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# AN EVALUATION OF EFFECTIVENESS OF E-BANKING SERVICES OF PRIVATE SECTOR BANKS IN CHENNAI CITY

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## Abstract

This study aims to evaluate the effectiveness of e-banking services provided by private sector banks. The research uses a mixed-method approach, combining qualitative and quantitative data collection methods. The study begins with a literature review of e-banking and its impact on the banking industry. Then, primary data is collected from customers of private sector banks in the form of a survey. The survey investigates the customers' perception of the usefulness and ease of use of e-banking services, as well as their satisfaction with these services. Additionally, interviews are conducted with bank officials to gather their perspective on e-banking services. The results of the study show that e-banking services have a positive impact on customers' perception of the usefulness and ease of use of banking services. However, there is a need for further improvement in the security features and reliability of e-banking services. Finally, the study concludes with suggestions for private sector banks to enhance their e-banking services and improve customer satisfaction.

**Keywords:** *e-loyalty, e-trust, e-convenience, e-satisfaction, website design, content*

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## Introduction

This research endeavours to evaluate the quality of electronic banking services provided by private sector banks in the Chennai metropolitan area. The survey examines how satisfied customers are with the ease, dependability, security, and privacy of online banking. The introduction of online banking has revolutionised the industry. Customers can now conduct banking transactions through mobile phone or computer from the convenience of their own homes, offices, or anywhere else. Nonetheless, issues with the reliability and safety of these offerings remain. The purpose of this research was to compare and contrast the quality of e-banking services provided by private sector banks in the city of Chennai based on a variety of criteria, including but not limited to website design, ease of use, transaction processing speed, security measures, customer support, and overall customer satisfaction. The study's secondary objective is to recommend ways to enhance the safety and quality of existing online banking services by pointing out their flaws and shortcomings. Overall, this assessment of e-banking services is necessary to guarantee that financial institutions deliver safe and reliable electronic banking services that keep up with clients' changing demands.

### What is Electronic Banking?

The term "electronic banking," which also goes by the names "e-banking" and "online banking," refers to a financial service that enables consumers to perform banking transactions via the internet or mobile electronic devices. By making banking easier, more accessible, and more efficient for customers, this service has completely transformed the conventional banking sector.

### Customer

A customer is any person or company with a bank account who want to do it electronically.

## Bank

The bank is the monetary establishment offering the internet banking service. The bank may use its own online banking platform or that of a third party to facilitate electronic transactions.

### Electronic Devices

Customers can access electronic banking services from a variety of electronic devices, including smartphones, tablets, laptops, and desktop PCs.

### Internet Connection

Electronic banking services can only be accessed by those who have access to the internet. Internet connectivity is provided via both hardwired and wireless means.

### Online Banking Platform

Customers can access their bank accounts and conduct financial transactions via a secure website or mobile app offered by the financial institution.

### Authentication

Before allowing access to the online banking platform, the authentication process ensures the consumer is who they say they are. User names, passwords, security questions, and even fingerprint scanning are all examples of biometric authentication systems that could be used.

### Banking Operations

After verification, consumers have access to a variety of banking services, including account balance inquiries, fund transfers, bill payments, loan applications, and credit card applications.

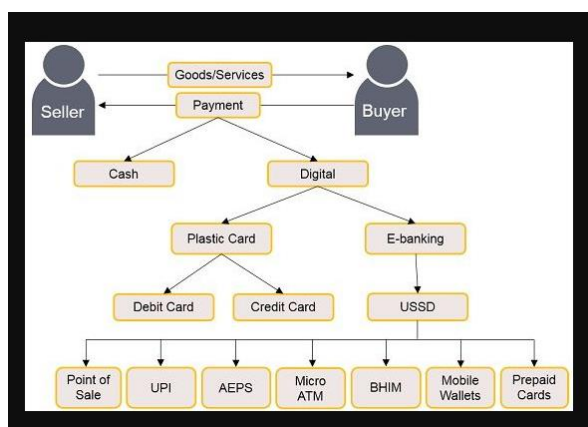
### Security

There are safeguards in place to keep account information private and stop hackers from getting in. Data encryption, firewalls, and two-factor authentication are all examples of such measures.

