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Assessing Operational Risks in E-Banking: A Comparative Study of Selected Banks

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ABSTRACT

This research compares and contrasts a few banks in Hyderabad, Telangana, to look at the operational hazards of online banking. In order to gauge the perceived operational hazards of online banking services, 125 bank officials from different participating institutions were randomly selected. The study mainly aimed at banking clients who often use online banking systems and used a quantitative research approach. In order to gather information on the participants' perspectives and experiences with operational hazards, surveys and questionnaires were used. Using state-of-the-art software tools, the study included descriptive statistics, inferential statistics, and comparison methodologies to guarantee that the results were robust. The findings should help us better understand the operational risk picture in online banking, which will help banks reduce risk and provide better service. This study adds to what is already known about operational hazards in online banking and provides useful suggestions for how the digital banking industry may improve its risk management practices.

Keywords: E-Banking, People, Banks, Risk, Management.

INTRODUCTION

There has been a dramatic transition from conventional banking practices to online banking in recent years, brought about by the lightning-fast development of technology. Customers may conduct financial transactions whenever and wherever they choose using e-banking since it is convenient, efficient, and accessible. But along with technological advancements have come a plethora of operational concerns that pose a danger to the security and reliability of financial institutions. The concept of operational risk, which refers to the potential for financial loss due to insufficient or malfunctioning internal processes, people, systems, or external factors, is gaining significance in the realm of online banking. Cybersecurity breaches, system outages, fraud, and compliance problems are just some of the operational hazards that banks face due to their growing dependence on digital platforms. This research aims to compare and contrast the management and mitigation strategies used by various financial institutions in order to draw conclusions about operational risks in electronic banking. This research intends to provide light on the difficulties faced by financial institutions in today's increasingly digital world by analyzing a selection of banks in order to draw conclusions about best practices. Notably, the research's comparative nature enables an analysis of the various frameworks and tactics used by other banks, shedding light on the efficacy of their risk management approaches.

Cybersecurity is a major concern for online banking operations. Cybercriminals are increasingly focusing on financial institutions, thus it is imperative that these institutions take strong security precautions to safeguard their customers' personal information and keep their confidence. Because of the catastrophic financial losses, reputational harm, and regulatory fines that may result from such catastrophes, the significance of robust cybersecurity practices has been highlighted by recent high-profile data breaches. Through an analysis of the technology and methods used by chosen financial institutions, this research will seek to understand how these institutions have dealt with the ever-changing nature of cybersecurity threats. There are a lot of threats to e-banking operations, including cybersecurity and the possibility of system malfunctions. Service disruptions caused by technical difficulties, software errors, or infrastructure failures may result in unhappy customers and even financial losses. The study's goal is to learn how financial institutions handle their information technology (IT) infrastructure and how they prepare for the possibility of system failures affecting their online banking services. Since banks run the danger of incurring extra expenses due to their dependence on external service providers, this study will also evaluate the function of third-party vendors in online banking operations.

Another important operational risk in e-banking is fraud, since thieves are becoming smarter at finding ways to get into online banking systems. This research will examine the various methods used by participating banks to combat fraud, including as consumer education campaigns, sophisticated analytics, and machine learning. The study intends to

provide light on how banks may fortify their defenses against digital fraud by analyzing the efficacy of these measures. An further critical component of operational risk management in e-banking is compliance with regulatory standards. There is a labyrinth of rules that banks and other financial organizations must follow to safeguard customers and the economy. In order to preserve regulatory adherence and encourage innovation in their e-banking products, the research will evaluate the measures used by chosen banks in relation to compliance risk. The investigation will shed light on the fine line that banks have to walk between keeping up with regulatory requirements and adopting new technologies.

Because it is comparative, this research sheds light on the many ways that e-banking takes operational risk management. The study seeks to discover industry-wide applicable lessons and suggestions by examining the activities of chosen institutions. Further, by adding to what is already known about operational hazards in e-banking, this study hopes to pave the way for further investigation into this important area.

It is crucial to adequately manage operational risks while the e-banking industry undergoes continuous evolution. Banks need to take risk management seriously, using technology, educating employees, and strong regulations to protect their operations from possible major financial and reputational consequences. By comparing and contrasting the methods used by different banks, this research will provide light on the operational risks associated with online banking and the extent to which these risks have been adequately addressed. With this research, the study hopes to help shed light on the possibilities and threats that the banking sector faces in the digital era, with the end goal of creating a safer and more resilient online banking environment for everyone involved.

