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The e-banking service quality and customer satisfaction: Evidence from Dipolog City

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A B S T R A C T

This study aimed to determine the e-banking service quality and its effects on the satisfaction of customers in the Dipolog City banking sector during the calendar year 2023. It utilized descriptive survey and correlational research methods. There were three hundred twenty-seven (327) randomly selected respondents in this study. Weighted mean and Spearman Rank-Order Correlation Coefficient were the statistical tools used in the study. The e-banking service quality in Dipolog City is "high". The e-banking customer satisfaction in Dipolog City is "very high." The levels of e-banking service quality and customer satisfaction are largely/highly and positively correlated. Based on the findings and conclusions of the study, it is recommended that the Bangko Sentral ng Pilipinas (BSP), the Department of Finance, and the Banking Industry of the Philippines utilize the findings of this study as the basis for formulating a policy that will further improve the level of e-banking service quality and sustain the level of customer satisfaction.

Introduction

E-banking, also known as electronic banking, began to take shape in the mid-1970s. This concept involved conducting financial transactions electronically between individuals, organizations, companies, and their banking institutions. However, it wasn't until 1985 and beyond that e-banking gained significant traction (Worland & Williams, 2015). As a critical component of modern banking, the use of online and mobile banking has steadily increased worldwide, with Asian countries leading as the largest market for e-banking. According to global data from Statista (2017), approximately 20% of the world's population visits banks in person, meaning about 80% of the population uses and has access to internet banking.

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In the Philippines, e-banking has evolved over time, and its formal recognition as a distinct category within the banking sector is relatively recent. A key milestone occurred on November 26, 2020, when the Bangko Sentral ng Pilipinas (BSP) approved a framework that officially classifies digital banks separately from traditional banks. This marked the formal recognition of digital banks in the Philippine banking industry ("The Philippine banking industry's digital era begins," The Manila Times, 2021). The Philippine government's focus on digitalization and financial inclusion continues to shape the country's banking landscape and economic development. According to Benjamin Diokno, former BSP Governor and former Secretary of the Department of Budget and Management (DBM), the government's push for digitalization aims to reinvent industries, improve public service delivery, create employment opportunities, and expand access to financial products and services, which is essential for the long-term recovery of the Philippine economy. Diokno highlighted the importance of service innovation, particularly commending the development of the country's first mobile, human-assisted remote banking service, RCBC Moneybela Barangayan Banking. This service blends physical and digital elements to provide access to basic banking services, such as deposit account creation, bill payments, e-load, cash-in/cash-out, micro-insurance, and telemedicine, to previously underserved communities via sustainable e-tricycles.

Secretary Diokno's focus on innovation aligns with the Philippine government's broader thrust for digital transformation, which is reflected in initiatives like the eGov PH project. This initiative, which began with the creation of the National Computer Centre in 1971, aims to simplify transactions between the government and citizens by integrating various government sectors into a one-stop online platform. The eGov PH mobile application reduces economic costs for citizens and enhances convenience in government services ("Evolution of e-government in the Philippines," n.d.).

The Philippine government's ongoing digitalization efforts are creating a dynamic landscape for the banking industry, fostering innovation, accessibility, and financial inclusion. To remain competitive and meet the evolving needs of customers, banks must adapt to these changes by exploring new methods of delivering banking services (Puriwat & Tripopsakul, 2017). Leveraging the benefits of digital technology, such as line-based and mobile internet connectivity, both public and private sectors in the Philippine banking industry have either enhanced or launched new online platforms.

The primary objective of this research was to investigate the impact of e-banking service quality on customer satisfaction within the Dipolog City banking sector. Studies by Hammoud et al. (2018) and Ismail Hussien & Abd El Aziz (2013) demonstrated a significant and positive relationship between e-banking service quality and customer satisfaction, highlighting the importance of this relationship. Additionally, Puriwat and Tripopsakul (2017) provided evidence that electronic service quality significantly enhances mobile banking customer satisfaction and loyalty.