Overall, electronic banking has transformed the way people interact with their banks and manage their finances. It offers a secure and

convenient way to perform banking transactions from anywhere at any time.

### Types of Digital Payments



Source: <https://businessjargons.com/wp-content/uploads/2020/04/types-of-digital-payments1.jpg>

### Review of Literature

**Laxmi S. and Srinivas S.V. (2017):** "Factors Affecting Consumer Acceptance of E-banking Services in Private Sector Banks: A Research in India." The purpose of this study was to investigate the characteristics that influence customer acceptance of e-banking services in India's private sector banks. The authors utilised a survey method to obtain data from 350 private sector bank customers. According to the survey, the most important elements driving customer adoption of e-banking services are perceived utility, perceived simplicity of use, trust, and social impact.

**Dass M. and Pal S. (2018)** published "Customer Satisfaction with E-banking Services in Private Sector Banks in India": The purpose of this study was to assess customer satisfaction with e-banking services provided by private sector banks in India. The authors utilised a survey method to obtain data from 400 private sector bank customers. Customers were largely satisfied with the e-banking services provided by private sector banks, according to the report. Nonetheless, there were certain areas for improvement, such as

transaction processing speed and customer support availability.

**Razak N.A.A. and Alias N. (2018):** "An Empirical Research on the Use of E-banking Services among Clients of Private Sector Banks in Malaysia." The purpose of this study was to look into the factors that influence the use of e-banking services among Malaysian clients of private sector banks. The authors utilised a survey method to obtain data from 200 private sector bank customers. According to the study, perceived utility, perceived simplicity of use, and perceived risk were the most important factors driving e-banking service uptake.

**Kar S. and Roy S.K. (2018):** "Determinants of E-banking Service Quality: A Study of Private Sector Banks in India." The purpose of this study was to investigate the variables of the quality of e-banking services supplied by private sector banks in India. The authors utilised a survey method to obtain data from 500 private sector bank customers. According to the study, the key predictors of e-banking service quality were dependability, responsiveness, assurance, empathy, and tangibility.

**Kumar (2019).**"Factors Influencing the Adoption of E-Banking Services in Private Sector Banks in India". This study looked into the elements that influence the adoption of e-banking services in India's private sector banks. According to the findings, perceived usefulness, perceived ease of use, trust, perceived cost, and social influence all have a substantial impact on the uptake of e-banking services. According to the report, banks should focus on improving the usability and functionality of their e-banking platforms in order to improve user experience and boost adoption.

**Ahmad et al (2018)** Consumer satisfaction with e-banking services provided by Malaysian private sector banks". This study looked at customer satisfaction with e-

banking services provided by Malaysian private sector banks. According to the findings, security, convenience of use, dependability, and responsiveness all have a substantial impact on consumer satisfaction. To boost consumer satisfaction, banks should emphasise security measures and invest in upgrading the user interface of their e-banking platforms, according to the survey.

**Singh and Chakraborty's (2018)** "A study of consumer preferences for e-banking services in private sector banks in India". The purpose of this study was to assess customer preferences for e-banking services in India's private sector banks. Customers value ease of use, convenience, and security when selecting an e-banking platform, according to the findings. According to the report, in order to attract and keep clients, banks should provide personalised and convenient e-banking services.

**Sharma and Singh (2020)**. This study compared the e-banking services provided by India's private sector banks. According to the research, most banks provide similar services such as online fund transfers, bill payments, and account statements. To differentiate themselves from their competition, several banks offer additional services such as virtual credit cards and fast loans. According to the survey, banks should constantly innovate and offer new services to fulfil their consumers' changing needs.

**Venkatesh and Ganguly (2019)** investigated the elements that determine customer satisfaction with e-banking services in India. According to the study, one of the main elements influencing consumer happiness was website design. The ease of use, responsiveness, and visual attractiveness of a website were identified as significant elements influencing client happiness.

**J.D. Power (2020)** surveyed customers of private sector banks in India and found that

those who used e-banking services were more satisfied with their banking experience than those who didn't. The study also found that banks that provided a seamless and easy-to-use digital banking platform had higher customer satisfaction rates.

