AN ASSESSMENT OF CUSTOMERS' E-SERVICE QUALITY PERCEPTION THROUGH WEBQUAL SCALE: A STUDY ON ONLINE BANKING SERVICES

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ABSTRACT

Owing to the swift progress in the information technology, many banks around the country have transformed their services from the traditional services to electronic means. Banking Industry has witnessed a remarkable expansion due to the changes taking place in the global environment. The major progress among all the changes is the introduction of Electronic banking in their operations. Today most of the banking activities happen in the living room, which is made possible with such an innovative development in the information technology. E-banking has done wonders in delivering banking products & services to the customers. Though, banks still need to improve in order to satisfy the customers. Customer satisfaction is very essential for business success in today's marketplace with a view to build long- term and profitable customers which ultimately leads to customer loyalty and repeat business. By anticipating the needs of the customers, improving responsiveness to customer calls and requirements, and delivering constant service can improve customers' perception of the quality of service. Therefore, it is required to appraise the quality of the services in a timely manner. This study aims at analyzing the service quality of E-banking services from customer's perspective, and to study the effect of E-service quality dimensions on customers' perception of E-service quality. The study measures the quality of online banking website using the WebQual-4 parameters and helps to understand the factors that influence the user satisfaction in the online banking website. Also, the study will help the banks in order to create a high quality and satisfying online banking websites.

Keywords: E-Service, Service Quality, WebQual, Customer Satisfaction, E-Banking.

INTRODUCTION:

The usage of the Internet Banking is becoming more extensive in last two decades. It has become pervasive in the modern era. This is because; the introduction of E-banking services has changed the way banks build and maintain their customer relationships. The wind of liberalization has affected almost all the sectors of the economy, but the center of all the activities is the Indian Banking Industry. The advancements in technology have facilitated the banks in creating a viable and efficient banking system. Information technology (IT) is universally regarded as a vital tool in enhancing the competitiveness of the economy of a country (Oliveira and Martins, 2011). In such as fast-changing environment, to meet emerging needs, the operations in banks need immediate automation to provide services comparable to best standards and to match technological changes taking place in other countries. Banks are not only competing in traditional banking services, but have also expanded the scope of competition to an e-environment with internet banking services (Gonzalez et al., 2004). Innovative banking products and services at affordable cost, offering service to customers through various delivery channels like ATMs, Internet/Phone/Mobile banking at all times, fast and efficient payment and remittance facilities across banks, are some of the advancements in banking technology provided to the customers. The most visible impact of technology on banking can be reflected in the way the banks respond strategically for making its effective service delivery. The technology is forcing the banks to develop a strategy for an online delivery system to broaden the customer relationship and to retain customer loyalty, and the banks are enthusiastically absorbing the latest technological innovations for devising new products and services. But, in order to be in the race, the banks need to offer a wide range of services delivered online with high quality service. In the present business environment, customers' satisfaction is a vital issue, but satisfying the needs of the customers is the only path to sustainable growth. In order to retain the customers online, service providers should have a better understanding of the customers' perception about electronically offered services, or E-Services. Almost all the banks perform same functions. Differentiation of product is complex and hazy in banking. Thus, quality becomes the only differentiator.

Although, it is difficult for service provider to measure its quality because service is an intangible concept. But now days, it is very important for any organization to retain their customers and for retaining the customers, banks need to assure loyalty factor in the customers and for loyalty, customer must pass the test of satisfaction. And it is service quality that determines the level of satisfaction of the customers from a particular bank (Arora and Saxena, 2013). Customer satisfaction is very essential for business success in today's marketplace with a view to build long- term and profitable customers which ultimately leads to customer loyalty and repeat business. Customer Satisfaction is the process of customer overall subjective evaluation of the product/service quality against his/her expectation or desires over a time period (Gyasi & Azumah, 2009).It is merely a person's feeling of pleasure or disappointment resulting from comparing a product's performance (outcome) in relation to his or her expectation (Kotler & Keller, 2006). When it comes to businesses surviving on their long term plans, it is very imperative to achieve the goal of customer satisfaction. The best way that can convince people to buy product or service is by giving them the proper time and attention, so that they receive the service they expect. By pleasing the customers, business can gain the trust and loyalty that can provide them with what they need. This is what customer satisfaction is all about. In order to grow and expand the businesses in the future, it is very essential to find out what customer expects and how they perceive it.

