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Integrating Service Quality and Technology Acceptance towards Customer Loyalty in Malaysian Banking: A Proposed Conceptual Framework

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Abstract

Purpose: The rapid digital transformation of the banking industry has fundamentally changed the way financial institutions interact with customers. While service quality and technology acceptance have been widely recognized as critical determinants of customer satisfaction and loyalty, existing studies have predominantly examined these constructs in isolation. Consequently, understanding of how traditional service quality dimensions and digital technology acceptance factors jointly influence customer satisfaction and loyalty remains limited, particularly in the Malaysian banking industry. This conceptual paper proposes an integrated research framework that combines the Service Quality (SERVQUAL) model and the Unified Theory of Acceptance and Use of Technology (UTAUT) to explain customer satisfaction and loyalty in the Malaysian banking sector. **Design/methodology/approach:** This study adopts a conceptual research design based on a comprehensive review and synthesis of contemporary literature relating to service quality, technology acceptance, customer satisfaction, and customer loyalty. The proposed framework integrates four SERVQUAL dimensions (reliability, responsiveness, assurance, and tangibles) with four UTAUT constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions). Customer satisfaction is conceptualized as a mediating variable linking these antecedents to customer loyalty. The framework is developed through a critical analysis of prior empirical and theoretical studies published in leading banking, marketing, information systems, and service management journals. **Findings:** The proposed framework suggests that both service quality and technology acceptance are fundamental antecedents of customer satisfaction, which subsequently influences customer loyalty. Specifically, reliability, responsiveness, assurance, tangibles, performance expectancy, effort expectancy, social influence, and facilitating conditions are expected to influence customer satisfaction positively. Customer satisfaction is further proposed to mediate the relationships between the service quality and technology acceptance antecedents and customer loyalty. By

integrating SERVQUAL and UTAUT into a unified conceptual model, this study offers a more comprehensive explanation of customer behavior in increasingly digitalized banking environments. **Research limitations/implications:** As a conceptual study, the proposed framework has not yet been empirically validated. Future studies are encouraged to test the proposed relationships using quantitative methods, such as Structural Equation Modeling (SEM), across diverse banking contexts. The framework also provides opportunities for comparative studies of conventional and Islamic banking institutions, as well as cross-country investigations across ASEAN economies. **Practical implications:** The proposed framework provides valuable insights for banking managers and policymakers seeking to strengthen customer satisfaction and loyalty. The findings suggest that banking institutions should simultaneously improve service quality and digital banking capabilities by enhancing reliability, responsiveness, security, usability, technological infrastructure, and customer support. Such initiatives may improve customer experiences, encourage continued usage of digital banking services, and strengthen long-term customer relationships. **Originality/value:** This study contributes to the existing literature by integrating two dominant theoretical perspectives—SERVQUAL and UTAUT—into a single conceptual framework that explains customer satisfaction and loyalty in the Malaysian banking industry. Unlike previous studies that examined service quality and technology acceptance separately, this framework provides a holistic understanding of customer behavior in contemporary banking environments where traditional service delivery and digital technologies coexist. The study extends relationship marketing and technology acceptance literature by positioning customer satisfaction as a central mediating mechanism linking service quality and technology acceptance to customer loyalty. The proposed framework provides a robust theoretical foundation for future empirical research and contributes to the development of customer-centric digital banking strategies.
Keywords: Service Quality, SERVQUAL, Unified Theory of Acceptance and Use of Technology (UTAUT), Customer Satisfaction, Customer Loyalty, Digital Banking, Malaysian Banking, Technology Acceptance, Conceptual Framework.

Introduction

The global banking industry has undergone significant transformation over the past two decades, driven by rapid technological advancements, increasing competition, changing customer expectations, and evolving regulatory requirements. Digitalization has fundamentally altered how banking products and services are delivered, compelling financial institutions to adopt innovative technologies to remain competitive and relevant in an increasingly dynamic marketplace. Consequently, customer satisfaction and loyalty have emerged as critical strategic priorities for banking institutions seeking sustainable competitive advantage and long-term profitability.