Previous studies on this topic mainly employed qualitative approaches and were limited to customers of private banks. In Dipolog City, both private and government sector banks have adopted e-banking services to improve customer satisfaction by reducing waiting times, issues, and costs. This study aims to address gaps in the existing literature regarding e-banking service quality and customer satisfaction, a topic that has recently gained attention in other research disciplines (Puriwat & Tripopsakul, 2017; Hammoud et al., 2018; Romero et al., 2022). By using a quantitative approach, this research seeks to bridge the methodological gap and determine the significant relationship between e-banking service quality and customer satisfaction.

Literature review

E-banking service quality

Technology improvements in the banking sector have given rise to e-banking services, which give customers absolute control over their account in terms of receipt and payment (Sathiyavany & Shivany, 2015). Singh (2023) defined e-banking as the practice of providing banking services to clients electronically, either at their place of business or house. E-banking has three distinguishing features: self-service technology, the absence of a human interface, and the modernization of operations (Omofowa et al., 2021). Due to quick advancements in worldwide technology, e-banking financial services have proliferated among clients and banks' long-term management capabilities (Asare & Sakoe, 2015), while intensifying the competition among banks (Hammoud et al., 2018). According to Drigă and Isac (2014), the banking industry has been more competitive in recent years, and banks are adopting unique tools and approaches to maintain customer retention and satisfaction, with e-banking being one of them.

Technology development, particularly in the area of e-banking, is shifting the way banks operate and conduct transactions. E-banking has created changes of trade volume; the interconnection between banks, firms, and customers has levered business transaction from the domestic to the international landscape; therefore, the relationship has encouraged the ongoing revolution within the banking industry (Omofowa et al., 2021). The technological innovation has also leveled the playing field in the banking industry by creating value for both banks and customers in that it enables customers to perform banking transactions without having to visit a physical bank. These innovations include internet banking, mobile banking, automated teller machines (ATMs), POS terminals (point of sale), and any online banking service popularly referred to as e-banking (Khan, 2017).

Efficiency

An e-banking system that is efficient and easy to navigate contributes to overall customer satisfaction. The study of Hammoud et al. (2018) considered efficiency as among the dimensions related to e-banking service quality. Conducted in the Lebanese banking sector, the study stated that website efficiency is the key to measuring the quality of internet banking service, showing that there is a significant positive trend between efficiency and customer satisfaction. A study was also conducted by Shanmugam and Chandran (2022) in Chennai City, Tamil Nadu, India, which showed that commercial banks compete by using the research and development wing of the service quality dimensions to provide speedy electronic banking services at the lowest cost. This further shows that efficiency is viewed by commercial banks' as initiatives for enhancing game service quality to provide the highest level of satisfaction for their stakeholders.

Reliability

Apornak (2017) defines the reliability dimension as a component of a study devoted to the examination and assessment of the information system by IT experts both inside and outside the financial sector. In their scientific study titled "Service quality and customer satisfaction in private banking" at the University of Huánuco, Peru, Aranda et al. (2020) determined that reliability is a very important factor in achieving a positive impact on customers, as loyalty and a lasting relationship with users depend on it. Reliability also enhances customer loyalty to e-banking (Alvarez-Garcia et al., 2019) and has a positive and crucial influence on customer satisfaction (Pakurár et al., (2019). A reliable system ensures efficient transaction processing, timely access to information, and consistent service delivery (Hammoud et al., 2018).

Security and privacy

Security and privacy has a positive and significant effect on customer satisfaction with reliability being the dimension with the strongest impact (Hammoud et al., 2018). Mwiya et al. (2022) indicated that security, website attributes, privacy, responsiveness, efficiency, fulfillment, and reliability are indeed relevant to electronic service quality, and they affect customer satisfaction positively. Privacy and security are the strongest significant predictors of customer satisfaction and loyalty (Yohannes, n.d.). In line with this, other researchers also revealed that there is a statistically significant association between the service quality dimension and customer satisfaction concerning e-banking services (Sharma et al., 2020).

Responsiveness and communication

According to Raza et al. (2020), responsiveness-oriented responsibility is one of the most crucial criteria for assessing service quality in the banking industry. Responsiveness is a factor in responding to consumer needs; this can be in the form of being swift in managing guarantees, returning goods, and refunds (Hansopaheluwakan, 2021). The study of Avania and Widodo (2022) also found that e-banking enhances overall service quality by providing quick access to account information, transaction history, and other services. The availability of e-banking services has the potential to boost income, lower usage and operating expenses, decrease late payments, expedite customer service, and offer service that is more responsive.