With the development of information and communication technology, products and services are radically shifted to digital form and delivered mostly through the Internet. It is very difficult for a business to survive without a website. It tends to lose large number to potential customers. Therefore, it is a must for any business to have a website which reflects a good service quality image, as well as to work on making the websites user-friendly, attractive, easy to navigate and informative so that users can easily track down what they are looking for. A website that creates positive influence in the users gets more exposure by hits created by the new users and returning users. The positive influence is created by different features embedded in the Website and the quality of such features and the services provided (Elangovan, 2013). Large growth potential is forecast for the provision of products and

services via electronic channels (Evanschitzky et al., 2004). According to Jose & Ainhize (2009), Electronic service quality is a basic requirement for the good performance of electronic channels. E-service quality can be defined as the overall evaluations and judgments of customers regarding the excellence and quality of e-service delivery in the virtual marketplace (Santos, 2003). Delivering superior quality of services to their customers makes a bank different from other banks. At the same time, Improvements can be only made if the quality of service is measured time to time. Therefore, measurement of service quality in internet banking has become an area of growing interest to the banks as well as researchers.

This study focusses on addressing the E-service service dimensions from customers' perspectives. The study measures the Website quality using the WebQual-4 parameters and helps to understand the factors that influence the user satisfaction in the Website. The outcome of this study will help the banks in designing a website with features that will provide the users with various information and services, thereby making the website a gateway to all the customers and build a satisfaction in them.

LITERATURE REVIEW:

Service Quality:

Quality is a multi-dimensional phenomenon. Thus, measuring quality of services is the most critical task of service companies, as it needs to formulate strategies to evaluate quality performance. Service quality can be described as the result from the customer comparisons between their expectations about the service they will use and their perceptions about the service company (Oliver, 1997). For instance, if the perception of the service company is higher than the expectations, the service is considered outstanding. And if the expectation is equal the perception, the service is considered good and if the expectations did not meet the perception, it is considered bad. It can also be defined as the subjective comparison that customers make between the quality of service that they wish to receive and what they actually get (Gefen, 2002). Service quality is viewed as an organizational asset and a key determinant of corporate marketing and financial performance (Yasin et al., 2004). Service quality may also be determined by calculating the difference between two scores where better service quality results in a smaller gap (Landrum et al., 2008). Mohamed & Shirley (2009) emphasized that banks have to care about the quality of their services since this quality is considered the essence or core of strategic competition.

E-service Quality:

In general, E-service can be defined as an interactive, content-centered, and internet-based customer service that is driven by customers and integrated with the support of technologies and systems offered by service providers, which aim at strengthening the customer-provider relationship (de Ruyter et al., 2001).

The advent of internet paved the way for the emergence of the concept of E-service. E-services have two main characteristics: the service is accessible with electronic networks and the service is consumed by a person via the internet (Batagan et al., 2009). Internet banking satisfies the above two characteristics, and therefore, service quality in internet banking denotes e-service quality. One of the first definitions of quality in e-services was suggested by Zeithaml et al. (2001), who defined online services as services that are delivered on Internet. E-service quality has been regarded as possessing the potential to not only deliver strategic benefits but also to enhance operational efficiency and profitability (Cronin, 2003). Ghosh et al. (2004) conceptualized E-services as an interactive information service. Parasuraman et al. (2005) defined E-service quality as the extent to which a website facilitates efficient and effective shopping, purchasing and delivering of products and services. It can also be described as the customers' judgment about an entity's overall service's excellence or superiority. In other words, it is the overall judgment of the quality of service provided in the virtual marketplace.

Online service delivery is very different from traditional service delivery. Information provided by or collected from customers can be gathered and analyzed by the E-service provider and used as the basis for the customization of the service that the organization offers to the customer (Rowley, 2006).

E-Service Quality in Internet Banking:

The analysis of E-banking quality becomes an area of growing interest to researchers and managers (Jayawardhena, 2004). With the advancement in technology, sophistication of customers' needs and the environment becoming more competitive, the focus is towards the quality of the website. The website functions as a window through which users have their initial interaction with the organization (Zhang & Von Dran, 2002). There are many studies dealing with service quality related to traditional banking, but studies investigating the service quality of E-banking websites are scarce in nature. The following studies focused on customer service quality related to online systems quality and banking products quality. Yang et al. (2004) suggested a five factor model. They propose that e-service quality has five dimensions i.e. responsiveness, reliability, competence, access and security. Jayawardhena (2004) measures the service quality in an e-banking context and suggested five dimensions of online banking service quality which comprise access, website interface, trust, attention and credibility.