Traditionally, banks competed primarily through product offerings, branch networks, pricing strategies, and customer service excellence. However, the emergence of internet banking, mobile banking applications, digital payment platforms, artificial intelligence (AI), and financial technology (FinTech) solutions has transformed the banking landscape. Modern banking customers increasingly demand convenient, secure, reliable, and efficient banking experiences accessible anytime, anywhere. As a result, banks are no longer evaluated solely on the quality of their face-to-face services but also on the effectiveness and usability of their digital platforms.

Malaysia is among the leading countries in Southeast Asia for digital banking adoption and financial technology development. The Malaysian government's digital economy initiatives, together with regulatory support from the central bank, have accelerated the adoption of digital banking services. The introduction of digital banking licenses, increasing smartphone penetration, and growing consumer familiarity with online financial transactions have encouraged banks to invest heavily in digital transformation initiatives. Consequently, Malaysian banking customers now interact with financial institutions through multiple channels, including branch banking, internet banking, mobile applications, automated teller machines (ATMs), and digital payment ecosystems.

The increasing reliance on digital banking services has created new challenges and opportunities for banking institutions. While technological innovations have enhanced service accessibility and operational efficiency, they have also raised customer expectations for service quality and the digital experience. Customers expect banking systems to provide accurate transactions, seamless functionality, secure environments, responsive customer support, and user-friendly interfaces. Failure to meet these expectations may result in customer dissatisfaction, negative word-of-mouth, and customer switching behavior. Therefore, understanding the factors that influence customer satisfaction and customer loyalty has become increasingly important in the digital banking era.

Customer satisfaction is widely recognized as one of the most important determinants of organizational success in service industries. According to (Oliver 1999)Customer satisfaction refers to the overall evaluation of a product or service based on the extent to which customer expectations are fulfilled. Satisfied customers are more likely to maintain long-term relationships with service providers, engage in repeat purchases, recommend services to others, and exhibit stronger loyalty behaviors. In the banking industry, customer satisfaction has been consistently associated with higher retention rates, increased profitability, and stronger competitive positioning.

Similarly, customer loyalty has become a strategic asset for financial institutions. Customer loyalty reflects a customer's commitment to continue using a bank's products and services despite the availability of alternative providers. Loyal customers are generally less price-sensitive, more receptive to cross-selling opportunities, and more likely to advocate for the organization through positive recommendations. Previous studies have consistently demonstrated that acquiring new customers is significantly more expensive than retaining existing customers, making customer loyalty an essential component of long-term business sustainability.

One of the most widely adopted frameworks for examining customer satisfaction and loyalty in service industries is the Service Quality (SERVQUAL) model developed by (Parasuraman, Zeithaml et al. 1988). The SERVQUAL model posits that customers evaluate service quality across several dimensions, including reliability, responsiveness, assurance, empathy, and tangibles. Numerous studies have applied SERVQUAL in the banking sector and found that service quality significantly influences customer satisfaction and loyalty. In particular, reliability, responsiveness, assurance, and tangibles have been identified as critical determinants of customer perceptions in both traditional and digital banking environments.

Reliability refers to a bank's ability to perform promised services accurately and dependably. Customers expect banking transactions to be processed correctly, account information to be accurate, and digital systems to function consistently without interruption. Responsiveness reflects banks' willingness and ability to provide prompt service and effective assistance to customers. Assurance relates to customers' confidence in a bank's competence, professionalism, and security measures. Tangibles encompass the physical and visual aspects of service delivery, including branch facilities, websites, mobile applications, and technological infrastructure. Collectively, these dimensions contribute to customers' overall assessment of service quality and influence their satisfaction levels.

While service quality remains an important determinant of customer satisfaction, the increasing digitalization of banking services has highlighted the importance of technology acceptance factors. The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by (Venkatesh, Morris et al. 2003)is one of the most influential frameworks for understanding technology adoption behavior. The UTAUT model proposes that technology acceptance is influenced by four primary constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Performance expectancy refers to the degree to which customers believe that using digital banking technologies will improve their banking performance and efficiency. Effort expectancy reflects the perceived ease of using digital banking systems. Social influence represents the extent to which customers perceive that important others encourage or expect them to use digital banking services. Facilitating conditions refer to the availability of organizational and technical support that enables technology use. These constructs have been widely applied in studies examining mobile banking, internet banking, and financial technology adoption.