**S. Jahanzeb and M. Shafiq (2020)**: The Impact of Trust and Risk Perceptions on Online Banking Adoption: A Study of Private Sector Banks in Pakistan". This study examined the impact of trust and risk perceptions on the adoption of online banking services offered by private sector banks in Pakistan. The study found that trust positively influences customers' intention to adopt online banking services, while risk perceptions negatively affect this intention. The study also found that the perceived security and privacy of the online banking system, as well as the perceived reputation and reliability of the bank, are the most important factors affecting trust and risk perceptions.

**J. Suresh and S. Raja: (2019)** "The Impact of E-convenience on Customer Satisfaction in the Banking Sector: A Study of Private Sector Banks in India". This study examines the impact of e-convenience on customer satisfaction in private sector banks in India. The researchers found that e-convenience has a positive impact on customer satisfaction, which in turn leads to increased loyalty towards the bank.

A recent study discovered that private sector banks that invest in innovative e-banking technologies and platforms, such as mobile banking and digital wallets, are better positioned to compete in the fast expanding banking market with traditional banks and fintech firms. These technologies enable private sector banks to provide consumers with new and easy services while simultaneously lowering costs and boosting efficiency.

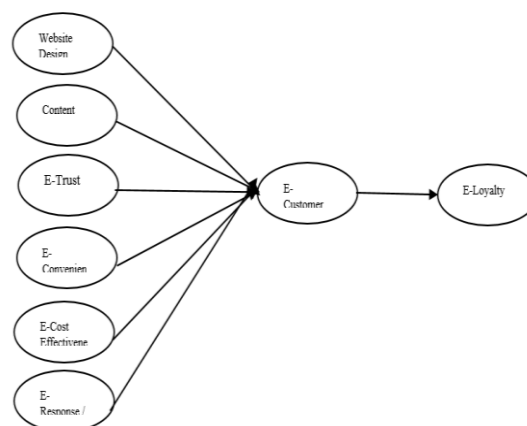
**A. Rehman's** "Effect of Electronic Customer Relationship Management on Customer Loyalty in the Banking Sector: A

Review of Literature" study review analysed the available literature on the impact of electronic customer relationship management (e-CRM) on customer loyalty in the banking industry. According to the review, e-response is an important component of e-CRM that can influence client loyalty by increasing customer satisfaction levels.

"A study on e-satisfaction of customers towards e-banking services offered by private sector banks in India" (2019), the authors aimed to assess the level of e-satisfaction among customers of private sector banks in India and identify the factors that influence it. The study used a sample of 300 e-banking customers from five private sector banks and collected data through a structured questionnaire. The results showed that perceived usefulness, perceived ease of use, perceived security, and perceived service quality significantly influenced e-satisfaction in e-banking services. The authors recommended that private sector banks should improve the usability and security of their e-banking services and provide high-quality customer service to increase customer satisfaction.

**M.S. Chandrashekara and R. Shashi Kumar (2019)**, titled "A Study on Factors Influencing E-Loyalty in Private Sector Banks." The researchers surveyed 400 customers of private sector banks in India to identify the factors that influence e-loyalty in e-banking services. The results showed that perceived usefulness, perceived ease of use, trust, and customer satisfaction significantly influence e-loyalty. The study suggests that private sector banks should focus on enhancing these factors to improve e-loyalty among their customers.

## Conceptual Model of the Study



## Research Gap

Although considerable research has been done on how customers utilise and adopt e-banking services, there is a knowledge gap regarding how users actually perceive the value of these services. Usability, dependability, security, and value for money are a few examples of these. Lack of comparative studies: Despite the fact that many private sector banks offer e-banking services, there are few studies that assess the effectiveness of these services across different organisations. Such research might help in finding both areas for advancement and excellent practises. Small and medium-sized businesses (SMEs) don't get enough attention: Although many private sector banks offer e-banking services to SMEs, it is unknown whether these services are effective in this particular market. Compared to SMEs, certain clients or larger organisations could have different needs and demands. E-banking services offered by private sector banks may be utilised to reach out to underserved populations and promote financial inclusion, but little research has been done on how they affect it. Sadly, there isn't enough data to show how effective these services are at achieving this objective. Lack of longitudinal studies: The majority of studies on e-banking services concentrate on immediate effects rather than evaluating their long-term value. The detection of patterns and changes in



customer behaviour and attitudes over time may be aided by longitudinal studies.

