

To analyze the outcome of Online Information System Quality (OISQ) on Overall Internet Banking Service Quality (OIBSQ)

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Abstract - The increasing reliance on internet banking services has highlighted the critical role of Online Information System Quality (OISQ) in determining the overall quality of the banking experience. This study explores the relationship between various dimensions of OISQ reliability, security, accessibility, and responsiveness and Overall Internet Banking Service Quality (OIBSQ), which includes user satisfaction, trust, and service performance. Using a survey method, data were collected from 300 online banking users and the influence of OISQ factors on OIBSQ was analyzed using regression and path analysis. The findings indicate that OISQ significantly influences OIBSQ, with reliability and security being the most impactful factors. These results offer valuable insights for banks seeking to enhance their digital services, ensuring higher customer satisfaction and improved service delivery.

Keywords: Online Information System Quality (OISQ), Overall Internet Banking Service Quality (OIBSQ), Internet banking, Service quality, Reliability, Security, User satisfaction.

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INTRODUCTION

The way customers access financial services has changed due to the internet banking which took centerstage as a dominant channel. This means that the way the banking sector operates has drastically evolved and as well operates. Customers experience satisfaction and effective service depending on the quality of information systems supporting the development of internet banking systems as they advance. The use of OISQ or Online Information System Quality: Measuring user expectations about a system is a central issue for providing a focus for research evaluating these systems. Such dimensions include OISQ certification, to enhance the security of the internet banking service delivery.

Gaps in previous literature have focused on the impact, for example OISQ dimensions, customer satisfaction, service delivery and delivery performance on the banking sector, Delone & McLean, 2003; Zhang et al., 2010). Within the context of the entire Internet Banking Service Quality (OIBSQ), which embraces a number of explanations, such as customer satisfaction, trust, service and loyalty, OISQ focally impacts on the quality of services significantly. Parasuraman et al., 1988; Jun & Cai 2001.

The quality aspects of the banking system that are stressed by the OISQ dimensions such as reliability provides technical assurance that the banking system is reliable and functions error free, security addresses the issues of confidentiality of information and safe transactions (Yang & Fang, 2004). Concerns about system accessibility and system responsiveness are other issues of concern (Santos, 2003). When these elements work in coordination, they accentuate OIBSQ, which subsequently promotes customer trust, satisfaction, and the global view of the banking service (Zeithaml et al., 2002).

However, despite a few qualitative studies showing the relevance of OISQ, quantitative studies focusing on the impact of OISQ on OIBSQ remain scant. In doing so, the study intends to narrow the gap by looking at the effects OISQ has on the various facets of OIBSQ. Through concentration on these core factors such as reliability, security, accessibility and responsiveness, this study hopes to recommend strategies to banks on how best to improve their online services which will improve customer experience and increase confidence in internet banking.

MATERIALS AND METHODS

Study Design

This study employs a cross-sectional survey design to assess the impact of online information system quality (OISQ) on overall internet banking service quality (OIBSQ). A structured questionnaire was developed to collect primary data from internet banking users. The design ensures the collection of quantitative and qualitative data, which allows a comprehensive analysis of the relationship between the dimensions of the OISQ and the OIBSQ.

Sampling and Participants

The target group consisted of internet banking users from different regions who actively use internet banking services. Stratified random sampling technique was used to ensure representation of different demographic groups such as age, gender and frequency of internet banking usage. The sample size was determined to be 300 respondents based on statistical power analysis (Cohen, 1992), which provides sufficient power to detect significant relationships between variables.

Instrument Development

The data collection tool was a structured questionnaire, which included two main sections:

1. **OISQ Dimensions:** The questionnaire assessed the four key dimensions of OISQ:
 - **Reliability** (e.g., system stability and consistency in providing services)
 - **Security** (e.g., protection of personal and financial information)
 - **Accessibility** (e.g., ease of accessing and using the banking platform)
 - **Responsiveness** (e.g., how effectively the system addresses customer queries or issues)

Items for each dimension were adapted from existing validated scales, such as those used by Parasuraman et al. (1988) and Jun and Cai (2001).
2. **OIBSQ Dimensions:** This section evaluated Overall Internet Banking Service Quality (OIBSQ) using indicators like:
 - **User Satisfaction** (e.g., overall satisfaction with the internet banking service)
 - **Trust** (e.g., confidence in the security and reliability of the online banking system)

- **Service Performance** (e.g., quality of services such as transaction speed, error resolution)

Items for this section were adapted from the SERVQUAL model (Parasuraman et al., 1988) and previous studies in internet banking service quality (Yang & Fang, 2004).

