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Comparative Analysis of E-Banking Awareness and Customer Satisfaction Between SBI and ICICI Bank Customers in Sangareddy District, Telangana

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ABSTRACT:
The rapid growth of digital technology has transformed the banking sector from traditional branch-based services to electronic banking platforms. E-banking services such as internet banking, mobile banking, ATM services, UPI, NEFT/RTGS, electronic bill payment, and online fund transfer have improved the speed, convenience, accessibility, and efficiency of banking services. However, the level of awareness, usage, and satisfaction differs across banking institutions and customer groups, especially in semi-urban regions.
The present study examines the e-banking practices of **ICICI Bank and State Bank of India** with special reference to **Sangareddy district, Telangana**. The study focuses on customer awareness, satisfaction, usage patterns, demographic influences, and the comparative effectiveness of e-banking services between a private sector bank and a public sector bank. The research is based on primary data collected from **500 respondents**, equally representing SBI and ICICI Bank customers. A structured questionnaire was used to collect responses related to demographic profile, awareness of e-banking services, frequency of usage, satisfaction level, digital trust, and cybersecurity awareness.
The collected data was analyzed using **SPSS software**. Descriptive statistics, normality tests, Mann-Whitney U test, Kruskal-Wallis test, Chi-square test, correlation analysis, regression analysis, and Cronbach's Alpha reliability test were used for analysis. The findings indicate that ICICI Bank customers show higher levels of e-banking awareness and customer satisfaction compared to SBI customers. ICICI performs better in digital convenience, mobile app performance, fee clarity, service speed, and customer recommendation. SBI customers show stronger institutional trust and accessibility but face limitations in app responsiveness and advanced digital service adoption.
The study concludes that improving customer awareness is essential for increasing satisfaction with e-banking services. The findings suggest that SBI should focus on app optimization, digital literacy, fee transparency, and rural customer support, while ICICI should expand its inclusive reach in semi-urban and rural customer segments.

KEYWORDS:
E-Banking; Customer Awareness; Customer Satisfaction; Digital Banking; SBI; ICICI Bank; Sangareddy District; Public and Private Sector Banks; E-Banking Usage; Digital Financial Services.

1. Introduction and Literature Survey

The banking sector in India has undergone a significant transformation due to the rapid expansion of digital technology, internet connectivity, mobile applications, and electronic payment systems. Traditional banking, which was mainly dependent on physical branches, manual documentation, and face-to-face customer interaction, has gradually shifted toward technology-enabled service delivery. Electronic banking, commonly known as e-banking, has become an essential part of modern banking operations because it allows customers to access banking services through digital channels such as internet banking, mobile banking, ATM services, UPI, NEFT/RTGS, electronic bill payments, and online fund transfers. This transformation has improved the speed, convenience, accessibility, and efficiency of banking services.

In India, the growth of e-banking has been supported by several developments such as banking sector reforms, the expansion of internet services, smartphone usage, Digital India initiatives, Jan Dhan Yojana, Aadhaar-linked banking, and the Unified Payments Interface. These developments have encouraged customers to move from branch-based banking to digital banking services. However, the adoption of e-banking is not uniform across all regions and customer groups. Customer awareness, digital literacy, income, education, occupation, internet access, trust, and security perception influence the adoption and satisfaction of e-banking services. These factors are especially important in semi-urban and rural regions where digital banking facilities are available, but effective usage may still be limited.

The present study focuses on the e-banking practices of ICICI Bank and State Bank of India with special reference to Sangareddy district, Telangana. Sangareddy is a semi-urban district with both urban and rural characteristics. It includes customers from different social and economic backgrounds such as students, salaried employees, business persons, professionals, self-employed individuals, farmers, and low-income groups. Therefore, Sangareddy provides a suitable setting for understanding how customers use and perceive e-banking services in a developing district context.

State Bank of India represents the public sector banking model, known for its wide branch network, institutional trust, rural outreach, government-linked services, and financial inclusion activities. ICICI Bank represents the private sector banking model, known for digital innovation, mobile banking convenience, app-based services, quicker technology adoption, and customer-oriented digital platforms. Although both banks provide e-banking services, their service delivery models and customer experiences differ. Therefore, a comparative study of SBI and ICICI Bank helps in understanding how public and private sector banks perform in terms of customer awareness, satisfaction, usage behavior, digital trust, and service effectiveness.

The present study is based on primary data collected from 500 respondents, equally representing SBI and ICICI Bank customers. The study examines customer awareness of e-banking services, frequency of usage, satisfaction with service quality, cybersecurity awareness, and demographic influences on e-banking adoption. The study also analyzes whether customer awareness has an impact on customer satisfaction. This focus is important because awareness is the first step toward digital banking adoption, while satisfaction determines continued usage, trust, and recommendation.

Several earlier studies have examined e-banking adoption and customer satisfaction. The Technology Acceptance Model explains that customers are more likely to adopt digital banking when they perceive it as useful and easy to use [1]. Similarly, the Unified Theory of Acceptance and Use of Technology explains that performance expectancy, effort expectancy, social influence, and facilitating conditions affect technology acceptance [2]. These models are highly relevant to e-banking because customers adopt digital banking services only when they believe that the services are convenient, reliable, secure, and easy to operate.