### Research Methodology

**Research Design:** The research design should be descriptive, where the study aims to describe the e-banking services offered by private sector banks. It can also be exploratory, where the study aims to explore the current trends and practices in e-banking services.

**Sampling:** The sample should be representative of the population of private sector banks in the Chennai city. A combination of random and purposive sampling methods can be used to select the banks that will be included in the study.

**Data Collection:** The data can be collected using both primary and secondary sources. To analyse the effectiveness of e-banking 2 banks HDFC and ICICI banks were selected in Chennai. Primary sources include surveys, questionnaires, interviews, and focus groups with bank customers and staff. Secondary sources include reports, articles, and publications on e-banking services.

**Data Analysis:** The data collected can be analyzed using statistical methods such as descriptive statistics, regression analysis, and factor analysis. The analysis can help identify the factors that influence the adoption of e-banking services by customers, as well as the factors that affect customer satisfaction with these services.

**Results and Conclusion:** The results of the study can be presented in the form of tables, graphs, and charts. The conclusion of the study should summarize the findings and provide recommendations for private sector banks to improve their e-banking services.

**Sample Size:** Based on the two e-banking pioneering banks, self-administered questionnaires were given to walk-in bank clients who were willing to participate over the course of four weeks. Each potential responder was informed of the study's objectives and required to sign an informed consent form before they could complete the questionnaire. There were 350 questionnaires distributed in all, however only 300 of them were returned by respondents.

Table 1 Sample Profile

Variable	Description	Frequency	Percentage
Gender	Male	210	70%
	Female	90	30%
Age Groups	20-30	150	50%
	31-40	97	32.33%
	41-50	7	2.33%
	51 and above	46	15.33%
Education	Secondary School	24	8%
	HSC	36	12%
	UG	108	36%
	PG	86	28.66%
E-Banking Use	No	36	12%
	Yes	264	88%
Type of E-Banking use	Personal Use	201	67%
	Business Use	9	3%

	Both	90	30%
Aspects of E-Banking	Point of Sale	1	0.33%
	Online Banking	2	0.66%
	ATM	58	19.33%
	Mobile Banking	3	1%
	ATM and Mobile Banking	152	50.66%
	Online Banking and Point of sale	85	28.33%
E-Banking tools	Mobile Phone	109	36.33%
	Tablet	3	1%
	Laptop or Computer	101	33.66%
	Bank Machine	35	11.66%
	Mobile Phone and Tablet	12	4%
	Mobile Phone and Computer	32	10.66%
	All of the above	8	2.66%

The gender breakdown of the sample was 70% male and 30% female. In line with national census data showing that 50 percent of the working age population is under the age of 30, and that 43 percent of the economically active are in that age range, the vast majority of respondents were between the ages of 20 and 30. Eighty-six percent of respondents had earned a PG degree from an accredited university or college. It's no surprise that 87% of the

sample group made use of online banking. Due to the necessity of internet access for several services, including internet and online banking, a higher level of education is correlated with greater likelihood of e-banking use. Among the 87.4% of respondents who said they used some form of E-banking, the vast majority (36.33%) said they made use of mobile banking, while the least used were POS services and online banking.