Communication entails the interchange of important, timely data between purchasers and vendors, both formal and informal. "Personalized letters, direct mail, website interactions, other machine-mediated interactions, e-mail, or in-person communication with service personnel before, during, and after service transactions" are all forms of communication. During the pre-selling, selling, consuming, and post-consuming stages, communication has emerged as an interactive dialogue between the corporation and its clients. The communication description also includes communication between the client and the service provider (Qasem & Alhakimi, 2019). All service quality dimensions, including responsiveness and communication positively and significantly influence customer satisfaction. In other words, when Internet banking services exhibit high responsiveness and effective communication, customers tend to be more satisfied with their online banking experience (Raza et al., 2020).

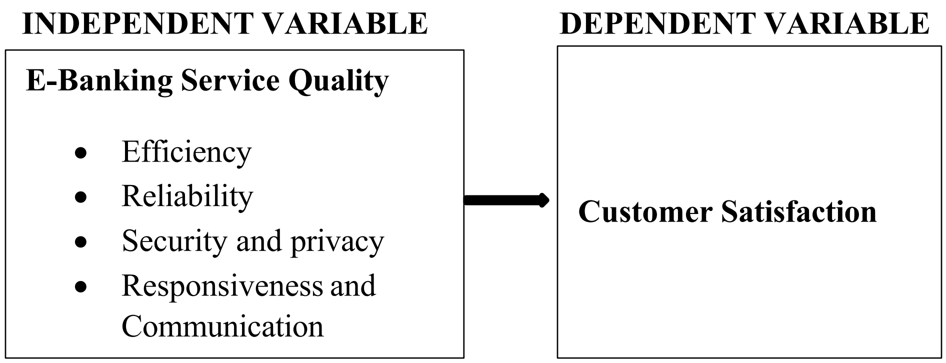
Customer satisfaction

Satisfaction is the sense of contentment that arises when the benefits derived from goods or services align with the initial expectations of customers. Customers, who feel that their needs are satisfied by the company, will tend to repeat their transactions at a later date in the same place, and if this is well maintained,a sustainable competitive advantage will be created. (Worland & Williams, 2015)According to Kotler and Keller (2016), satisfaction is a person's feeling of pleasure or disappointment resulting from comparing the product's perceived performance (or results) with expectations. That is, if it exceeds expectations, consumers are satisfied or happy. The study of Beyene (2019) found a significant positive relationship between service quality and customer satisfaction. The study suggests that improving service quality can enhance overall customer satisfaction, leading to increased loyalty and positive word-of-mouth.

Customer satisfaction is when online products and services exceed customer expectations and exceed consumer satisfaction after comparing previous purchase experiences and can also exceed online purchasing experiences (Junardi, 2019). Customers' e-satisfaction is defined as the customer's contentment with respect to his or her prior purchasing experience with a given electronic commerce firm (Tharanikaran et al., 2017). In other words, e-satisfaction is described as customer satisfaction that comes from a previous real purchase experiences with certain electronic companies (Hansopaheluwakan, 2021). Customer satisfaction is regarded as the most important factor in an organization's competitiveness. Customer happiness has become a significant consideration for businesses that provide services online. Customer satisfaction is a concept that is much broader than just assessing the quality of services, but is also influenced by other factors, namely: product quality, price, situational factors,and personal factors of the consumers themselves (Josua et al., 2017).

Conceptual framework

The conceptual framework is presented in Figure 3. First, the independent variable which is the e-banking service quality with indicators categorized into efficiency, reliability, security and privacy, and responsiveness and communication. Second, the dependent variable is the customer satisfaction.



Hammoud, J., Bizri, R. M., & El Baba, I. (2018) Hammoud, J., Bizri, R. M., & El Baba, I. (2018).

Figure 1: the framework reflects a correlation between e-banking service quality and customer satisfaction. The study intends to examine the influence of e-banking service quality and customer satisfaction.