Research on internet banking adoption in India has shown that perceived usefulness, perceived ease of use, trust, and security are major factors influencing customer acceptance of digital banking services [3]. Studies have also observed that customers hesitate to use e-banking when they fear online fraud, transaction failure, privacy risks, or difficulty in using digital interfaces [4]. Therefore, customer confidence and digital literacy are essential for the successful adoption of e-banking services.

Customer awareness plays a major role in e-banking adoption. Awareness includes knowledge of services such as mobile banking, internet banking, UPI, ATM services, NEFT/RTGS, OTP authentication, online bill payment, transaction history download, and online loan applications. Studies on rural and semi-urban banking users show that customers may be aware of basic services such as ATMs and balance enquiry but may have limited awareness of advanced digital services [5]. This gap is important because customers cannot effectively use services that they do not understand.

Therefore, awareness-building programmes are necessary, particularly in semi-urban and rural districts.

Digital literacy is another important factor in e-banking usage. Digital literacy refers to the ability of customers to use mobile phones, banking applications, internet portals, passwords, OTPs, and security features confidently. A customer may know that mobile banking exists but may still avoid using it due to fear, confusion, or lack of operational skill. Studies have shown that younger, educated, and urban customers are more likely to use digital banking services compared to elderly, less-educated, and rural customers [6]. This indicates that demographic variables influence digital banking adoption.

Customer satisfaction is a central factor in the success of e-banking services. Satisfaction depends on service speed, ease of use, reliability, security, privacy, responsiveness, transaction success, fee clarity, and customer support. Studies on e-banking service quality have found that customers are satisfied when digital banking platforms are easy to operate, transactions are completed quickly, and security systems are reliable [7]. On the other hand, dissatisfaction occurs when customers face app errors, OTP delays, failed transactions, unclear charges, or poor grievance redressal.

Comparative studies between public and private sector banks show that private sector banks often perform better in digital innovation, app interface, speed, and customer service responsiveness, while public sector banks perform better in trust, reach, and government-linked services [8]. ICICI Bank is often associated with early adoption of internet banking, advanced mobile banking, and customer-focused digital features. SBI, on the other hand, has a wider customer base, strong rural presence, and high institutional trust, but may face challenges related to app performance, service responsiveness, and customer awareness of advanced digital services.

The literature also highlights the importance of cybersecurity awareness in e-banking. Customers must understand safe banking practices such as not sharing OTPs, avoiding phishing links, using secure passwords, identifying fake messages, and verifying official banking websites. Lack of cybersecurity awareness can reduce trust in digital banking and discourage customers from using online services [9]. Therefore, cybersecurity education is an important requirement for increasing both adoption and satisfaction.

Previous studies have also shown that awareness and satisfaction are closely related. Customers who are more aware of available e-banking services are more likely to use them confidently and experience higher satisfaction. Awareness improves the ability of customers to navigate banking apps, complete transactions, use security features, and resolve basic service issues. Therefore, awareness can be considered an important predictor of customer satisfaction [10].

Although many studies have examined e-banking adoption in India, most of them focus on national-level trends, metropolitan cities, or general customer behavior. There is limited research on district-level comparative analysis between specific public and private sector banks. Sangareddy district, with its mixed urban-rural profile, provides a useful context for such a study. The present research addresses this gap by comparing SBI and ICICI Bank customers in the same geographical region and by examining their awareness, satisfaction, usage patterns, demographic influence, and trust in e-banking services.

Thus, the literature indicates that e-banking adoption is influenced by customer awareness, digital literacy, perceived usefulness, ease of use, trust, security, service quality, and demographic background. The present study builds on these themes and applies them to the comparison of SBI and ICICI Bank in Sangareddy district. The study contributes to understanding how public and private sector banks differ in their digital service performance and how customer awareness influences satisfaction with e-banking services.

Research Methodology

The present study adopts a quantitative, descriptive, and comparative research methodology to examine the e-banking practices of State Bank of India and ICICI Bank customers in Sangareddy district, Telangana. The methodology is designed to study customer awareness, usage pattern, satisfaction level, demographic influence, digital trust, and the overall effectiveness of e-banking services provided by both banks.

The study is descriptive in nature because it explains the demographic profile, e-banking usage pattern, awareness level, and satisfaction level of the respondents. It is comparative because it compares the e-banking practices of SBI, a public sector bank, and ICICI Bank, a private sector bank, within the same geographical area. It is quantitative because the data collected through a structured questionnaire is analyzed using statistical tools.

The population of the study consists of customers of SBI and ICICI Bank who are using e-banking services in Sangareddy district. The respondents include customers using services such as ATM, mobile banking, internet banking, UPI, fund transfer, online bill payment, and other digital banking services. The study includes both urban and rural customers from the district.

The sample size of the study is 500 respondents. Equal representation was given to both banks, with 250 respondents from SBI and 250 respondents from ICICI Bank. This balanced sample helps in making a fair comparison between the two banks. The respondents were selected using purposive sampling. The respondents were selected based on the condition that they should be account holders of either SBI or ICICI Bank and should have used at least one form of e-banking service.