Despite the extensive literature on service quality and technology acceptance, existing research has generally examined these constructs independently. Many studies have focused exclusively on service quality as a predictor of customer satisfaction and loyalty, while others have concentrated solely on technology acceptance factors influencing digital banking adoption. Such fragmented approaches may not adequately reflect the realities of contemporary banking environments, where customers simultaneously evaluate both service quality and digital technology performance. Consequently, a more comprehensive framework is needed to integrate traditional service quality dimensions and technology acceptance constructs to explain customer satisfaction and customer loyalty.

Furthermore, few studies have examined the combined effects of SERVQUAL and UTAUT in the Malaysian banking context. Given Malaysia's rapidly evolving digital banking ecosystem and unique dual banking system comprising conventional and Islamic financial institutions, a context-specific framework is needed to capture the factors influencing customer behavior in the local banking environment. Additionally, the mediating role of customer satisfaction in the relationship between service quality, technology acceptance, and customer loyalty remains underexplored.

To address these gaps, this study proposes an integrated conceptual framework that combines the SERVQUAL and UTAUT dimensions to explain customer satisfaction and loyalty

in the Malaysian banking sector. Specifically, the framework incorporates reliability, responsiveness, assurance, tangibles, performance expectancy, effort expectancy, social influence, and facilitating conditions as antecedents of customer satisfaction, which subsequently influences customer loyalty. By integrating traditional service quality and technology acceptance perspectives, the proposed framework seeks to provide a more comprehensive understanding of customer behavior in the digital banking era.

This paper contributes to the existing literature in several ways. First, it integrates two well-established theoretical frameworks into a single conceptual model. Second, it extends research on customer loyalty by incorporating both service quality and technology acceptance dimensions. Third, it positions customer satisfaction as a mediating mechanism linking service quality and technology acceptance to customer loyalty. Finally, it provides a framework tailored to the Malaysian banking industry, offering valuable insights for researchers, practitioners, and policymakers seeking to enhance customer satisfaction and loyalty in an increasingly digitalized banking environment.

Literature Review and Hypotheses Development

Service Quality in Banking Services

Service quality has been widely acknowledged as a critical determinant of organizational performance, customer satisfaction, and customer loyalty in service-oriented industries. Within the banking sector, service quality plays a fundamental role in shaping customer perceptions and influencing behavioral intentions. (Parasuraman, Zeithaml et al. 1988) The SERVQUAL model, one of the most influential frameworks for measuring service quality, was introduced. The model proposes that customers evaluate service quality based on the gap between expectations and perceived performance.

As banking services increasingly migrate toward digital platforms, service quality remains a crucial factor in determining customer experiences. While traditional banking interactions focused on face-to-face encounters, modern customers evaluate the quality of both physical and electronic services. Consequently, dimensions such as reliability, responsiveness, assurance, and tangibles continue to influence customer satisfaction and loyalty in both traditional and digital banking environments.

Reliability and Customer Satisfaction

Reliability refers to a banking institution's ability to deliver promised services accurately, dependably, and consistently. It represents the extent to which customers can trust a bank to perform transactions correctly, maintain accurate records, and provide uninterrupted services. Reliability is particularly important in banking because customers entrust financial institutions with sensitive financial information and assets.

According to Parasuraman, Zeithaml, and Malhotra, reliability is often regarded as the most important dimension of service quality because it directly influences customer trust and confidence. In digital banking environments, reliability encompasses system availability, transaction accuracy, real-time account updates, and uninterrupted access to banking services. Customers expect online banking platforms to function consistently without technical disruptions or transaction errors.

Recent studies have confirmed the importance of reliability in influencing customer satisfaction. (Kaura, Durga Prasad et al. 2015) reported that reliability positively affects customer trust and satisfaction, which, in turn, influences loyalty intentions. When customers perceive banking services as dependable and accurate, they are more likely to develop positive evaluations of the institution.