Statement of the problem

This study aimed to determine the e-banking service quality and its effects on the satisfaction of customers in the Dipolog City banking sector during the calendar year 2023. Specifically, it sought to answer the following questions:

1. What is the respondents' perceived level of e-banking service quality in terms of:
   2.1 efficiency;
   2.2. reliability;
   2.3 security and privacy; and
   2.4 responsiveness and communication

2. What is the respondents' perceived level of satisfaction?

3. Is there a significant relationship between the perceived level of e-banking service quality and the perceived level of satisfaction of the respondents?

Hypothesis

Numerous studies have demonstrated the significant influence of e-banking service quality and the perceived level of satisfaction (Hammoud, J., Bizri, R. M., & El Baba, I. 2018; Sharma, Singh, & Singh, 2020; Juwitasary, Christian, Putra, Baskara, & Firdaus, 2020) . Building on this research, the current study seeks to explore the effect of e-banking service quality on customer satisfaction.

Scope and delimitation of the study

This study is limited to determining the e-banking service quality and customers' satisfaction of the banking sectors in Dipolog City during the calendar year 2023. The respondents of the study were limited to the 327 randomly selected customers of e-banking in Dipolog City, Zamboanga del Norte. The respondents came from various regions across the Philippines and outside the country. The researcher also limited its scope to four indicators of e-banking service quality as independent variables, namely, efficiency, reliability, security and privacy, and responsiveness and communication. Other descriptors of e-banking service quality and customers' satisfaction may exist, but this study focused on the ones listed above. Furthermore, the customer satisfaction as the dependent variable in this study were limited to five (5) items.

Research methodology

This study employed survey and correlational research methods. The survey method was used to collect data through a questionnaire, profiling respondents' demographics, perceived E-banking service quality, and customer satisfaction (Creswell & Guetterman, 2019). Correlational analysis was then conducted to examine the statistical relationship between E-banking service quality and customer satisfaction (Bhat, 2019).

Research design

This study utilized a quantitative, non-experimental research design, specifically employing descriptive survey and correlational approaches. The descriptive survey design was used to gather data on respondents' demographic profiles, perceptions of E-banking service quality, and levels of customer satisfaction. Meanwhile, the correlational design examined the statistical relationship between E-banking service quality and customer satisfaction, without manipulating any variables. This design was appropriate for identifying patterns and associations between variables in a real-world setting.

The locale of the study

The respondents of the study were randomly selected customers of e-banking in Dipolog City, Zamboanga del Norte. The respondents came from various regions across the Philippines and outside the country.

Population

The respondents of the study were 327 randomly selected customers of e-banking in Dipolog City, Zamboanga del Norte. The respondents came from various regions across the Philippines and outside the country.

Data gathering instruments

The researcher gathered data through a questionnaire to profile the respondents' demographic variables, including the level of E-banking service quality and customer satisfaction. A correlational analysis was performed to determine the significant relationship between E-banking service quality and customer satisfaction.

Data gathering procedures

The researcher secured permission and clearance from the Dean of the graduate school and the Ethics Committee of Andres Bonifacio College. The researcher also distributed an informed consent form to the individual respondents along with the research questionnaires. Confidentiality was ensured and the respondents' identities were protected. Designated customers' representatives assisted in this process.

Ethical approval

The study underwent an ethical review and was approved to proceed, as it did not involve any sensitive issues.

Statistical treatment of data

The data gathered from the questionnaires were encoded and analyzed using statistical tools. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize respondents' demographic profiles, the level of E-banking service quality, and customer satisfaction. To determine the relationship between E-banking service quality and customer satisfaction, the study employed Pearson Product-Moment Correlation Coefficient (Pearson r). This inferential statistical tool measured the strength and direction of the linear relationship between the two variables. A significance level of 0.05 was set to determine the statistical significance of the results.