Ibrahim, Joseph and Ibeh (2006) emphasized on the quality with all forms of electronic banking services and uncovered six dimensions including convenient/accurate operations, accessibility & reliability, good que management, service personalization, friendly and responsive customer service provision, and target customer service provision.

There are various scales that measured the E-service quality such as E-SERVQUAL, WebQual, SITEQUAL, eTailQ and many more. Zeithaml (2002), Gounaris and Dimitriadis (2003), Wolfinbarger and Gilly (2003), and Parasuraman (2004) have attempted to develop scales to measure service quality in E-banking. Yoo and Donthu (2001) developed SITEQUAL scale which includes ease of use, aesthetic design, processing speed and security. Parasuraman (2004) have developed scales for evaluating website quality, which are based on the features like website usability, informatively, design, technical characteristics, functionality and safety of use. Gounaris and Dimitriadis (2003) investigated and identify three dimensions which are customer care and risk reduction benefit, information benefit and interaction facilitation. Among these methods, the best-known methods are WEBQUAL (Loiacono, Watson, and Goodhue; 2002), e-SERVQUAL (Zeithaml et al. 2002, and Parasuraman et al. 2005), and e-TailQ (Wolfinbarger and Gilly, 2003)

In this study, WebQual is used to analyze the website quality of the banks. WebQual is considered appropriate for assessing user perceptions of the quality of e-commerce Web sites (Barnes & Vidgen, 2005). Under this model, the quality of the website is measured for the service quality, usability and the Information quality. Barnes and Vidgen (2002) propose the WebQual 4.0 instrument for assessing website quality. The instrument comprises of three dimensions, namely

a) Usability- associated with human-machine interface, site design and measures like ease of use, navigation and appearance.
b) Information Quality – deals with the quality of the website content and suitability of the information for the user's purposes.
c) Interaction quality – concerns with the features associated with reliability, trust and responsiveness. It included measures for issues in transaction and information security, product delivery, personalization and communication.

The standard WebQual 4.0 instrument contains 23 questions.

THE WEBQUAL 4.0 INSTRUMENT:

Category	WebQual 4.0 Questions
Usability	1. I find the site easy to learn to operate
	2. My interaction with the site is clear and understandable
	3. I find the site easy to navigate.
	4. I find the site easy to use.
	5. The site has an attractive appearance.
	6. The design is appropriate to the type of site.
	7. The site conveys a sense of competency.
	8. The site creates a positive experience for me.

Information Quality	9. Provides accurate information.
	10. Provides believable information.
	11. Provides timely information.
	12. Provides relevant information.
	13. Provides easy to understand information.
	14. Provides information at the right level of detail.
	15. Presents the information in an appropriate format.
Interaction Quality	16. Has a good reputation.
	17. It feels safe to complete transactions.
	18. My personal information feels secure.
	19. Creates a sense of personalization.
	20. Conveys a sense of community.
	21. Makes it easy to communicate with the organization.
	22. I feel confident that goods/services will be delivered as promised.
Overall Impression	23. Overall view of the Website.

Previous studies and Research Hypotheses:

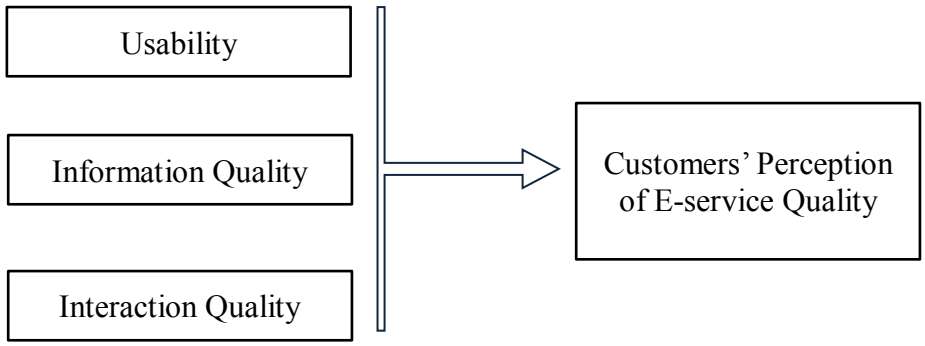
Reviewing E-service quality has become the major study object of various researchers. Although, many researchers have tried to define the domain of E-service quality and discover its dimensions (Loiacono et al. 2000, Jun and Cai 2001, Barnes and Vidgen 2001, Yoo and Donthu 2001, Wolfinbarger and Gilly 2003, Parasuraman et al. 2005, Gounaris et al. 2005). Collier and Bienstock (2006) discussed that online customers require information quality, ease of order and accuracy in the outcome of online transactions. Many authors have analyzed the quality of online banking services and found the issue of assurance and trust of great importance (Jun & Cai, 2001; Cox & Dale, 2001; Madu & Madu, 2002; Jun, Yang & Kim, 2004; Jayawardhena, 2004). According to Wolfinbarger and Gilly (2003), security/ privacy, reliability and fulfillments are the strong indicators of E-service quality. Yen and Lu (2008) revealed that efficiency, privacy, fulfillment, contact and responsiveness strongly influence the customers' satisfaction. Sahadev and Purani (2008) examined relationships between dimensions of E-service quality, customer satisfaction and loyalty. They found positive association between them. Also, they identified privacy, fulfillment, system availability and efficiency as the major dimensions of electronic service quality. Yang and Jun (2008) found that reliability, the most important dimension for transacting online as compared to access, ease of use, security and personalization. Sun et al. (2009) aimed to examine the associations between dimensions of E-service quality, customer satisfaction and their loyalty. Also, they identified privacy, fulfillment, system availability and efficiency as the strong dimensions. Kassim and Abdullah (2010) studied the associations between E-service quality dimensions and customer satisfaction and found positive effect of service quality dimensions on the satisfaction. Kesharwani and Tiwari (2011) attempted to assess internet banking website quality from customers' perspective, and identified that evaluation of websites represents the generic mechanism through which e-vendors can affect user's reuse intention of an internet banking website. Khalil Ahmed (2011) observed that there is a direct relation between customer satisfaction in online banking services and tangibles, reliability, responsiveness, and empathy. Also, the empathy is found to have the greatest influence on the customers' satisfaction, followed by reliability, and tangibles with no influence on the satisfaction. Zakuan et al. (2012) suggests six out of seven dimensions i.e. fulfillment, efficiency, system availability, privacy, contact, and responsiveness as the important elements. Shrivastava, Balasubramanian and Shrivastava (2012) in their study regarding user perceptions of web-site quality found the most important factors as trust, site design and usability in the order as stated. Ariff et al. (2013) identify the relationship between internet banking dimensions and its customer satisfaction, and concluded that all dimensions of the online service quality affect the satisfaction of customers in making the transactions. Also, they proved that security/ trust, site aesthetics and ease of use

significantly affected users' e-satisfaction. This showed that the security, appearance and proper functioning are the essential elements in order to satisfy the customer. And, customers with higher perceived value have higher degree of loyalty (Chang et al., 2009). Agarwal, Tripathi and Seth (2014) proposed a conceptual model for measuring E-service quality in Indian banking industry, which will help to improve the efficiency of E-service quality to achieve the satisfaction of users. They concluded E-service quality dimensions positively influences customer satisfaction. Based upon these findings, we assume that E-service quality dimensions directly influence customers' perception of E-service quality. Therefore, our research hypotheses are:

H1: There is a positive impact of Usability on customers' perception of E-service quality.
H2: There is a positive impact of Information Quality on customers' perception of E-service quality.
H3: There is a positive impact of Interaction Quality on customers' perception of E-service quality.

RESEARCH MODEL:

The picture below, presents the conceptual model that describes the relationship between E-service quality dimensions (i.e. Usability, Information Quality and Interaction Quality) and customers' perception of E-service quality. The conceptual model develops from WEBQUAL by Barnes & Vidgen (2001, 2002, 2003, 2005).



RESEARCH METHODOLOGY:

This section presents the research methodology used in the study. Areas covered include the sample used, research variables and statistical tools for data analysis & interpretation.