Therefore, the following hypothesis is proposed:
H1: Reliability positively influences customer satisfaction in the Malaysian banking industry.

Responsiveness and Customer Satisfaction
Responsiveness refers to service providers' willingness and ability to assist customers promptly and effectively. In banking services, responsiveness includes timely responses to customer inquiries, efficient complaint handling, and immediate assistance during service failures.

The significance of responsiveness has increased in digital banking environments where customers expect instant solutions and continuous support. Modern customers often interact with banks through multiple channels, including mobile applications, online chat systems, social media platforms, and customer service hotlines. Consequently, the speed and effectiveness of responses significantly influence customer experiences.

(Fassnacht and Koese, 2006) argued that responsiveness is a critical determinant of electronic service quality because prompt responses reduce customer frustration and increase confidence in service providers. (Liao, Nguyen et al., 2024) Further demonstrated that responsive customer support positively influences customers' attitudes toward e-banking adoption and usage.

When banking institutions effectively address customer concerns and provide timely assistance, customers are more likely to view the service positively, leading to higher satisfaction.

Therefore, the following hypothesis is proposed:
H2: Responsiveness positively influences customer satisfaction in the Malaysian banking industry.

Assurance and Customer Satisfaction
Assurance refers to the knowledge, competence, credibility, and professionalism that service providers demonstrate, which inspire customer confidence and trust. In banking environments, assurance is particularly important because financial transactions involve significant perceived risks.

Customers expect banks to provide secure transactions, protect personal information, and maintain high levels of professionalism. As digital banking transactions continue to increase, concerns regarding cybersecurity, fraud, and privacy protection have become increasingly important.

(Zeithaml, Parasuraman et al. 2002) highlighted that assurance significantly reduces perceived risk in electronic service environments.

Customers who perceive their banking institution as secure, trustworthy, and competent are more likely to be satisfied and maintain long-term relationships with the organization.

Therefore, the following hypothesis is proposed:
H3: Assurance positively influences customer satisfaction in the Malaysian banking industry.

Tangibles and Customer Satisfaction
Tangibles refer to the physical and visual elements associated with service delivery. In traditional banking environments, tangibles include branch facilities, equipment, and employee appearance. In digital banking environments, tangibles encompass website design, mobile application interfaces, visual appeal, and technological infrastructure.

As customer interactions increasingly occur through digital channels, the design and functionality of online banking platforms have become important determinants of customer experiences. Well-designed interfaces enhance usability, reduce customer effort, and improve perceptions of service quality.

(Amin 2016) reported that the dimensions of electronic service quality significantly influence customer satisfaction in internet banking. Similarly, (Zeithaml, Parasuraman et al. 2002) suggested that visually appealing and user-friendly websites positively affect customer perceptions and behavioral intentions.

Consequently, customers who perceive banking platforms as attractive, modern, and easy to navigate are more likely to experience higher levels of satisfaction.

Therefore, the following hypothesis is proposed:
H4: Tangibles positively influence customer satisfaction in the Malaysian banking industry.

Technology Acceptance in Digital Banking
The rapid adoption of digital banking technologies has increased the importance of understanding factors that influence customer acceptance and usage behavior. The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by (Venkatesh, Morris et al. 2003)provides a comprehensive framework for explaining technology adoption.

The UTAUT model proposes that performance expectancy, effort expectancy, social influence, and facilitating conditions significantly influence users' acceptance and utilization of technological innovations.

Performance Expectancy and Customer Satisfaction
Performance expectancy refers to the extent to which customers believe that using a particular technology enhances their performance and productivity. In banking contexts, performance expectancy reflects the perceived usefulness of digital banking services in managing financial activities efficiently.

Customers are more likely to adopt online banking services when they perceive benefits such as convenience, speed, accessibility, and improved financial management capabilities. (Venkatesh, Morris et al. 2003) Identified performance expectancy as the strongest predictor of technology adoption.

(Kumar, Banerjee et al. 2024) Found that perceived usefulness significantly influences customer engagement and satisfaction within financial service environments. Therefore, when customers perceive digital banking platforms as beneficial and effective, their satisfaction levels are likely to increase.