**Table 2 Factor Analysis**

Item	1	2	3	4	5	6	7	8
WD_1	0.823							
WD_2	0.886							
WD_3	0.734							
CO_1		0.769						
CO_2		0.869						
CO_3		0.623						
E-Tr_1			0.854					
E-Tr_2			0.623					
E-Tr_3			0.839					
E-Tr_4			0.754					

E-Tr_5			0.786						
E-Tr_6			0.672						
E-Con_1				0.782					
E-Con_2				0.645					
E-Con_3				0.623					
ECE_1					0.723				
ECE_2					0.716				
ECE_3					0.754				
ER_1						0.734			
ECS_1							0.743		
ECS_2							0.756		
ECS_3							0.723		
EL_1									0.823
EL_2									0.878
EL_3									0.872
Eigen Value 17.342 16.342 14.776 12.378 10.230 6.420									
Variance Explained (66.723%) 8.721 2.0792 1.876 1.984 1.025 1.022									
Cronbach Alpha 0.872 0.863 0.856 0.829 0.878 0.892									

Eigen values above 1 and all Cronbach's Alpha values above the minimum threshold of 0.70. Parametric multivariate approaches work best with data that has a normal distribution, which minimises the

possibility of producing inaccurate or misleading conclusions. Both skewness and kurtosis in this investigation fell between the +1 and -1 ranges often used in psychometric exams.

**Table 3 Mean, Standard Deviation and Correlation Matrix**

	Variable	Mean	SD	1	2	3	4	5	6	7	8
1	EL	3.435	1.452	-							
2	ECS	4.187	0.842	0.458**	-						
3	WD	4.998	0.765	0.387**	0.582**	-					
4	E-Tru	0.562	0.482	-0.017	0.178**	0.054	-				
5	Gender	0.451	0.498	0.127**	0.117	0.012	0.022**	-			
6	Education	0.452	0.501	0.067	-0.017	-0.016	-0.056	0.023**	-		
7	Age	0.542	0.864	0.382**	0.565**	0.012**	-0.026	-0.017	0.023**	-	
8	WD	4.390	0.789	0.432**	0.381**	0.056**	-0.027	0.011	-0.042	0.566**	-
9	Cont	3.740	0.767	0.339**	0.554**	0.402**	0.071	0.002	0.009	0.392**	0.485**

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

The relationships between variables were analysed using Pearson's correlation coefficient to determine their direction and strength. Table 3 presents the correlations, mean and standard deviations among the dependent variables (e-satisfaction and e-loyalty), independent variables (Website

design, content, e-trust, e-convenience, e-cost effectiveness, e-response and support) and control variables (age, gender and level of education) The results shows in table 3 relatively low inter correlations among variables (all of them below 0.80). This entails that multicollinearity is not a



problem. Firstly, for control variables, with very small effect sizes, only gender and level of education are significantly associated with e-satisfaction and e-loyalty respectively; age is insignificant.

Secondly table 3 indicates that effectiveness of e-banking toward e-banking services is positively significantly associated (all sig.  $\leq 0.01$ ) with each independent variable, namely WD ( $R = 0.582$ ) E-Tru ( $R = 0.178$ ) and CON ( $R = 0.402$ ). The effect sizes are generally large based on Cohen's criteria i.e. small = 0.10 to 0.29, medium 0.30 to 0.49 and large = 0.50 to 1.00. Thirdly, the significant positive correlations indicate that the higher the level of favourable attitude toward effectiveness of e-banking, the more likely that bank customers will intend to use e-banking services ( $R = 0.582$ ,  $p < 0.001$ , with a large effect size). Similarly, the higher the favourable attitude to effectiveness of e-banking, the more likely that the bank customers will actually adopt use of e-banking services ( $R = 0.387$ ,  $p < 0.001$ , with a medium size effect). Lastly, the higher the level of satisfaction, the higher the likelihood of e-loyalty of e-banking ( $R = 0.458$ ,  $p < 0.01$ ,  $R^2 = 0.206$ , with a medium effect size).

### Conclusion and Future Research Directions

The future of academic inquiry into the pros and cons of digital banking, including cybercrime, fraud, and data breaches, could centre on the effects of e-banking services on consumer happiness, loyalty, and retention. To further ensure the security of e-banking services and advance financial inclusion, research could also look into the function of regulatory frameworks. Finally, study might also investigate the possible consequences for the banking industry and customers of upcoming developments in digital banking, such as artificial intelligence, block chain technology, and open banking. It has been determined that client satisfaction is higher at private banks than at public ones. There is a pressing need