Primary data was collected through a structured questionnaire. The questionnaire included questions related to demographic profile, type of bank, type of account, most frequently used e-banking service, frequency of usage, awareness of e-banking services, satisfaction with e-banking services, digital trust, and cybersecurity awareness. The questionnaire was designed to collect information from customers regarding their actual experience with e-banking services.

Secondary data was used to support the conceptual and theoretical background of the study. Secondary sources included banking reports, RBI-related information, digital banking literature, previous research studies, bank publications, and related academic material on e-banking, customer satisfaction, public sector banks, and private sector banks.

The collected data was analyzed using IBM SPSS software. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the demographic profile and the major variables of the study. Normality tests were conducted using Kolmogorov–Smirnov and Shapiro–Wilk tests to examine whether the awareness and satisfaction scores were normally distributed.

Since the normality test results showed that the awareness and satisfaction data were not normally distributed, non-parametric tests were used for group-wise comparison. The Mann–Whitney U test was used to compare two groups, particularly SBI and ICICI Bank customers. The Kruskal–Wallis test was used to compare more than two groups such as age groups, education groups, occupation groups, income groups, usage frequency groups, and monthly savings groups.

The Chi-square test was used to examine the association between demographic variables and e-banking usage. Correlation analysis was used to examine the relationship between e-banking awareness and customer satisfaction. Regression analysis was used to determine the influence of awareness on customer satisfaction. Cronbach's Alpha reliability test was used to examine the internal consistency of the questionnaire items.

The major variables of the study include demographic variables such as age, gender, education, occupation, income, marital status, and residential area. The study also includes banking-related variables such as bank type, type of account, purpose of account opening, most frequently used e-banking service, and frequency of usage. The main study variables are e-banking awareness and customer satisfaction.

Ethical care was followed during data collection. Participation was voluntary, and respondents were informed about the academic purpose of the study. No personal banking information such as account number, PIN, password, Aadhaar number, PAN number, or mobile number was collected. The responses were used only for academic analysis, and confidentiality was maintained.

Thus, the methodology provides a systematic framework for analyzing and comparing e-banking awareness, satisfaction, usage behavior, and effectiveness between SBI and ICICI Bank customers in Sangareddy district.