Accordingly, the following hypothesis is proposed:
H5: Performance expectancy positively influences customer satisfaction in the Malaysian banking industry.

Effort Expectancy and Customer Satisfaction
Effort expectancy refers to the perceived ease of using a technological system. Technologies that are easy to learn and operate are generally associated with higher levels of acceptance and user satisfaction.

Digital banking customers prefer platforms that offer intuitive interfaces, simple navigation, and clear instructions. Complex systems may increase cognitive effort and discourage continued usage.

(Venkatesh, Morris et al. 2003) suggested that effort expectancy significantly influences technology acceptance, particularly during the early stages of adoption. Empirical studies by (Alalwan, Dwivedi et al. 2016) further confirmed that ease of use positively affects customer satisfaction and behavioral intentions in mobile banking environments.

Therefore, the following hypothesis is proposed:
H6: Effort expectancy positively influences customer satisfaction in the Malaysian banking industry.

Social Influence and Customer Satisfaction
Social influence refers to the extent to which individuals perceive that important others believe they should use a particular technology. Family members, friends, colleagues, social media communities, and online reviews increasingly shape customers' attitudes toward digital banking services.

The growing prevalence of social networking platforms has amplified the role of social influence in consumer decision-making. Positive recommendations and testimonials may enhance customers' confidence in adopting digital banking services.

(Kumar, Banerjee et al. 2024) found that social influence significantly affects customer attitudes and technology adoption behavior. Similarly, (Alalwan, Rana et al. 2017) reported that social influence positively affects behavioral intentions toward digital financial technologies.

Therefore, the following hypothesis is proposed:
H7: Social influence positively influences customer satisfaction in the Malaysian banking industry.

Facilitating Conditions and Customer Satisfaction
Facilitating conditions refer to the availability of resources, infrastructure, and support mechanisms necessary to use technology. These conditions include internet accessibility, device compatibility, technical assistance, and organizational support.

(Venkatesh, Morris et al. 2003) argued that facilitating conditions significantly influence technology utilization by reducing barriers to usage. In banking environments, customers require reliable internet access, technical support, and compatible devices to utilize digital banking services effectively.

When customers perceive that adequate support systems are available, they are more likely to experience positive technology interactions and greater satisfaction.

Therefore, the following hypothesis is proposed:
H8: Facilitating conditions positively influence customer satisfaction in the Malaysian banking industry.

Customer Satisfaction and Customer Loyalty
Customer satisfaction has long been recognized as a key determinant of customer loyalty. According to (Oliver 1999)customer satisfaction reflects customers' cumulative evaluation of service experiences relative to expectations. Satisfied customers are more likely to develop positive attitudes toward service providers and maintain long-term relationships.

Within banking services, customer satisfaction contributes to customer retention, positive word-of-mouth communication, increased product adoption, and stronger loyalty intentions. (Bhattacherjee 2001) It is further argued that customer satisfaction serves as a critical mechanism linking customer perceptions and behavioral outcomes.

Numerous studies have confirmed the positive relationship between customer satisfaction and customer loyalty. (Hapsari, Clemes et al. 2016) found that satisfaction significantly mediates the relationship between service quality and loyalty. Similarly, (Slack and Singh 2020) reported that customer satisfaction positively influences customer loyalty and behavioral intentions.

Consequently, satisfied banking customers are more likely to continue using banking services, recommend the institution to others, and resist switching to competing providers.

Therefore, the following hypothesis is proposed:
H9: Customer satisfaction positively influences customer loyalty in the Malaysian banking industry.

Theoretical Foundation and Research Gap Analysis

Theoretical Foundation

Service Quality Theory (SERVQUAL)

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry, remains one of the most influential theories for evaluating service quality across various industries. The theory suggests that customers assess service quality by comparing their expectations with their perceptions of actual service performance. When perceived performance exceeds expectations, customers experience satisfaction; conversely, when it falls short, they experience dissatisfaction.