Sample:

The samples in this study comprised of internet banking customers of commercial banks in Rajasthan. Judgmental sampling method was adopted as customers who meet the criteria of having used internet banking for the past twelve months were selected in the survey. The researcher distributed 360 questionnaires and collected 226 filled questionnaires with a response rate of 62.7%. There were 119 (52.7 per cent) male and 107 (47.3 per cent) female. Only 1.33 per cent of respondents were less than 20 years old. Majority of the respondents were between 21-30 years old (68.14 per cent), followed by 22.57 per cent in 31-40 years old. There were fewer respondents (6.19 per cent) who lie in 41-50 years old category, and below two per cent in above 50 years old. Concerning Education, majority of the respondents (47.79 per cent) hold a Graduate degree, followed by 43.36 per cent holding Post Graduate degree and very few (4.87 per cent, 3.10 per cent and 0.88 per cent) hold a higher education degree, Doctorate and Up to 10th Standard respectively. The summary of the sample demographics are as follows:

Sample Demographics:

Variable		Frequency	%
Gender	Male	119	52.65
	Female	107	47.35
Age	Less than 20 years	3	1.33
	21-30 years old	154	68.14
	31-40 years old	51	22.57
	41-50 years old	14	6.19
	Above 50 years	4	1.77
Education	Up to 10th Standard	2	0.88
	Up to 12th Standard	11	4.87
	Graduate	108	47.79
	Post Graduate	98	43.36
	Doctorate	7	3.10
	Illiterate	0	0

Research variables and measurement:

The constructs in this study were selected from WebQual 4.0 instrument. All constructs were measured using five-point Likert scale with strongly disagree (=1) and strongly agree (=5). All the items were positively worded. The items are as follows:

1. ***Usability*:** is concerned with the pragmatics of how a user perceives and interacts with a Website: is it easy to navigate? Is the design appropriate to the type of site? (Barnes & Vidgen, 2002).
2. ***Information Quality*:** is concerned with the quality of the content of the site: the suitability of the information for the user's purposes. For instance, accuracy, format and relevancy.
3. ***Service Interaction*:** is the quality of the service interaction experienced by users as they delve deeper into the site, embodied by trust and empathy.

Regarding customers' perception of E-service quality, Overall impression was used to measure it.

FACTOR ANALYSIS:

A principal component factor analysis was used to validate the structure of E-service quality dimensions. Results of the factor analysis indicated the existence of three significant dimensions with eigenvalues greater than one. The 3-factor instrument accounts for 64.018% of the total variance.

FACTOR ANALYSIS OF THE E-SERVICE QUALITY VARIABLES:

Construct and item	Mean	Factor Loading	Reliability
Usability (U)	-	-	.909
U1	4.15	.701	
U2	4.15	.804	
U3	4.16	.750	
U4	4.17	.728	
U5	4.10	.845	
U6	4.13	.768	
U7	4.08	.745	
U8	4.17	.771	
Information Quality (INF)	-	-	.898
INF1	3.96	.770	
INF2	3.97	.780	
INF3	3.85	.664	

INF4	3.95	.798	
INF5	3.99	.743	
INF6	3.96	.731	
INF7	3.85	.894	
Interaction Quality (INT)	-	-	.907
INT1	4.40	.830	
INT2	4.34	.871	
INT3	4.36	.736	
INT4	4.31	.786	
INT5	4.31	.760	
INT6	4.38	.895	
INT7	4.25	.720	

Also, the respondents report that bank websites are better in terms of having good reputation, safe to complete, secure, personalized and easy to communicate. The respondents feel that the websites are low in providing timely & relevant information, and presenting the information in an appropriate format. However the overall view of the website was Satisfactory. The reliability of the variables is also above the acceptable level. As a thumb rule, the value of reliability test is adequate if it is above 0.7. In this study, all the values are above 0.898.

The Kaiser-Mayer-Olkin measure of sample adequacy and the Bartlett's Test of Spehericity was also found to be significant. The results of the KMO and Bartlett's Test are as follows:

KMO AND BARTLETT'S TEST:

Variables	Kaiser-Meyer-Olkin Values	Bartlett's Test of Sphericity	
		Approx. Chi-Square	Sig.
Usability (U)	0.897	1031.397	0.000
Information Quality (INF)	0.875	952.640	0.000
Interaction Quality (INT)	0.820	1132.343	0.000

CORRELATION ANALYSIS:

A correlation matrix was made using the variables in the questionnaire. The table shows the value of the correlation coefficient between the variables.

