on E-business)

Table 5: Person Correlation analysis on overall service quality dimensions on E-business

Correlations		Tang.	Rel.	Resp.	Assur.	Emph.	CS
Tangibility	Pearson Correlation	1					
	Sig. (2-tailed)						
Reliability	Pearson Correlation	.754**	1				
	Sig. (2-tailed)	.000					
Responsiveness	Pearson Correlation	.688**	.746**	1			
	Sig. (2-tailed)	.000	.000				
Assurance	Pearson Correlation	.722**	.702**	.711**	1		
	Sig. (2-tailed)	.000	.000	.000			
Empathy	Pearson Correlation	.583**	.608**	.446**	.401**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
Customer satisfaction	Pearson Correlation	**.642****	**.638****	**.583****	**.786****	**.280****	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Multi linearity Test:
The correlation coefficient between the independent variable and dependent variable were less than 0.90, indicating that data was not affected by a collinearly problem (Hair et al.,1998) and suggested that a correlation coefficient above 0.8 between explanatory variables should be corrected because it is a sign for multi linearity problem (Cooper & Schindler, 2009). Therefore, this indicates that the correlation coefficient between explanatory variables have no collinear and multi linearity problem.

Linearity Test:
Linearity refers to the degree to which the change in the dependent variable is relate to the change in the independent variables. To determine whether the relationship between the dependent variable CSEB and the independent variables X1 (Tangibility), X2 (Reliability), X3 (Responsiveness), X4 (Assurance) and X5 (Empathy) is linear plots of the regression residuals through SPSS software had been used.
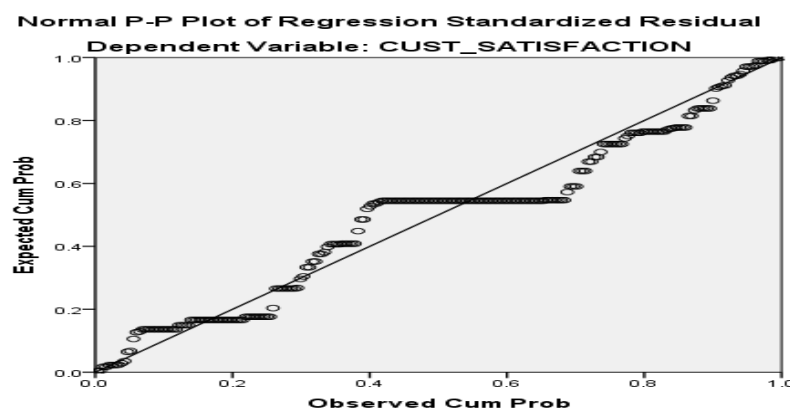

Figure-1: Normal Point Plot of Standardized Residual

The scatter plot of residuals shows no large difference in the spread of the residuals. From left to right ,thus result suggests the relationship we are trying to predict is linear.

Normality Test:
As per the Classical Linear Regression Models assumptions, the error term should be normally distributed or expected value of the errors terms should be zero (E(ut)= 0).
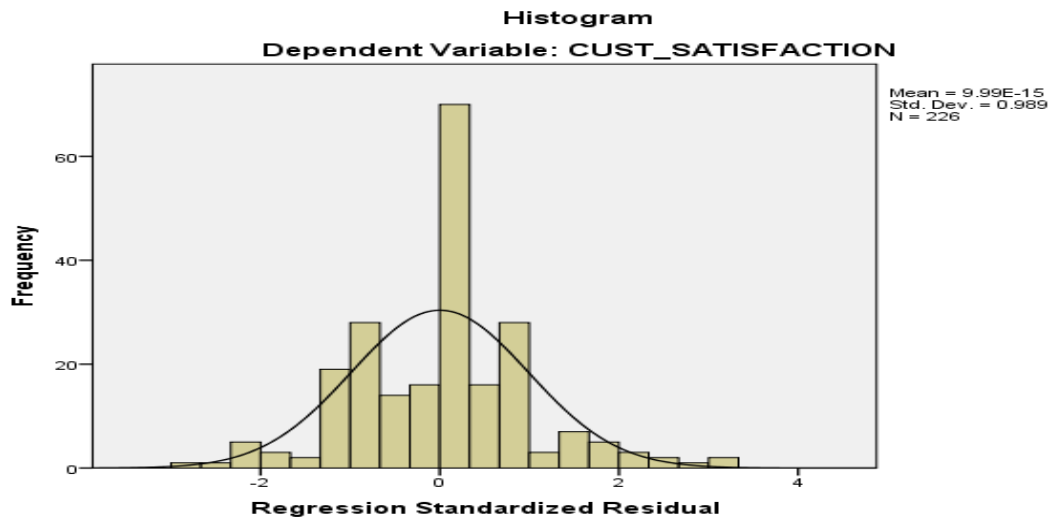

Figure-2: Frequency Distribution of Standardized Residual

Frequency distribution of the standardized residuals compared to a normal distribution. As you can see, although there are some residuals (e.g., those occurring around 0) that are relatively far away from the curve, many of the residuals are fairly close. Thus, no violations of the assumption normally distributed error term and from an examination of the information presented in all the three tests concluded that there are no significant data problems that would lead to say the assumptions of multiple-regressions have been seriously violated.