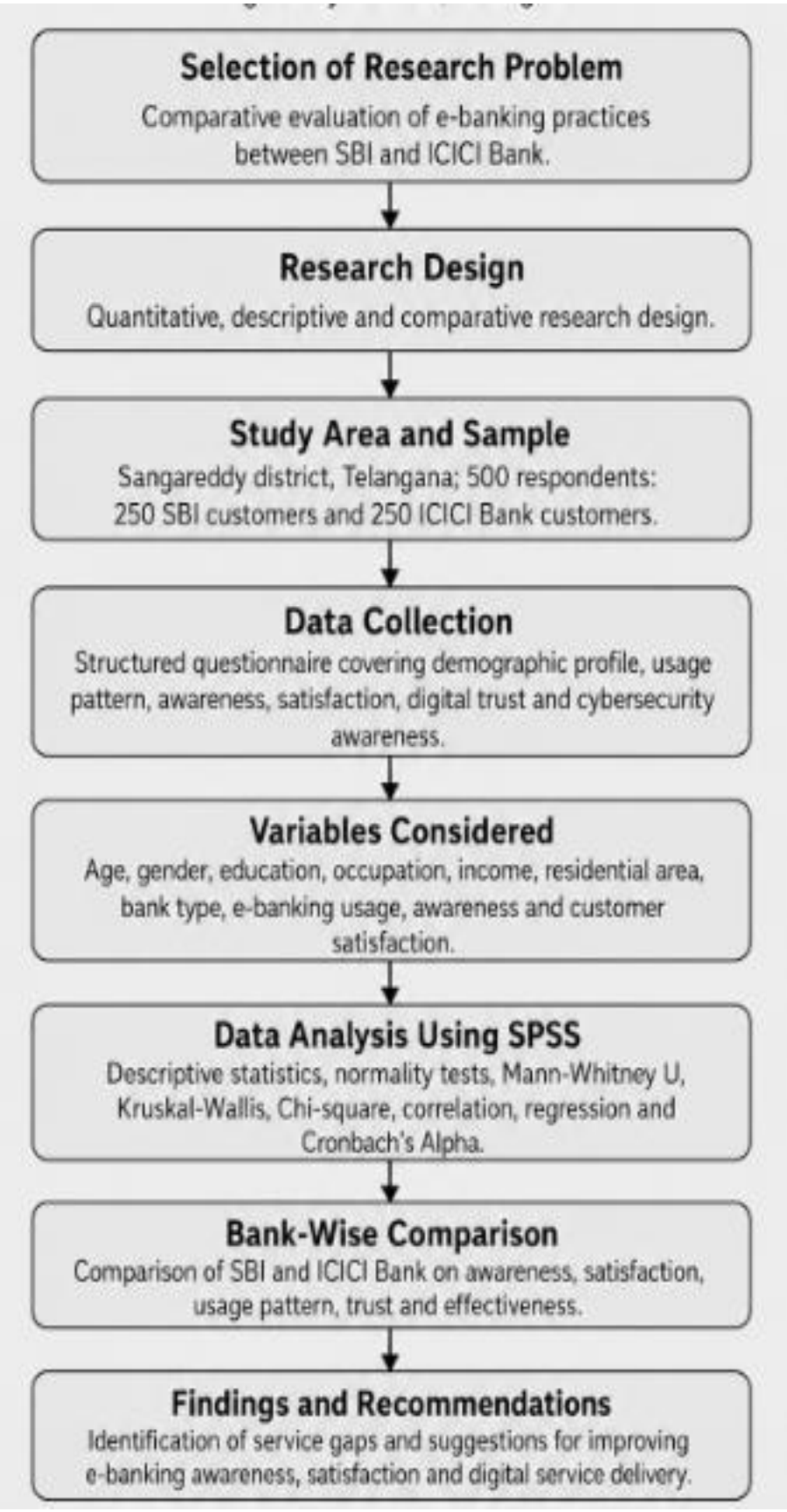

Figure 1: Research Methodology Framework

Results and Discussion

The data analysis was carried out using responses collected from 500 customers of SBI and ICICI Bank in Sangareddy district, Telangana. The sample was equally divided between the two banks, with 250 respondents from SBI and 250 respondents from ICICI Bank. The analysis focused on the demographic profile of respondents, e-banking usage patterns, awareness levels, customer satisfaction, bank-wise comparison, and the relationship between awareness and satisfaction.

The gender profile of the respondents shows that male respondents formed the majority of the sample. Out of 500 respondents, 417 respondents were male, representing 83.4 percent, while 83 respondents were female, representing 16.6 percent. This indicates that male customers were more represented in the sample of e-banking users in the study area.

The age-wise distribution shows that the majority of respondents belonged to the younger age categories. Out of 500 respondents, 182 respondents, representing 36.4 percent, were below 25 years of age. A major portion of the sample, 288 respondents or 57.6 percent, belonged to the 25–35 years age group. Only 30 respondents, representing 6 percent, belonged to the 35–45 years age group. This indicates that young and middle-age customers are more active in using e-banking services.

The educational profile shows that 63 respondents, representing 12.6 percent, were below secondary level; 152 respondents, representing 30.4 percent, had higher secondary education; 183 respondents, representing 36.6 percent, were graduates; and 102 respondents, representing 20.4 percent, were postgraduates and above. This shows that graduates formed the largest educational group among the respondents. Education plays an important role in e-banking awareness and usage because educated customers are more likely to understand and use digital banking platforms confidently.

The occupational profile of respondents shows that 50 respondents, representing 10 percent, were government employees; 67 respondents, representing 13.4 percent, were private employees; 118 respondents, representing 23.6 percent, were business persons; 34 respondents, representing 6.8 percent, were professionals; 43 respondents, representing 8.6 percent, were farmers; 106 respondents, representing 21.2 percent, were students; and 82 respondents, representing 16.4 percent, were self-employed. The presence of business persons, students, private employees, and self-employed respondents indicates that e-banking usage is spread across different occupational groups.

The income profile shows that 168 respondents, representing 33.6 percent, had annual income below ₹50,000. A total of 101 respondents, representing 20.2 percent, belonged to the income category of ₹50,000 to ₹1,00,000. The largest group, 231 respondents, representing 46.2 percent, belonged to the income category of ₹1,00,000 to ₹1,50,000. This shows that the sample mainly consists of low-income and middle-income customers, which is suitable for understanding e-banking adoption in a semi-urban district.

The marital status of respondents shows that 283 respondents, representing 56.6 percent, were married and 217 respondents, representing 43.4 percent, were unmarried. The residential profile shows that 274 respondents, representing 54.8 percent, belonged to urban areas, while 226 respondents, representing 45.2 percent, belonged to rural areas. This urban-rural distribution helps in understanding differences in digital banking access, awareness, and satisfaction between urban and rural customers.

The bank-wise distribution was equal, with 250 respondents from SBI and 250 respondents from ICICI Bank. This balanced representation strengthens the comparative nature of the study and allows a fair comparison of e-banking awareness and satisfaction between public and private sector bank customers.

The analysis of e-banking service usage shows that ATM services are the most frequently used e-banking service. Out of 500 respondents, 421 respondents, representing 84.2 percent, used ATM as their most frequently used e-banking service. Mobile banking was used by 60 respondents, representing 12 percent. Internet banking was used by 10 respondents, representing 2 percent. Payment card services were used by 5 respondents, representing 1 percent, and POS services were used by 4 respondents, representing 0.8 percent. This shows that ATM usage remains dominant among customers in Sangareddy district, while mobile banking is emerging as the next important e-banking channel.

The frequency of e-banking usage shows that 190 respondents, representing 38 percent, use e-banking services daily. A total of 159 respondents, representing 31.8 percent, use e-banking services weekly. Further, 56 respondents, representing 11.2 percent, use e-banking services bi-weekly; 59 respondents, representing 11.8 percent, use them monthly; and 36 respondents, representing 7.2

percent, use them once in a while. This indicates that a large number of respondents use e-banking services regularly.