in our country to upgrade and personalise customer service. The willingness of the public to use online banking should be a concern for public sector financial institutions. Many earlier studies have underlined the significance of security and privacy for the acceptability of internet banking, and shown that individuals have a weak grasp of internet banking, while being aware of the risk. Customers are more hesitant to adopt low-risk innovations, as evidenced by the present study. Thus, financial institutions should build their website with customer safety and confidence in mind. Speed of transactions, security, convenience of use, availability, customer assistance, and adoption rates are only few of the metrics by which online banking services can be evaluated. Although certain private sector banks may do better than others in particular places, e-banking services have allowed banks to expand their clientele beyond their physical sites, cut expenses, and improve accessibility. In conclusion, the quality of the private sector banks' digital infrastructure and its capacity to match client expectations are crucial to the success of their e-banking services. To keep up with the rapidly developing online banking industry, private sector banks must consistently enhance their e-banking offerings.

### References:

1. Athique, A., Parthasarathi, V., & Srinivas, S. V. (Eds.). (2018). *the indian media economy* (Vol. 2). New Delhi: Oxford University Press.
2. Pal, S. (2022). *Customer relationship management in banking sector*. Ashok Yakkaldevi.
3. Azrioual, S., & Brundel, C. (2018). The Acceptance of Mobile Banking by Organizations: An exploratory study on mobile banking and factors influencing its acceptance by organizations.

4. Azrioual, S., & Brundel, C. (2018). The Acceptance of Mobile Banking by Organizations: An exploratory study on mobile banking and factors influencing its acceptance by organizations.
5. Roy, P., & Shaw, K. (2022). A fuzzy MCDM decision-making model for m-banking evaluations: comparing several m-banking applications. *Journal of Ambient Intelligence and Humanized Computing*, 1-23.
6. Rao, K., & Kumar, K. A. (2019). Digitalization impact on banking operational profitability with reference to public and private sector banks. *International Journal of Management, IT and Engineering*, 9(1), 252-265.
7. Ahmed, M. S., & Sajid, S. A. (2019). Technology impact on e-banking towards customer satisfaction in public & private sectors bank [with special reference to Vellore district of Tamil Nadu-India]. *International Journal of Scientific and Technology Research*, 8(12), 255-259.
8. Singh, N., Chakraborty, A., Biswas, S. B., & Majumdar, M. (2020). Impact of social media in banking sector under triangular neutrosophic arena using MCGDM technique. *Neutrosophic sets and systems*, 35, 153-176.
9. Sharma, J., Singh, J., & Singh, A. (2020). Impact of e-banking service quality on customer satisfaction. *Int. J. Recent Technol. Eng*, 8(5), 2296-2300.
10. Rosillo-Díaz, E., Blanco-Encomienda, F. J., & Crespo-Almendros, E. (2020). A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms. *Journal of Enterprise Information Management*, 33(1), 139-160.
11. Rawwash, H., Masad, F., Enaizan, O., Eneizan, B., Adaileh, M., Saleh, A., & Almestarihi, R. (2020). Factors affecting Jordanian electronic banking services. *Management Science Letters*, 10(4), 915-922.
12. Xia, W., Neware, R., Kumar, S. D., Karras, D. A., & Rizwan, A. (2022). An optimization technique for intrusion detection of industrial control network vulnerabilities based on BP neural network. *International Journal of System Assurance Engineering and Management*, 13(Suppl 1), 576-582.
13. Regin, R., Rajest, S. S., & Shynu, T. (2022). Impact of Internet Banking on the Efficiency of Traditional Banks. *Central Asian Journal of Innovations on Tourism Management and Finance*, 3(11), 85-102.
14. Lam, A. Y., Cheung, R., & Lau, M. M. (2013). The influence of internet-based customer relationship management on customer loyalty. *Contemporary management research*, 9(4).
15. Haq, I. U., & Awan, T. M. (2020). Impact of e-banking service quality on e-loyalty in pandemic times through interplay of e-satisfaction. *Vilakshan-XIMB Journal of Management*, 17(1/2), 39-55.
16. Venugopal, K. R., Srikantaiah, K. C., & Nimbhorkar, S. S. (2020). *Web Recommendations Systems*. Heidelberg: Springer.