Multiple Regression Analysis
In this part of the analysis includes a regression model to test the hypotheses. Five extracted dimensions were taken as independent variables against overall satisfaction of the customers as dependent variable in a multiple regression model. For all the hypotheses of the study below hypothesis test was used at 95% confidence level.

Regression Summary of Service Quality to Customer Satisfaction (N=226)

Table – 6: Regression Summary of Service Quality to 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	.866a	.749	.744	.31103	.749	131.464	5	220	.000

a. Predictors: (Constant), EMPATHY, ASSURANCE, TANGIBILITY, RESPONSIVINESS, REALIBILITY
b. Dependent Variable: Customer satisfaction

From table above, it has been seen that R value is 0.866. Therefore, R value (0.866) for the overall E-business service quality dimensions suggested that there is a strong effect of these five independent variables on customer satisfaction. It can also observed that the coefficient of determination i.e. the R-square value is 0.749, which representing that 74.9% variation of the dependent variable (Average Customer Satisfaction) is due to the independent variables, which in fact, is a strong explanatory power of regression. And also it is identified that the value of F-stat is 131.464 and is significant as the level of significance is less than 5% (p< 0.05). This indicates

that the overall model was reasonable fit and there was a statistically significant association between E-business service quality dimension and customer satisfaction. Additionally, this also indicated that the null hypothesis is rejected or accepted. Hence it can be concluded that E-business service quality dimensions have significant impact on customer satisfaction of insurance companies that have E-busines.

Table 7: Coefficients of dependent varies with independent variable

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% C I for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.056	.111		9.498	.000	.837	1.275
Tangibility	.186	.047	.218	3.931	.000	.093	.279
Reliability	.325	.146	.332	2.225	.027	.037	.613
Responsiveness	-.865	.107	-1.008	-8.053	.000	-1.077	-.654
Assurance	1.183	.085	1.295	13.844	.000	1.015	1.352
Empathy	-.087	.039	-.118	-2.210	.028	-.165	-.009

a. Dependent Variable: CUSTOMER SATISFACTION

The unstandardized coefficients indicated how much the dependent variable varies with an independent variable, when all other independent variables are held constant. The beta coefficients with significant p value < 0.05 indicated that how and to what extent SERVQUAL dimensions such as tangibility, reliability, responsiveness, assurance and empathy influence customer's satisfaction of E-business on insurance companies.

Conclusion and Recommendations
Conclusion

The main objective of this research was to identify the impact of the five dimensions of service quality, including tangibility, reliability, responsiveness, assurance and empathy, on customer satisfaction. The conceptual model proposed in this research states that service quality have a significant impact on customer satisfaction based on SERVQUAL model Parasuraman *et al*. (1988). Globally the results of the present research were supported by the conceptual model that the E-business service quality has impact on customer satisfaction. The results from multiple linear regression also conducted that service quality can be used to predict customer satisfaction and based on all factors, P-value indicated that how and to what extent SERVQUAL dimensions such as tangibility, reliability, responsiveness, assurance and empathy influence customer's satisfaction of E-business on insurance companies. Thus, the service quality and customer satisfaction has been considered very important to help to improve the overall performance of business especially, for insurance industries. According the literature review and the finding in this research is possible to state that the E-business used to improve the services offered to customers with the purpose to reach the customer satisfaction and also build the competitive advantage against the competitors based on service differentiation.

Recommendations

➢ Customer satisfaction is a critical business requirement. Customer value is an asset to the organization; While, E-business is essential in today's competitive market. The objective of this study was to find out customer satisfaction on E-business with respect to service quality dimensions. A list of recommendations has been presented based on the findings of the research conducted on customers of selected insurance companies. The management needs to improve E-business quality services so as to satisfy customer's needs. The insurance needs to pay much attention on the Tangibility, Reliability, Responsiveness, Assurance and Empathy in order to satisfy the customer's satisfaction and also promoting E-business advantages by using different methods rather narrowly conceptualized in terms of five dimensions of E-business service quality. Although 74.9% of the variation in customer's satisfaction was explained by the five service dimensions studied here, the remaining 25.1% is explained by other factors that were not examined in this study and insurance should work on integrating with bank to resolve in case of premium and other financial

issues to save time and cost of customers by contacting branches.

➢ Insurance companies should work with Ethiopian-telecommunication & Ethiopian Electric Power to resolve service interruptions and minimize the brunt of the consequences of unreliable services.

➢ EIC should work on integrating financial and customer service using E-business software's to satisfy internal and external customers whereas UIC E-business software's should work on all browser software's to access the E-business service while limited only on Mozilla Firefox browser.

➢ Insurance need to increase the confidence of their customers as well as develop their skills and knowledge in using E-business services. They could also employ the use of video presentations at branches and on television to showcase the user friendliness of such services.

At last, this study investigates the dimensions of E-business service quality that has major impacts on customer satisfaction on insurance industries in Ethiopia. But, the variables included in the study were not exhaustive variables which are not included under this study. Future researchers could include other variables which are not included under this study.

Conflict of interest

Authors didn't declare conflict of interest regarding this work.

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