The type of bank account held by respondents shows that 470 respondents, representing 94 percent, had savings accounts, while 30 respondents, representing 6 percent, had current accounts. The purpose of opening the bank account also shows that 475 respondents, representing 95 percent, opened accounts mainly for savings purposes. Only 20 respondents, representing 4 percent, opened accounts for current account purposes, 2 respondents, representing 0.4 percent, for loans, and 3 respondents, representing 0.6 percent, for fixed deposits. This indicates that most respondents use e-banking services mainly for personal savings and routine transactions.

The descriptive statistics show that the overall awareness mean score is 74.52 with a standard deviation of 11.031. The overall customer satisfaction mean score is 74.59 with a standard deviation of 11.905. These values indicate that respondents have a moderately high level of awareness and satisfaction regarding e-banking services. The similarity between the awareness mean and satisfaction mean suggests that customers who are aware of e-banking services may also experience better satisfaction.

Normality tests were conducted using Kolmogorov–Smirnov and Shapiro–Wilk tests. The results showed that awareness and customer satisfaction scores were not normally distributed, as the significance values were below 0.05. Therefore, non-parametric tests such as Mann–Whitney U test and Kruskal–Wallis test were used for group-wise comparison.

The awareness analysis shows that customers have good awareness of basic and commonly used e-banking services such as UPI, mobile banking, online shopping payments, downloading transaction history, sending money digitally, and ATM services. The highest awareness was observed for UPI payment options. However, awareness was comparatively lower in areas such as online loan application, secure access to bank URLs, and understanding the cost-saving benefits of e-banking. This indicates that while customers are familiar with basic digital services, awareness of advanced and security-related features still needs improvement.

The satisfaction analysis shows that customers are highly satisfied with UPI payment speed, ATM services, password and PIN security, time-saving nature of e-banking, anywhere banking, and overall digital banking services. However, satisfaction was lower in areas such as service charges and account opening formalities. This indicates that customers value the convenience and speed of e-banking but expect better fee transparency and simplified service procedures.

The bank-wise comparison shows that ICICI Bank customers have higher awareness and satisfaction scores compared to SBI customers. The mean awareness score of ICICI Bank customers is 76.11, while the mean awareness score of SBI customers is 72.93. Similarly, the mean customer satisfaction score of ICICI Bank customers is 76.19, while the mean customer satisfaction score of SBI customers is 72.99. This indicates that ICICI Bank performs better in e-banking awareness and customer satisfaction in the selected study area.

The comparative analysis further shows that ICICI Bank performs better in mobile app performance, digital convenience, service speed, fee clarity, responsiveness, and customer recommendation. SBI performs strongly in institutional trust, public sector reliability, physical reach, security perception, and government-linked banking services. However, SBI customers face limitations related to app responsiveness, advanced digital service awareness, and clarity of certain service charges.

The Mann–Whitney U test results confirm that there is a significant difference between SBI and ICICI Bank customers in awareness and satisfaction. ICICI Bank customers show higher mean ranks in both awareness and satisfaction. Therefore, the hypothesis stating that there is a significant difference in e-banking awareness and customer satisfaction between SBI and ICICI Bank customers is supported.

The Kruskal–Wallis test results show that education, occupation, income, residential area, usage frequency, and monthly savings have a significant influence on awareness and satisfaction. Postgraduate respondents, graduates, private employees, professionals, business persons, higher-income groups, urban respondents, and frequent users show higher awareness and satisfaction levels. Farmers, lower-income respondents, and less frequent users show comparatively lower awareness and satisfaction. Gender and marital status do not show major differences in awareness and satisfaction.

The correlation analysis shows a strong positive relationship between e-banking awareness and customer satisfaction. The Pearson correlation value is 0.696. This indicates that customers with higher awareness of e-banking services also tend to have higher satisfaction. The regression analysis further supports this result. The R-square value is 0.485, which means that awareness explains 48.5 percent of the variation in customer satisfaction.

The regression equation obtained from the study is:
Customer Satisfaction = 18.597 + 0.751 × Awareness
This equation indicates that when awareness increases, customer satisfaction also increases. For every one-unit increase in awareness, customer satisfaction increases by 0.751 units. Therefore, awareness is an important predictor of customer satisfaction in e-banking services.
The results clearly show that ICICI Bank has an advantage in digital banking service delivery, especially in areas such as app performance, speed, convenience, and service clarity. SBI has an advantage in trust, reach, accessibility, and security perception. The discussion indicates that both banks have different strengths. ICICI Bank's strength lies in digital innovation and customer-oriented platforms, while SBI's strength lies in public trust, rural presence, and inclusive banking reach.
Thus, the results demonstrate that e-banking awareness, satisfaction, demographic characteristics, and bank type are important factors in understanding digital banking practices in Sangareddy district. The study confirms that improving customer awareness can directly improve satisfaction with e-banking services.