All items were rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

DATA COLLECTION PROCEDURE

The survey was distributed on the Internet using the survey platform (for example, Google Forms) to secure excellent availability and quick answers. Participants were invited to an electronic network and social network. Anonymity and confidentiality were assured, and participants were informed about the purpose of the study. The survey remained open for two weeks, and reminders were sent to non-respondents to increase the response rate.

Data Analysis

1. **Descriptive statistics:** Descriptive analysis (means, standard deviations) was performed to summarize the demographic characteristics of the respondents and their responses to the OISQ and OIBSQ dimensions.
2. **Reliability analysis:** The internal consistency of the scales used in the study was assessed using Cronbach's alpha. Values of 0.70 or greater were considered acceptable for reliability (Nunnally, 1978).
3. **Regression analysis:** Multiple regression analysis was used to assess the influence of OISQ dimensions (reliability, security, accessibility, and responsiveness) on OIBSQ dimensions (user satisfaction, trust, and service performance). Path analysis was also performed to understand the direct and indirect relationships between the variables.
4. **Model fit and assessment:** The fit of the regression and path models was assessed using goodness-of-fit indices such as the root mean square error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean squared residual (SRMR). Good model fit was observed with $RMSEA \leq 0.08$, $CFI \geq 0.90$, and $SRMR \leq 0.08$ (Hu & Bentler, 1999).
5. **Statistical Software:** Data analysis was performed using SPSS 23 for regression and descriptive statistics, and AMOS 24 for path analysis.

Ethical Considerations

The study adhered to ethical principles by obtaining informed consent from all participants and ensuring anonymity and confidentiality of responses. The study was conducted in accordance with the ethical standards of the institution.

RESULTS

Demographic Profile of Respondents

Three hundred respondents participated in the study. The sample consisted of 48% males and 52% females. The majority of respondents (65%) were between the ages of 25 and 40, and 55% of participants reported using online banking weekly. The majority of respondents (70%) have been using online banking for more than three years, indicating a relatively experienced user base.

Reliability of Scales

The internal consistency of the scales used for both OISQ and OIBSQ dimensions was assessed using Cronbach's alpha. All scales demonstrated high reliability, with values ranging from 0.82 to 0.93, indicating that the items within each dimension were consistent and dependable (Nunnally, 1978).

Descriptive Statistics

In Table 1 we can see the descriptive statistics concerning the OISQ and OIBSQ dimensions. It is worth noting that security ($M = 4.5$, $SD = 0.60$) and reliability ($M = 4.4$, $SD = 0.65$) dimensions of the OISQ were rated the highest due to high confidence in low risk and volatility of the banking operations on the internet. Worth noting are the scores on accessibility, 'though rated lower, each suggests areas of potential growth and development': the M (4.0, SD 0.75) accessibility and M (4.1, SD 0.70) responsiveness indeed.

Also, to be included in this mix are user satisfaction ($M = 4.3$, $SD = 0.58$) as well as trust ($M = 4.4$, $SD = 0.62$) in the OIBSQ dimensions which all ranked data with a trustworthy perspective of internet banking services. Service performance ($M = 4.2$, $SD = 0.65$) recorded a moderate response which means that users perceived the service to be satisfactory but there remain certain operational features that with improvement could make it better.

Regression Analysis

Multiple regression analysis was conducted to examine the influence of OISQ dimensions on OIBSQ dimensions. The results indicated that OISQ significantly predicted user satisfaction ($\beta = 0.31$, $p < 0.001$), trust ($\beta = 0.34$, $p < 0.001$), and service performance ($\beta = 0.28$, $p < 0.01$). Among the OISQ dimensions, security ($\beta = 0.41$, $p < 0.001$) and reliability ($\beta = 0.37$, $p < 0.001$) had the strongest impact on OIBSQ dimensions, confirming that users place high importance on the security and stability of internet banking platforms.