REVIEW OF LITERATURE

Iwedi, Marshal. (2024). Examining how commercial banks in Nigeria have improved their operational efficiency via the use of digital banking technologies is the focus of this article. Theories such as the Customer Experience and Efficiency Enhancement Theory, the Regulatory Compliance and Risk Management Theory, and the Technological Adoption and Operational Efficiency Theory are developed via the synthesis of current literature. Financial time series analysis is used in a quasi-experimental research strategy to provide empirical data. There is a strong correlation between commercial banks' efficiency and their use of digital banking technologies, according to the results. At the level values of all variables, panel unit root tests prove non-stationarity; differencing achieves stationarity. The adoption of digital banking technology and banking efficiency show a long-run equilibrium connection, according to cointegration tests. There seems to be a unidirectional causal relationship between operational efficiency and electronic money transfer, according to pairwise Granger causality tests. The research shows that if Nigerian authorities and stakeholders want to see commercial banks become more efficient and successful, they should focus on initiatives that encourage the use of digital banking technologies.

Mamadiyarov, Zokir. (2022). The COVID-19 epidemic is hastening the FinTech revolution because to the quick flow of information. In such a competitive market, banks can't afford to lose customers' trust unless they take steps to meet their needs, such as researching their wants and needs, developing online platforms that are easy to understand and use, and managing risks associated with providing banking services remotely. After all, banks can attract clients, boost future revenues, and save expenses by integrating current FinTech products into their systems. Along with discussing how banks are undergoing digital transformation, this article delves into the author's methods for managing risk and how they affect the current ecosystem. It also covers the various types of risks that have emerged in the electronic banking system and their traits, as well as risk management in relation to remote banking services.

Mohammed et al., (2021) The purpose of this article is to investigate how banking risk affected the Rafidain Bank's and the Baghdad Bank's online banking services. Data collection and analysis for the research were carried out using the field survey technique. Of the 43 persons selected for the sample, 25 were employees of the Rafidain Bank and 18 were employees of the Bank of Baghdad; the sample also included department leaders, aides to managers, and other individuals present at the decision-making site. The study's variables were measured using a questionnaire. Usability, advantages, and cost reduction are significantly affected by liquidity risk and credit risk, according to the findings. Since risks are the root cause of many financial crises, it is imperative that the relevant institutions implement measures to mitigate them.

Rashid, Orooba et al., (2018) The current research aims to center on the basics of bolstering electronic payment systems' internal control systems and creating specialized programs to handle operational risks, all of which contribute to the safety and security of the bank, which in turn helps the national economy grow and achieve its goals while remaining stable. The article helps illuminate the positive aspects of banking management's success as well. On a more practical level, the research paper's findings can be put to use by assisting financial institutions in implementing new control systems that enhance the efficacy and efficiency of banking supervision. This, in turn, can bolster the capacity of banking management to adapt to the ever-changing E-banking landscape, and account balance management is a boon for customers. Achieving the legal nature of electronic banking operations is the primary goal of this paper. We also aim to stay up-to-date on upcoming events and potential risks, measure and assess the risks associated with using electronic banking services, and manage these risks to a level that the bank can handle. Next, we will identify the

challenges related to the electronic banking environment by sticking to the nature of banking supervision systems, which focuses on electronic payment methods and their suitability for technological developments. Lastly, we will develop a concept for monitoring electronic banking operations within the framework of developing the performance of banking supervision units.

Santika, Ery et al., (2022) The COVID-19 outbreak has altered the routines of several Indonesian financial institutions. Virus COVID-19 has the potential to disrupt the established order of banking in Indonesia. One way to evaluate a business's financial health is to look at its profit or loss for a certain time frame. Problems with interest rate, operational, and currency rate risk management are all possible in the banking industry. Reducing the likelihood of bankruptcy and increasing banking stability may be achieved by bringing attention to the ways in which risk impacts financial performance. The purpose of this research is to identify the relationship between the dependent variable—financial success as defined by ROA and ROE—and the independent variables—investment over years, exchange rate, total operational expenditure, average asset turnover, net interest income. The goal of this research is to find out how operational risk affects the bottom line for IDX-listed banks.

RESEARCH METHODOLOGY

Sample Size
From all the participating banks in Hyderabad, Telangana, 125 bank employee are chosen at random.