Major Findings
The study examined the e-banking practices of SBI and ICICI Bank customers in Sangareddy district, Telangana. The findings are based on the responses collected from 500 respondents, with equal representation from both banks. The analysis focused on customer awareness, satisfaction, usage pattern, demographic influence, bank-wise comparison, and the relationship between awareness and satisfaction.
The first major finding is that ICICI Bank customers have a higher level of awareness of e-banking services compared to SBI customers. The mean awareness score of ICICI Bank customers is 76.11, whereas the mean awareness score of SBI customers is 72.93. This shows that ICICI Bank customers are more familiar with digital banking services such as mobile banking, UPI, internet banking, online fund transfer, OTP usage, transaction history download, and other digital services.
The second finding is that customer satisfaction is also higher among ICICI Bank customers. The mean customer satisfaction score of ICICI Bank customers is 76.19, while the mean satisfaction score of SBI customers is 72.99. This indicates that ICICI Bank customers are more satisfied with the quality, speed, convenience, responsiveness, and digital interface of e-banking services.
The study found that ATM is the most frequently used e-banking service among the respondents. Out of 500 respondents, 421 respondents, representing 84.2 percent, reported ATM as their most frequently used e-banking service. Mobile banking was used by 60 respondents, representing 12 percent. Internet banking, payment cards, and POS services were used by comparatively smaller groups. This shows that although digital banking is growing, ATM usage still remains dominant in Sangareddy district.
The usage frequency of e-banking services shows that a large number of customers use digital banking regularly. A total of 190 respondents, representing 38 percent, use e-banking services daily, while 159 respondents, representing 31.8 percent, use them weekly. This indicates that e-banking has become a regular part of customer banking behavior.
The study found that the overall awareness and satisfaction levels are moderately high among respondents. The overall awareness mean score is 74.52, and the overall customer satisfaction mean score is 74.59. These values indicate that customers have a reasonable level of knowledge and satisfaction regarding e-banking services.
The normality test results showed that awareness and satisfaction scores were not normally distributed. Therefore, non-parametric tests such as Mann–Whitney U test and Kruskal–Wallis test were used for group-wise comparisons. This ensured that the statistical analysis was suitable for the nature of the data.
The Mann–Whitney U test confirmed that there is a significant difference between SBI and ICICI Bank customers in terms of awareness and satisfaction. ICICI Bank customers showed higher awareness and satisfaction compared to SBI customers. Therefore, the hypotheses related to bank-wise differences in awareness and satisfaction are supported.
The Kruskal–Wallis test showed that education, occupation, income, residential area, usage frequency, and monthly savings significantly influence awareness and satisfaction. Graduates, postgraduates, private employees, professionals, business persons, higher-income respondents, urban customers, and frequent users showed higher levels of awareness and satisfaction. Farmers, lower-income groups, rural customers, and less frequent users showed comparatively lower awareness and satisfaction.

The study found that gender and marital status do not show major differences in e-banking awareness and satisfaction. This indicates that awareness and satisfaction are more strongly influenced by education, occupation, income, residence, and usage behavior than by gender or marital status.
The study also found that awareness of basic e-banking services is stronger than awareness of advanced services. Customers are more aware of UPI, ATM services, mobile banking, online money transfer, online shopping payments, OTP usage, and transaction history download. However, awareness is comparatively lower in areas such as online loan application, secure access to bank URLs, and understanding cost-saving benefits of e-banking.
The satisfaction results show that customers are highly satisfied with UPI payment speed, ATM services, password and PIN protection, time-saving benefits, anywhere banking, and general convenience of e-banking. However, satisfaction is lower regarding service charges and account opening formalities. This shows that customers appreciate the speed and convenience of e-banking but expect better transparency and simplified procedures.
The correlation analysis revealed a strong positive relationship between e-banking awareness and customer satisfaction. The Pearson correlation value is 0.696. This indicates that customers with higher awareness of e-banking services are more likely to report higher satisfaction.
The regression analysis showed that awareness is an important predictor of customer satisfaction. The R-square value is 0.485, meaning that awareness explains 48.5 percent of the variation in customer satisfaction. The regression equation is:
Customer Satisfaction = 18.597 + 0.751 × Awareness
This shows that an increase in awareness leads to an increase in customer satisfaction. Therefore, customer awareness plays a major role in improving satisfaction with e-banking services.
The comparative findings show that ICICI Bank performs better in app speed, mobile banking convenience, digital responsiveness, service clarity, fee transparency, and customer recommendation. SBI performs better in institutional trust, security perception, wider physical reach, and government-linked banking services.
The overall finding of the study is that ICICI Bank has a stronger position in digital banking performance and customer satisfaction, while SBI has a stronger position in trust, accessibility, and public sector reliability. Both banks have different strengths, but both need to improve customer awareness, digital literacy, cybersecurity education, and service support to increase e-banking effectiveness in Sangareddy district.

