

# “Development and Validated the Scale of e-Banking Services Quality in India.”

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## Abstract

The Propose of research Paper examines various dimensions of service quality of e banking for the existing consumers, The banks are trying to create or build an up, close and personal relationship and provide timely and trustworthy information to their customers in the e-banking era. A model and instrument frame work for measuring customer e services quality through e Banking. The study becomes relevant in assessing the quality-performance through e-Servqual scale and to examine whether the dimensions of the e-service quality have significant impact on the growth of the banking industry. Reduce the transaction processing cost, improve payment efficiency, introduce the innovative e-financial services and also to improve the banker-customer relationship. Research should be conducted to check the Development and Validity. This model Will help to developing and measuring the e Banking services quality in India.

**Key Words: Instruments, e-Banking Services, e-CRM, Factor Analysis.**

## Background of the Study:

With an ever-increasing trend of information technology over the years, internet is not purely evolving, but revolutionising our lives. In present epoch, product-oriented as well as service-oriented companies are employing the e-service quality instruments for attaining customer satisfaction leading to positive word-of-mouth, trust and loyalty (Anderson, R.E. and Srinivasan, S.S., 2003). Although numerous research instruments have been developed, yet e-servqual scale is one of the effective measurement tools, which are widely used to determine the quality standards in the e-marketing era. It has been observed that banks have been offering e-services to their customers by using e-CRM techniques including internet banking, mobile banking, tele-banking, home-banking, tab-banking, etc. (Mobarek, 2007). E-banking has become an improvement over brick and mortar (traditional) banking system, because it has to reduce the transaction processing cost, improve payment efficiency, introduce the innovative e-financial services and also to improve the banker-customer relationship (available at <http://shodhganga.inflibnet.ac>. retrieved as on 12 December, 2014).

**Research Gap:**

Online services are becoming the latest rage in our present day world. Both the seller and the buyer are getting passionate over online methodology. However, it must be remembered that quality is the most essential mania in any business transaction. Therefore, the seller particularly should take care to offer things of intrinsic quality to their buyers. Quality should in no way be allowed to fall a prey to the tech-savvy online transactions. Based on this requirement, a number of research questions have cropped up in the sphere of banking especially that how this branch of technology can enhance customer relation with their banks and how banks can sustain their growth and profitability with its help. Various scales have been developed that measure service quality of e-services in diverse e-Commerce industries. However, a few studies cover the quality measures of e-CRM tools and techniques in banks in India. Keeping in mind these issues, the rationale has been set in the present study. The objective has been to develop and validate e-service quality scale for gauging service quality measures of the e-CRM techniques in the Indian banking industry.

**Proposed Research Methodology:**

A Stratified sampling technique has been used for collecting the data from the selected bank customers. The sampled data has been organised from the two states i.e. Chandigarh representing Cosmopolitan city and Delhi NCT as representing Metropolitan city based on their total percent ranking of the internet users within the northern India. As per the census 2011, Chandigarh (18.8) has the highest percent of internet users followed by Delhi NCT (17.6). The sample selection of the banks has been selected based on a survey being conducted by the KPMG 2018 and which had been published in Business Today. Moreover, only large and mid-sized banks have been considered in this study. The large-sized and mid-sized category comprised of total 22 public sector and 12 private sector banks in the KPMG survey 2018. Hence approximately 50 percent proportion of the banks have been considered based on priority ranking in their respective categorisation, i.e. 10 of public sector banks and 6 of private sector banks.

The selection of measurement instrument has been made through review based on the previous studies. For designing the measurement instrument, e-S-Qual and e-ResS-Qual scaled items have been used that had been developed by Parasuraman, Zeithmal and Malhotra (2005). In addition, Internet Banking Service Quality and e-Qual scales have been adopted that had also been developed by Gupta and Bansal (2012) and Barnes and Vidgen (2006) respectively. In this research instrument, some modifications have been made, so that it becomes adaptable to the requirements of the Indian economy as well as the banking industry.

A total 545 questionnaires had been found to be usable yielding 91 percent response rate from the selected bank customers in India. The components of e-service quality scaled items have been measured on 7-point Likert scale for measuring the degree of the agreement to disagreement. The data has been analyzed with the help of Descriptive Statistics, Exploratory Factor Analysis and Structural Equation Modeling techniques.

## Findings:

In this study, the scale has been developed that measure the quality level of e-CRM tools and techniques using EFA and CFA techniques. On the basis of review, a research instrument had been framed by using an initial pool of 57 statements referring to constructs including: efficiency, system availability, fulfilment, privacy/security, responsiveness, contact, reliability, site-aesthetic/design, usability, information quality, trust and empathy. Next step had been to check the content validity or face validity through experts' opinion. Content validity is concerned with the degree to which a specific set of variables reflects a content domain (DeVillis, 1991). Further, it has been observed that content validity helps to ensure that the items used to operationalise the construct measure what they are supposed to measure (Churchill, 1979). Further, opinions and suggestions of two academicians from the marketing field and one academician from information technology have been taken in evaluating the e-Service Quality scaled items. Based on their suggestions and reviews, 22 repetitive items had been deleted and 35 items had been retained and reworded for improving the items' clarity and relevance. Next, in the pre-testing stage, 7 items have been eliminated due to their less loading value (Hair et al., 2009) and remaining 28 statements have been used for the final scale development.