The following ranges of values with their descriptive interpretation will be used:

E-Banking Service Quality

Scale	Range of Values	Description	Interpretation
5	4.21-5.00	Strongly agree	Very High
4	3.41-4.20	Agree	High
3	2.61-3.40	Somewhat Agree	Average
2	1.81-2.60	Disagree	Low
1	1.00-1.80	Strongly Disagree	Very Low

Customer Satisfaction

Scale	Range of Values	Description	Interpretation
5	4.21-5.00	Strongly agree	Very High
4	3.41-4.20	Agree	High
3	2.61-3.40	Somewhat Agree	Average
2	1.81-2.60	Disagree	Low
1	1.00-1.80	Strongly Disagree	Very Low

Data presentation and analysis

The data are presented following the statement of the problems of the current study. The study aimed to answer the following questions:

1. What are the respondents' perceived level of e-banking service quality in terms of:
   1.1 efficiency;
   1.2. reliability;
   1.3 security and privacy; and
   1.4 responsiveness and communication

Table 1. Perceived level of e- banking service quality in terms of efficiency

A. Efficiency	Mean	SD	Description	Interpretation
1. The use of E-Banking services are time saving.	4.61	0.57	Strongly Agree	Very High
2. The service delivered through the E-Banking services is quick.	4.47	0.60	Strongly Agree	Very High
3. I can complete quickly any transaction through the E-Banking service channels.	4.35	0.67	Strongly Agree	Very High
4. I found that E-Banking service is easy to use.	4.47	0.65	Strongly Agree	Very High
5. E-Banking services are provided in various languages	4.22	0.82	Strongly Agree	Very High
6. Learning to operate the E-Banking system is easy for me.	4.29	0.73	Strongly Agree	Very High
7. My interaction with the E-Banking system is clear and understandable	4.35	0.67	Strongly Agree	Very High
8. I find the E-Banking system to be flexible to interact with.	4.44	0.66	Strongly Agree	Very High
Overall	**4.40**	**0.53**	**Strongly Agree**	**Very High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 1 highlights the respondents' perceptions of e-banking service quality, particularly in terms of efficiency. The results show that respondents "strongly agree" with several key aspects of e-banking, such as the time-saving nature of the service, the speed of transactions, the ease of use, the flexibility of the system, and the clarity of interactions with the e-banking platform. They also reported that completing transactions through e-banking channels is quick, learning to use the system is straightforward, and services are available in multiple languages. Overall, e-banking service quality in terms of efficiency earned an impressive mean score of 4.40 with a standard deviation of 0.53, which translates to a "strongly agree" rating and is interpreted as "very high." This indicates that, from the respondents' perspective, e-banking service quality in Dipolog City is exceptionally high. As Hammoud et al. (2018) pointed out, the efficiency of a website is a critical factor in assessing the quality of internet banking services, as seen in the Lebanese banking sector.

Table 2. Perceived level of e-banking service quality in terms of reliability

B. Reliability	**Mean**	**SD**	**Description**	**Interpretation**
1. I have high confidence in the E-Banking services in the bank	4.11	0.76	Agree	High
2. E-Banking service is reliable and dependable.	4.11	0.77	Agree	High
3. E-Banking services perform the service for me right on the first time.	4.15	0.78	Agree	High
4. I have always found E-Banking service channels in working order.	4.09	0.81	Agree	High
5. I prefer using E-Banking services instead of visiting the branch in doing my transactions.	4.27	0.83	Strongly Agree	Very High
Overall	**4.14**	**0.67**	**Agree**	**High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 2 portrays the perceived level of e-banking service quality in terms of reliability. The data asserts that the respondents “strongly agree” that they prefer using e-banking services instead of visiting the branch to do transactions. They “agree” that e-banking services perform the service right the first time, have high confidence in the e-banking services, service is reliable and dependable, and have always found e-banking service channels in working order. Overall, e-banking service quality in terms of reliability yields a mean of 4.14 with a standard deviation of 0.67 which is described as “agree” and interpreted as “high”. This entails that e-banking service quality in Dipolog City is “high” as perceived by the respondents. This finding is important because Aranda et al. (2020) stated that reliability is a very important factor in achieving a positive impact on customers since loyalty and a lasting relationship with users depend on it. Pakurár et al. (2019) also averred that reliability positively and crucially influences customer satisfaction.