Suggestions and Recommendations
Based on the findings of the study, several suggestions are offered to improve the effectiveness of e-banking services provided by SBI and ICICI Bank in Sangareddy district, Telangana. The recommendations are framed according to the comparative results obtained from customer awareness, satisfaction, usage pattern, demographic influence, and bank-wise performance.
The study found that ICICI Bank customers have higher awareness and satisfaction compared to SBI customers. Therefore, SBI should give more attention to improving digital awareness among its customers. Many SBI customers are familiar with basic services such as ATM usage, balance enquiry, and routine fund transfer, but awareness of advanced e-banking services such as online loan application, secure URL access, mobile app features, transaction history download, and digital service benefits needs improvement. SBI should conduct regular digital literacy programmes in branches, rural areas, semi-urban locations, and customer service points.
SBI should improve the performance and user-friendliness of its digital platforms, especially mobile banking services. The findings indicate that SBI customers face limitations related to app responsiveness and advanced digital service adoption. Therefore, the bank should focus on improving the speed, stability, login process, navigation, and interface simplicity of its mobile banking platform. A simple and easy-to-use interface will help elderly customers, rural customers, farmers, and low-literacy users to use e-banking services more confidently.
SBI should also provide multilingual support, especially in Telugu, to improve digital banking accessibility for customers in Sangareddy district. Many customers in semi-urban and rural areas may hesitate to use mobile banking or internet banking when instructions are not clear or are available only in English. Providing regional language support, simple instructions, and voice-based guidance can improve digital confidence among such customers.
The study found that fee clarity is one of the areas where SBI customers show lower satisfaction. Therefore, SBI should improve transparency in service charges. Charges related to SMS alerts, fund transfers, failed transactions, ATM usage, and other digital services should be clearly displayed

through SMS, mobile app notifications, bank websites, and branch notices. Clear communication of charges will reduce confusion and improve customer satisfaction.

SBI should also establish assisted digital banking counters in branches. These counters can help customers learn how to use mobile banking, UPI, internet banking, OTP authentication, and safe transaction practices. Such assistance will be useful for farmers, elderly customers, low-income groups, and first-time digital banking users.

ICICI Bank performs better in digital convenience, app performance, service speed, fee clarity, and customer recommendation. However, the study indicates that ICICI should expand its reach among rural and semi-urban customers. ICICI Bank should increase awareness programmes and customer support activities in less digitally active areas of Sangareddy district. This will help the bank serve not only urban and educated customers but also farmers, small traders, elderly customers, and low-literacy users.

ICICI Bank should continue to maintain its strength in mobile banking performance and customer-oriented digital services. Since ICICI customers show higher satisfaction, the bank should sustain its service speed, mobile app responsiveness, fee clarity, and digital communication. Regular updates, quick complaint resolution, and user-friendly digital services should be continued to retain customer satisfaction.

ICICI Bank should also focus on inclusive digital banking. Simplified mobile banking options, regional language support, voice assistance, and step-by-step transaction guidance can help customers who are less familiar with digital banking. This will improve the bank's reach in semi-urban and rural customer segments.

Both SBI and ICICI Bank should give importance to cybersecurity awareness. Customers should be regularly educated not to share OTPs, passwords, PINs, account details, or personal banking information with anyone. Banks should provide repeated alerts about phishing links, fake calls, fraudulent messages, unauthorized apps, and unsafe websites. Cybersecurity awareness should be delivered through SMS, app notifications, posters in branches, customer meetings, and digital literacy camps.

Both banks should improve customer grievance redressal related to e-banking services. Failed transactions, delayed OTPs, app login issues, service charge confusion, and transaction reversal delays can reduce customer satisfaction. Therefore, banks should provide quick complaint registration, tracking, and resolution mechanisms through mobile apps, call centers, branches, and online support.

The study found that awareness has a strong positive relationship with customer satisfaction. Therefore, both banks should treat customer awareness as a key strategy for improving satisfaction. Customers who understand e-banking services are more likely to use them confidently and feel satisfied. Hence, digital awareness campaigns should not be one-time activities but continuous programmes.

Banks should also focus on demographic groups that showed comparatively lower awareness and satisfaction. Farmers, rural customers, lower-income groups, and less frequent users need special attention. Training sessions, simple demonstration videos, printed guides, and branch-level support can improve their ability to use e-banking services.

Both banks should encourage customers to move beyond ATM-based usage and adopt mobile banking, UPI, internet banking, online bill payment, and digital fund transfer services. Since ATM usage remains dominant in the study, customers should be gradually educated about other convenient digital banking services.

Overall, the recommendations suggest that SBI should focus more on digital service improvement, app optimization, customer education, and fee transparency, while ICICI should focus on expanding inclusive access and maintaining digital service quality. Both banks should strengthen cybersecurity awareness, customer support, digital literacy, and service transparency to improve e-banking effectiveness in Sangareddy district.

Conclusion

The present study examined the e-banking practices of ICICI Bank and State Bank of India with special reference to Sangareddy district, Telangana. The study focused on customer awareness, customer satisfaction, usage patterns, demographic influences, digital trust, and the comparative effectiveness of e-banking services offered by both banks. The research was based on primary data collected from 500 respondents, with equal representation from SBI and ICICI Bank customers.

The findings of the study show that e-banking has become an important part of banking behavior among customers in Sangareddy district. Customers are using digital banking services such as ATM, mobile banking, UPI, internet banking, online fund transfer, and other electronic banking facilities. However, the usage pattern shows that ATM continues to be the most frequently used e-banking service, while mobile banking and internet banking are still developing among the respondents. This indicates that customers are gradually moving toward digital banking, but traditional electronic channels such as ATMs still remain dominant.