## Development of e-Service Quality Scale

Data analysis has been divided into two sections. First, Exploratory Factor Analysis (EFA) technique has been performed and extracted 26-scaled items using Principal Component Analysis with Varimax Rotation Method. Secondly, Confirmatory Factor Analysis (CFA) Multivariate Technique has been used for confirming the factor structure of the e-service quality.

## Exploratory Factor Analysis

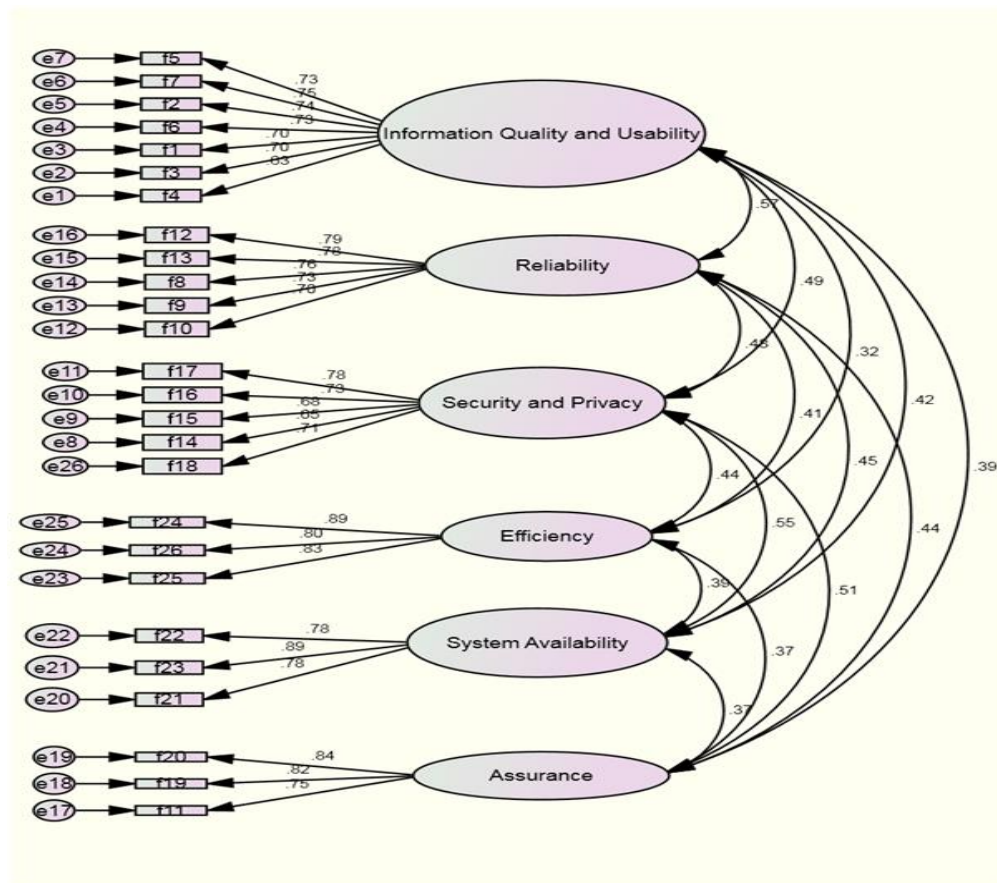
Principal Component Analysis has been applied to test the dimensionality of the scale in order to establish the factor patterns that are independent of one another. In this section, uni-dimensionality of the scale has been checked using EFA technique on 28 statements. The purpose of EFA is to reduce or summarise the number of variables in the measured scale by eliminating those that have no significant contribution (Hair et al., 2009).

Further, during Factor analysis, two items have been deleted due to their less factor loadings. After applying the deletion method, again EFA has been run on the final 26 statements. Kaiser-Meyer-Okin (KMO) Measure of Sampling Adequacy has been used for verifying the appropriateness of the data for factor analysis. It has been elucidated that the KMO value of 0.913 is above the standard limit that indicated that the sample is statistically significant in factor analysis (Hair et al., 2006) with Bartlett's test of Sphericity has also found to be significant. It is, therefore, indicated that the sample is adequate for further survey. On the other side, these items are explaining 67.255 percent of total variance. All the factors where Eigen value had been greater than 1 in the factor solution had been retained (Nunnally, 1967).