Table 3 Perceived level of e-banking service quality in terms of security and privacy

C. Security and Privacy	**Mean**	**SD**	**Description**	**Interpretation**
1. E-Banking services do not allow others to access my accounts.	4.30	0.76	Strongly Agree	Very High

2. E-Banking service provides high protection for my banking transactions.	4.17	0.80	Agree	High
3. E-Banking service is secured and safe from any fraud or hacking.	3.87	0.92	Agree	High
4. The security devices of the E-Banking services protect the data that are sent by me.	4.15	0.77	Agree	High
5. E-Banking services offer secure personal privacy.	4.20	0.78	Agree	High
6. I feel secure while making transactions through the Internet.	3.89	0.89	Agree	High
7. My E-Banking site does not share my personal information with other sites.	4.17	0.80	Agree	High
Overall	**4.11**	**0.71**	**Agree**	**High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 3 presents the perceived level of e-banking service quality in terms of security and privacy. The data shows that respondents "strongly agree" that e-banking services prevent unauthorized access to their accounts. Additionally, they agree that e-banking platforms ensure secure personal privacy, provide robust transaction protection, refrain from sharing personal information, employ security devices to protect data sent to customers, and make online transactions safe from fraud or hacking. Overall, e-banking service quality in terms of security and privacy received a mean score of 4.11 with a standard deviation of 0.71, which is categorized as "agree" and interpreted as "high." This indicates that, from the respondents' perspective, e-banking services in Dipolog City offer a high level of security and privacy. This finding aligns with the work of Hammoud et al. (2018) and Mwiya et al. (2022), who highlighted that factors such as security, privacy, responsiveness, efficiency, fulfillment, and reliability are crucial elements of electronic service quality and positively influence customer satisfaction.

Table 4 Perceived level of e-banking service quality in terms of responsiveness and communication

D. Responsiveness and Communication	Mean	SD	Description	Interpretation
1. E-Banking services are available 24/7.	4.27	0.75	Strongly Agree	Very High
2. E-Banking services respond immediately to clients' requests.	4.06	0.80	Agree	High

3. Help is immediately available if there is any problem.	3.91	0.89	Agree	High
4. E-Banking services provide answers to your questions.	4.05	0.77	Agree	High
5. Bank deals gently with customer complaints about electronic service.	4.07	0.79	Agree	High
Overall	**4.07**	**0.65**	**Agree**	**High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 4 presents the perceived level of e-banking service quality in terms of responsiveness and communication. The results reveal that respondents "strongly agree" that e-banking services are available 24/7. Additionally, respondents "agree" that the bank handles customer complaints about electronic services with care, responds promptly to client requests, provides timely answers to questions, and offers immediate assistance if any problems arise. Overall, e-banking service quality in terms of responsiveness and communication received a mean score of 4.07 with a standard deviation of 0.65, which indicates a "high" level of service. This suggests that, in Dipolog City, e-banking services are highly responsive and communicative. This can be attributed to the availability of reliable internet connectivity in the area, which enables the bank to promptly address customer concerns and requests. Raza et al. (2020) emphasized that responsiveness is a key factor in evaluating service quality in the banking industry, while Hansopaheluwakan (2021) supported this by noting that responsiveness is crucial in addressing customer needs. Additionally, Avania and Widodo (2022) highlighted that the availability of e-banking services can boost income, reduce operational costs, minimize late payments through electronic transfers, speed up customer service, and enhance overall service responsiveness.

Table 5 Summary of the perceived level of e-banking service quality

E-Banking Service Quality	Mean	SD	Rank	Description	Interpretation
A. Efficiency	4.40	0.53	1	Strongly Agree	Very High
B. Reliability	4.14	0.67	2	Agree	High
C. Security and Privacy	4.11	0.71	3	Agree	High
D. Responsiveness and Communication	4.07	0.65	4	Agree	High
Overall	**4.18**	**0.53**		**Agree**	**High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 5 provides a summary of the perceived level of e-banking service quality. The results show that e-banking service quality in terms of efficiency received the highest rating, followed by reliability, security and privacy, and responsiveness and communication. This indicates that the efficiency of e-banking services in Dipolog City is perceived as "very high," while reliability, security and privacy, and responsiveness and communication are rated as "high." Overall, the e-banking service quality in Dipolog City is considered "high," with a mean score of 4.18 and a standard deviation of 0.53. This finding aligns with the work of Sarande et al. (2022), who also reported that service quality in banking institutions is high.