The study found that the overall awareness and satisfaction levels of customers are moderately high. The overall awareness mean score was 74.52, and the overall customer satisfaction mean score was 74.59. These values indicate that customers have a reasonable level of understanding and satisfaction regarding e-banking services. However, awareness is stronger in basic digital banking services such as UPI, ATM usage, mobile banking, online fund transfer, and transaction history download, while awareness is comparatively lower in advanced services such as online loan applications, secure URL access, and cost-saving benefits of e-banking.

The comparative analysis shows that ICICI Bank customers have higher awareness and satisfaction levels compared to SBI customers. The mean awareness score of ICICI Bank customers was 76.11, while the mean awareness score of SBI customers was 72.93. Similarly, the mean customer satisfaction score of ICICI Bank customers was 76.19, while the mean satisfaction score of SBI customers was 72.99. This shows that ICICI Bank performs better in terms of digital banking awareness, service speed, mobile app performance, fee clarity, responsiveness, and customer recommendation.

At the same time, SBI has its own strengths. SBI customers show strong trust in the bank due to its public sector identity, wide physical reach, security perception, and government-linked banking services. SBI's presence in rural and semi-urban areas makes it important for financial inclusion. However, SBI needs to improve app responsiveness, digital service awareness, fee transparency, and customer support for advanced digital services.

The study also confirmed that demographic and behavioral factors influence e-banking awareness and satisfaction. Education, occupation, income, residential area, usage frequency, and monthly savings showed significant influence on awareness and satisfaction. Graduates, postgraduates, private employees, professionals, business persons, urban customers, higher-income groups, and frequent users showed higher awareness and satisfaction. Farmers, rural customers, lower-income groups, and less frequent users showed comparatively lower awareness and satisfaction. Gender and marital status did not show major differences.

A major conclusion of the study is that customer awareness has a strong positive relationship with customer satisfaction. The correlation value of 0.696 shows that customers with higher awareness of e-banking services are more likely to be satisfied. The regression analysis also showed that awareness explains 48.5 percent of the variation in customer satisfaction. The regression equation, Customer Satisfaction = 18.597 + 0.751 × Awareness, confirms that awareness is an important predictor of customer satisfaction.

The study concludes that e-banking effectiveness depends not only on the availability of digital banking platforms but also on customer awareness, service clarity, app performance, trust, security, and support. ICICI Bank has an advantage in digital innovation and customer-oriented service delivery, while SBI has an advantage in trust, accessibility, and inclusive reach. Both banks need to strengthen customer awareness, cybersecurity education, digital literacy, fee transparency, and grievance redressal.

Therefore, the study suggests that improving awareness is essential for improving satisfaction with e-banking services. SBI should focus on digital literacy programmes, YONO app improvement, regional language support, service charge clarity, and assisted digital banking support. ICICI Bank should continue its digital service quality while expanding its reach among rural and semi-urban customers. Both banks should work toward safe, transparent, inclusive, and customer-friendly e-banking services in Sangareddy district.

The study finally concludes that a combination of ICICI Bank's digital efficiency and SBI's public trust and accessibility can contribute to stronger e-banking adoption in semi-urban regions. The findings are useful for banks, policymakers, and researchers interested in improving digital banking practices, customer satisfaction, and financial inclusion at the district level.

References
[1] F. D. Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, vol. 13, no. 3, pp. 319–340, 1989.
[2] V. Venkatesh, M. G. Morris, G. B. Davis, and F. D. Davis, "User acceptance of information technology: Toward a unified view," *MIS Quarterly*, vol. 27, no. 3, pp. 425–478, 2003.
[3] R. Safeena, H. Date, and A. Kammani, "Internet banking adoption in an emerging economy: Indian consumer's perspective," *International Arab Journal of e-Technology*, vol. 2, no. 1, pp. 56–64, 2011.
[4] T. Pikkarainen, K. Pikkarainen, H. Karjaluoto, and S. Pahnila, "Consumer acceptance of online banking: An extension of the technology acceptance model," *Internet Research*, vol. 14, no. 3, pp. 224–235, 2004.
[5] P. Malhotra and B. Singh, "The impact of internet banking on bank performance and risk: The Indian experience," *Eurasian Journal of Business and Economics*, vol. 2, no. 4, pp. 43–62, 2009.
[6] V. M. Kumbhar, "Factors affecting the customer satisfaction in e-banking: Some evidences from Indian banks," *Management Research and Practice*, vol. 3, no. 4, pp. 1–14, 2011.
[7] J. Kaur and R. Kiran, "E-banking service quality and customer satisfaction in India: A study in the post-liberalization era," *International Journal of Bank Marketing*, vol. 33, no. 5, pp. 611–630, 2015.
[8] S. Chauhan, "Acceptance of mobile money by poor citizens of India: Integrating trust into the technology acceptance model," *Info*, vol. 17, no. 3, pp. 58–68, 2015.
[9] M. S. Sohail and B. Shanmugham, "E-banking and customer preferences in Malaysia: An empirical investigation," *Information Sciences*, vol. 150, no. 3–4, pp. 207–217, 2003.
[10] R. Yadav and T. Mahara, "E-banking: A conceptual study on adoption and challenges in India," *International Journal of Advanced Research in Computer Science and Management Studies*, vol. 5, no. 4, pp. 84–91, 2017.

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