## Confirmatory Factor Analysis

After running Exploratory Factor analysis, CFA (Confirmatory Factor Analysis) technique has to be performed for confirming the e-service quality dimensions in this study. CFA technique has been used to check the hypothesis that a relationship between the observed variables and their underlying latent constructs is present. Further, testing is essential to validate the dimensionality of the present measurement instrument, i.e. e-service quality scale (Hair et al., 2009). The model's goodness-of-fit, reliability and validity of the scale are determined using a variety of indices that have been discussed.

**Figure 1: Conceptual Model of e-Service Quality**



## Model Fit

Model fit determines the degree to which the structural model fits the sample data. AMOS results provided a Chi square value ( $\chi^2$ ) of 432.764 with 284 degrees of freedom. The CMIN/DF ratio is 1.52, which is within the threshold of less than 5 that indicates an acceptable fit between the hypothetical model and the sample data (Carmines and McIver, 1981). The goodness-of-fit index (GFI) is 0.944 and adjusted goodness of index (AGFI) is 0.931.

The root mean square error of approximation (RMSEA) is 0.03, which falls within the cut off value of 0.06 (Hu and Bentler, 1999). The values for fit indices have been shown in Table 4 and they exceed the recommended level of 0.90 or acceptable value of greater than 0.80, suggesting that the hypothesized model represented an adequate fit to the data (Hair et al., 2009).

Discriminant Validity and Construct Validity were proved. Therefore, the findings have been revealed that confirmed that e-service quality measurement instrument can be significantly fit for gauging the service quality of the e-banking facilities.

Additionally, to check the cross-validity of the present measurement model, measurement invariance test has been conducted (Cieciuch J., 2014). This test has been used in order to know the e-service quality scale is invariant from one sample to another. It has been found that CFI has not been changed at all for both the cases (Byrne, 2009), which establish the robustness of the model across the two samples (Delhi and Chandigarh) in the present study. Thus, it has been proved that the present measurement model is invariant.

### **Test for Common Method Variance**

In the present study, two methodologies have been used to check the presence of Common Method Variance (CMV) using Harman-Single Factor test and Common Latent Factor. In the Harman-Single Factor test, in EFA all the e-service quality item to load onto one construct, explaining a variance of only 33.479 percent. Secondly, Common Latent Factor has been checked on the data set after confirming and validating measurement model. In figure 2, all the values of latent variables have been found to be insignificant (0.34). In addition, it has been found that all the values have been less than 2 while comparing the standardized regression weights of the model (figure 2) with the actual model of e-service quality without introducing CLF (Common Latent Factor). Thus, it has been proved that both the methods are pointing to a possible lack of Common Method Variance (CMV) in this measurement scale. In addition, it can also be said that both the methods (Harman-Single Factor test and Common Latent Factor), showing no biasness in the present measurement instrument (e-service quality scale).

The holistic nature of this research study has been to enhance understanding of the service quality measure for measuring the quality level of e-CRM tools and techniques among bank's users. Furthermore, information quality and usability, reliability, security and privacy, efficiency, system availability and assurance dimensions have been identified to measure the service quality of the e-banking facilities. These e-service quality dimensions act as guidelines for the bankers to understand that customers consider these aspects while using e-banking facilities. The present study determines that every customer wants effective and reliable information from the banks on their official websites. They expect that every bank should provide search facility on the bank's web page, web site should be friendly, site-aesthetic regularly updated and relevant information is available over there.

Therefore, to accomplish the wants and desires of the bank customers, the banks must follow and employ these services management strategies. Hence,, it has been interpreted that developing an e-Servqual scale is favorable for assessing the service quality level of e-CRM techniques to meet the bank customers' expectations in India. The present empirical study becomes relevant in assessing the quality-performance through e-Servqual scale and to examine whether the dimensions of the e-service quality have significant impact on the growth of the banking industry.

## Conclusion and Recommendations

In the fast growing economy, customers' expectations are continually rising day-by-day. The banks are trying to create or build an up, close and personal relationship and provide timely and trustworthy information to their customers in the e-banking era. Banks provide highly effective security measures to protect the customer's personal information in the e-environment. Although, banks are providing effective-cum-secure electronic services to their customers, yet sometimes error occurs due to the mismanagement and technical problems in the information technology. Therefore, e-commerce companies necessarily have to identify, understand and employ technology-oriented facilities within the organisations. Without the information technology and internet, even a single unit of business can't survive in the gimmick business world.

The bank managers should focus on providing outstanding electronic services at reasonable charges that turn into positive influence on customer's behavior. The delivery of the poor and ineffective services to the customers can result their switching from their existing bank to another bank and spread negative word-of-mouth leading to the complexities for their previous service provider. From the managerial point of view, the banks should focus to improve the dimensions of e-services quality for the betterment of banks and their customers. Finally, this research study has confirmed and validated the e-service quality scale for the banks in India, as electronic service quality measures help to enhance the electronic customer relationship management (e-CRM).

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