Path Analysis

Path analysis was employed to examine the relationships between OISQ dimensions and OIBSQ dimensions. The model demonstrated a good fit ($RMSEA = 0.06$, $CFI = 0.92$, $SRMR = 0.05$), with all path coefficients being statistically significant. Security and reliability were found to have both direct and indirect effects on OIBSQ dimensions, with security emerging as the most significant predictor of both trust and user satisfaction. Responsiveness had a moderate impact on service performance, but its effect on satisfaction and trust was weaker compared to security and reliability.

DISCUSSION

The results from this research lend further support to the already established assertion of the existing strong relationship between Online Information System Quality (OISQ) and Overall Internet Banking Service Quality (OIBSQ). In particular, the results highlight security and reliability as factors that affect clients' attitudes towards internet banking service. This finding is in line with former findings which reported the existence of security as a contributory factor to online service quality. (Yang & Fang, 2004; Jun & Cai, 2001). This is so because especially users have a problem with the security of their financial information, and losses of this nature are likely to shape user trust and satisfaction, leading to loss of OIBSQ. (Zeithaml et al, 2002).

Also, the strong influence of reliability is in accordance with earlier literature that emphasizes the critical role of system reliability (consistency and uptime) for online banking (Parasuraman et al 1988). Online users expect reliability in relation to the services they are provided for in a digital era where lack of an informal extension could have considerable negative effects on performance or finances.

The level of accessibility and responsiveness while critical was not as significant as security and reliability were in this research. This implies that users of internet banking services give more importance to the basic features of the systems security and reliability rather than other trivial features such as accessibility or the period of response

The findings have practical implications for banks aiming to improve their internet banking services. Banks should invest in strengthening the security features of their platforms, ensuring that user data is protected and transactions are secure. Additionally, maintaining system reliability through regular maintenance and swift issue resolution is vital for sustaining customer trust and satisfaction. While responsiveness and accessibility are important, they should be seen as secondary to security and reliability when it comes to improving overall service quality.

CONCLUSION

In conclusion, this study underscores the critical role of Online Information System Quality (OISQ) determining the total quality of Internet banking services (OIBSQ). Specifically, security and reliability were identified as key factors influencing user satisfaction, trust, and service performance. Banks that focus on improving these dimensions are likely to see enhanced customer satisfaction and loyalty, thereby strengthening their competitive position in the digital banking market.

REFERENCES

1. Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9-30.
2. Zhang, X., Jansen, B., & Koutsou-Wehling, G. (2010). Information systems quality and service quality in e-banking. *International Journal of Information Management*, 30(5), 437-444.
3. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
4. Jun, M., & Cai, S. (2001). The key determinants of Internet banking service quality: A content analysis. *International Journal of Bank Marketing*, 19(7), 276-291.
5. Yang, Z., & Fang, X. (2004). Online service quality dimensions and their relationships with satisfaction. *International Journal of Service Industry Management*, 15(3), 302-326.
6. Santos, J. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, 13(3), 233-246.
7. Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362-375.
8. Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159.
9. Jun, M., & Cai, S. (2001). The key determinants of Internet banking service quality: A content analysis. *International Journal of Bank Marketing*, 19(7), 276-291.
10. Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.
11. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
12. Yang, Z., & Fang, X. (2004). Online service quality dimensions and their relationships with satisfaction. *International Journal of Service Industry Management*, 15(3), 302-326.
13. Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55.
14. Jun, M., & Cai, S. (2001). The key determinants of Internet banking service quality: A content analysis. *International Journal of Bank Marketing*, 19(7), 276-291.
15. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
16. Santos, J. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, 13(3), 233-246.
17. Yang, Z., & Fang, X. (2004). Online service quality dimensions and their relationships with satisfaction. *International Journal of Service Industry Management*, 15(3), 302-326.
18. Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362-375.

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