CORRELATIONS:

Variables		Usability	Information Quality	Interaction Quality
Usability	Pearson Correlation	1	.450**	.467**
	Sig. (2-tailed)		.000	.000
	N	226	226	226
Information Quality	Pearson Correlation	.450**	1	.417**
	Sig. (2-tailed)	.000		.000
	N	226	226	226
Interaction Quality	Pearson Correlation	.467**	.417**	1
	Sig. (2-tailed)	.000	.000	
	N	226	226	226

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

A value between 0.3 and 0.7 results in a predictable model with a good fit. Here, the highest coefficient of correlation is between Usability and Interaction Quality i.e. 0.467, which is below the moderate level. Similarly, the correlation between the other variables used in the study is 0.417 (between Information quality and Interaction quality) and 0.450 (Usability and Information Quality).The value shows a significant but moderate correlation. Hence, it is suitable for regression analysis.

DATA ANALYSIS:

The researcher used IBM SPSS statistics software (Version 20) to analyze the data. After conducting the preliminary tests, the multiple regression analysis was used to explain the significance of the independent variables over dependent variables.

Multiple Regression Analysis:

The independent variables i.e. Usability, Information Quality and Interaction Quality were next entered into regression with Overall impression as dependent variable.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	INT, INF, U[b]	.	Enter

a. Dependent Variable : OVERALL
b. All requested variables entered.
c.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.695	.691	.426

a. Predictors: (Constant), INT, INF,U

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91.673	3	30.558	168.483	.000[b]
	Residual	40.264	222	.181		
	Total	131.937	225			

a. Dependent Variable: OVERALL
b. Predictors: (Constant), INT, INF, U

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.691	.217		-3.187	.002
	U	.491	.052	.418	9.457	.000
	INF	.418	.046	.388	9.030	.000
	INT	.255	.047	.235	5.399	.000

a. Dependent Variable: OVERALL

The variables in the study are found to significantly explain the variance in the overall impression. The variance explained in the dependent variable by the WEBQUAL dimensions is 69.5 per cent, which is significant (F= 168.483, p=0.000). Therefore, all the three variables positively relates to the customer's perception of E-service quality. The model is significant as the independent variables explains 69.5% of the variance in the dependent variable, which means that a good amount of customers' perception can be influenced by managing the three independent variables i.e. Usability, Information Quality and

Interaction Quality. Using the Beta coefficients, it shows that Usability is the most important factor that influences the customer's perception, followed by Information Quality and Interaction Quality being least important, but it is also having an impact on customer's perception of E-service quality.

CONCLUSION:

This study focused on the E-service quality provided by bank's websites and had validated that the dimensions of E-service quality significantly affect the customers' perception. Customers' satisfaction depends on the quality of the website and it can be achieved by managing the usability, information quality and interaction quality. The bank's websites were tested using WebQual-4 and it was found that banks should provide timely and relevant information. Also, the banks should provide the information in such a way that they are secure and users will not hesitate in making transactions online. Usability and Information Quality are the most influential factors of customers' satisfaction. Therefore, the websites designers should keep in mind the basic needs of the customers, the areas for improvements, and should build the websites accordingly. In order to retain the customers, the banks must try to achieve a high level of E-service quality. As a result, customers will enjoy the benefits of the banking technology, and it would indirectly benefits the banks as well.

MANAGERIAL IMPLICATIONS:

The findings from this study will help the banks to have better understanding of the customer behavior and their needs or requirements from the bank's websites. It may be useful for the management to meet the customers' expectations by enhancing the quality of the E-services. The study identified three factors i.e. Usability, Information quality and Interaction quality and confirmed that these factors affect the customers' satisfaction. In order to provide a high level of E-service quality, banks should devote to all the factors but should focus more on Usability and Information Quality, which are most influential ones. Subsequently, it will lead to achieve competitive advantages in their respective target markets.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS:

The limitation arises from the factors used in the study. The researcher used WebQual 4.0 instrument and didn't identify other factors for the study. Since, the instrument is meant for examining the E-service quality and common for evaluating the E-service provided by banks. The researcher just used it as it is. It may be possible that there are other factors responsible for customers' satisfaction. Therefore, further research could identify additional factors in order to provide more understanding of the quality of the E-services provided by the banks.

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