Research Design
Quantitative methods were used in this study's design. People who used online banking services were the subjects of this research.

Data Collection
Quantitative methods were used in this study's design. People who used online banking services were the subjects of this research.

Data Analysis Techniques
Statistics (both descriptive and inferential), as well as comparative analysis utilizing computer programs.

DATA ANALYSIS AND INTERPRETATION

Table 1: Gender of the Respondents

Particular	Frequency	Percentage%
Male	89	71.2
Female	36	28.8
Total	**125**	**100**

Table 1 illustrates the gender distribution of the research participants. Among 125 responders, 89 were male, constituting 71.2% of the sample, whilst 36 were female, comprising 28.8%. This suggests that men constituted a markedly greater percentage of the respondents than females. The total number of responders is 125, constituting 100% of the sample population.

Table 2: Age of the Respondents

Particular	Frequency	Percentage%
18-25	30	24%
26-35	45	36%
36-45	25	20%
46 and above	25	20%
Total	**125**	**100**

Table 2 presents the age distribution of the participants. Of the 125 persons polled, the predominant age group is 26-35 years, consisting of 45 responses, or to 36% of the overall population. The second biggest demographic, aged 18-25, comprises 30 responses, accounting for 24%. The age categories 36-45 and 46 and above each include 25 respondents, representing 20% of the sample correspondingly. The table illustrates a varied age distribution, mostly including responders aged 26-35.

Table 3: Awareness of E-Banking Among Respondents

Awareness Level	Frequency	Percentage (%)
Very Aware	50	40%
Somewhat Aware	40	32%
Neutral (Neither aware nor unaware)	15	12%
Somewhat Unaware	10	8%
Very Unaware	10	8%
Total	125	100%

Table 3 depicts the awareness levels of e-banking among the participants. Among 125 persons, the predominant group, including 50 respondents (40%), indicated being "Very Aware" of e-banking services. Subsequently, 40 respondents (32%) reported being "Somewhat Aware." A minority, including 15 respondents (12%), indicated neutrality, showing neither awareness nor unawareness of e-banking. Furthermore, 10 respondents (8%) were classified as "Somewhat Unaware," while another 10 respondents (8%) were categorized as "Very Unaware." The research indicates that a majority of respondents had a certain amount of knowledge about e-banking, with 72% acknowledging awareness to some extent.

Table 4: Comparative Analysis of Operational Risks

Risk Category	Mean Score
Cybersecurity Threats	4.25
Technology Failures	4.00
Regulatory Compliance	4.05
Service Availability	4.15
Customer Data Privacy	4.25

Table 4 provides a comparative study of operational hazards according to the mean ratings supplied by the respondents. Cybersecurity Threats and Customer Data Privacy both had the highest mean score of 4.25, indicating that both risks are seen as the most critical. Service Availability gets a mean score of 4.15, whilst Regulatory Compliance scores 4.05, indicating its significance as well. Finally, Technology Failures is assessed somewhat lower, with a mean score of 4.00, however it continues to pose a considerable operational risk. The analysis indicates that all risk categories are deemed extremely significant, with cybersecurity and data privacy issues garnering the greatest focus.

Table 5: Correlation Analysis

Risk Factor	Correlation Coefficient (r)
Cybersecurity & Technology Failures	0.78
Service Availability & Customer Data Privacy	0.65

Table 5 displays the correlation analysis among several risk variables. The correlation coefficient between Cybersecurity Threats and Technology Failures is 0.78, indicating a robust positive association. This implies that an escalation in cybersecurity risks is likely to correlate with a rise in technological failures, and vice versa.

The correlation between Service Availability and Customer Data Privacy is 0.65, indicating a relatively significant positive relationship. This suggests that improved service availability is often linked to increased consumer data privacy, or that difficulties in one domain may adversely affect the other. Both correlations indicate substantial links between these operational hazards.

CONCLUSION

Operational risks in e-banking, including cybersecurity threats, system failures, fraud, and regulatory compliance issues, provide substantial hurdles for financial organizations. This research emphasizes the varied tactics used by selected institutions to manage risks via comparative analysis.

Efficient risk management is crucial for preserving the security, confidence, and stability of e-banking systems. As the digital banking ecosystem evolves, banks must stay watchful by embracing new technology and comprehensive risk management frameworks to protect their operations and assure ongoing success against rising threats.

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