2. What is the respondents' perceived level of satisfaction?

Table 6 Perceived level of customer satisfaction

Customer Satisfaction	Mean	SD	Description	Interpretation
1. I am satisfied with the transaction processing via E-Banking services.	4.30	0.67	Strongly Agree	Very High
2. I think I made the correct decision to use the E-Banking services.	4.32	0.69	Strongly Agree	Very High
3. My satisfaction with the E-Banking services is high.	4.22	0.77	Strongly Agree	Very High
4. I am satisfied with the bank's e-service quality.	4.27	0.69	Strongly Agree	Very High
5. Overall, E-Banking services is better than my expectations.	4.29	0.69	Strongly Agree	Very High
Overall	**4.28**	**0.63**	**Strongly Agree**	**Very High**

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 6 illustrates the perceived level of customer satisfaction with e-banking services in Dipolog City. The data reveals that respondents "strongly agree" with several key statements: they feel confident in their decision to use e-banking services, they are satisfied with the transaction processing, and they believe the overall services exceed their expectations. With a mean score of 4.28 and a standard deviation of 0.63, the respondents "strongly agree" that they are "very highly" satisfied with e-banking services in Dipolog City. This result highlights that the quality of e-banking services in the city's banking sector is excellent. This finding is particularly significant, as Josua et al. (2017) emphasized that customer satisfaction is a crucial factor in an organization's competitiveness.

3. Is there a significant relationship between the perceived level of e-banking service quality and the perceived level of satisfaction of the respondents?

Table 7 Test of relationship between the perceived levels of e-banking service quality and customer satisfaction

E-Banking Service Quality	ρ-value and p-value	Customer Satisfaction	Interpretation
	p-value	0.558	Large/High Positive Correlation
Efficiency	p-value	<0.01	Significant
Reliability	p-value	0.609	Large/High Positive Correlation
	p-value	< 0.01	Significant
Security and Privacy	p-value	0.590	Large/High Positive Correlation
	p-value	< 0.01	Significant
Responsiveness & Communication	p-value	0.588	Large/High Positive Correlation
	p-value	< 0.01	Significant
Overall	p-value	0.612	Large/High Positive Correlation
	p-value	< 0.01	Significant

Source: Hammoud, J., Bizri, R. M., & El Baba, I. (2018)

Table 7 portrays the test of the relationship between the perceived levels of e-banking service quality and customer satisfaction. Using the Spearman Rank-Order Correlation coefficient (Spearman rho), the result avers that there exists a significantly large/high positive correlation (ρ=0.612, p=< 0.01) between the levels of e-banking service quality and customer satisfaction. Thus, the null hypothesis is rejected. This finding indicates that as the level of e-banking service quality increases the level of customer satisfaction also increases. This further indicates that customer satisfaction is dependent on the e-banking service quality. This furthermore indicates that e-banking service quality significantly influences customer satisfaction. This finding is supported by Sharma et al. (2020) who revealed that there is a statistically significant association between the service quality dimensions and customer satisfaction concerning e-banking services. The present finding agrees with the study of Juwitasary et al. (2020), which indicated that there is a substantial correlation between e-service quality and customer satisfaction which boosts online shopping transactions by customers and helps businesses compete.

Results and discussion

This study recognizes the connection between Expectation Theory and the Service Quality Model, with Expectation Theory serving as the conceptual foundation for examining how e-banking service quality characteristics relate to customer satisfaction. According to Expectation Theory, customer satisfaction arises from comparing the actual performance of a service or product with predefined performance standards. The study found a strong and positive correlation between e-banking service quality and customer satisfaction. This indicates a significant relationship, where higher levels of e-banking service quality are associated with higher levels of customer satisfaction, and vice versa. In other words, when e-banking service quality is high, customer satisfaction is also high. Conversely, lower levels of e-banking service quality lead to lower levels of customer satisfaction.

Conclusion

A statistically significant correlation was found between the perceived levels of e-banking service quality and customer satisfaction, suggesting that e-banking service quality directly influences customer satisfaction. A closer examination of the relationship reveals a strong and meaningful connection between the two variables, highlighting their significant and interdependent link.

Authors' contribution: Conceptualization, research methodology, data gathering and analysis is performed by the authors.

Conflict of interest statement: All authors declare no conflict of interest.

Ethical review statement: The research is submitted to the ethical review board and approved for the conduct of the study. It does not involve human-sensitive issues.

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