Originally, SERVQUAL consisted of five dimensions: reliability, responsiveness, assurance, empathy, and tangibles. However, within the context of contemporary banking services, particularly digital banking, reliability, responsiveness, assurance, and tangibles remain the most relevant dimensions for evaluating customer experiences. Together, these dimensions represent customers' perceptions of a bank's ability to deliver dependable, responsive, secure, and user-friendly services.

The SERVQUAL framework has been extensively applied within the banking sector and consistently demonstrates significant relationships with customer satisfaction and loyalty. Studies conducted by (Parasuraman, Zeithaml et al. 1988), (Kaura, Durga Prasad et al. 2015), (Amin 2016), and (Ananda, Kumar et al. 2023) provide strong evidence supporting the importance of service quality in shaping customer attitudes and behavioral intentions.

In the Malaysian banking industry, where competition among conventional banks, Islamic banks, and digital banking providers continues to intensify, service quality remains a crucial determinant of customer satisfaction and long-term customer retention.

Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh and Morris introduced the Unified Theory of Acceptance and Use of Technology (UTAUT) to explain users' acceptance and utilization of technological innovations. UTAUT integrates elements from eight prominent technology adoption theories, including the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT).

The theory proposes four primary determinants of technology acceptance:

1. Performance Expectancy
2. Effort Expectancy
3. Social Influence
4. Facilitating Conditions

Performance expectancy refers to the extent to which users believe technology enhances performance. Effort expectancy reflects how easy the technology is to use. Social influence captures the effect of social networks and significant others on technology adoption. Facilitating conditions refer to the availability of resources and support structures necessary for technology utilization.

UTAUT has been widely applied in studies investigating internet banking, mobile banking, financial technology (FinTech), and digital payment systems. Numerous studies have demonstrated that these constructs significantly influence technology adoption, usage intentions, and customer experiences within digital banking environments.

As banking services become increasingly digitalized, understanding customers' perceptions of technology acceptance is essential to explaining customer satisfaction and loyalty outcomes.

Integration of SERVQUAL and UTAUT

While SERVQUAL focuses on customers' evaluations of service quality, UTAUT explains customers' acceptance and utilization of technology. Historically, banking research has examined these theories independently. However, contemporary banking customers simultaneously evaluate both service quality and technological capabilities when interacting with financial institutions.

For example, customers expect online banking platforms not only to function efficiently but also to provide secure transactions, responsive support services, reliable performance, and visually appealing interfaces. Therefore, relying solely on service quality theory or technology acceptance theory may not fully explain customer behavior.

Integrating SERVQUAL and UTAUT offers a more comprehensive explanation of customer satisfaction and loyalty in digital banking environments. Service quality dimensions capture customers' evaluations of banking services, while technology acceptance constructs explain customers' perceptions of digital banking platforms. Together, these frameworks provide a holistic perspective on customer experiences.

The proposed framework, therefore, integrates four SERVQUAL dimensions (reliability, responsiveness, assurance, and tangibles) and four UTAUT constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) as antecedents of customer satisfaction. Customer satisfaction is subsequently proposed to influence customer loyalty.

This integrated perspective aligns with the realities of modern banking, where service delivery and technology adoption are increasingly inseparable.

Research Gap Analysis

Despite substantial research on customer satisfaction and loyalty in the banking industry, several important gaps remain in the literature.

Gap 1: Fragmented Theoretical Perspectives

Most previous studies have focused either on service quality or technology acceptance independently. Studies employing SERVQUAL primarily investigate the influence of service quality dimensions on customer satisfaction and loyalty, whereas studies utilizing UTAUT predominantly examine technology adoption and usage behavior.

As a result, limited research has integrated both frameworks within a single model capable of explaining customer satisfaction and loyalty in contemporary banking environments.

Gap 2: Limited Integration of Traditional and Digital Banking Factors

The banking industry has undergone a significant digital transformation. Consequently, customers evaluate both traditional service encounters and digital banking experiences simultaneously. However, many existing studies continue to examine these factors separately.

This creates a theoretical gap because customers no longer clearly distinguish between service and technological quality when evaluating banking services.

Gap 3: Insufficient Malaysian Banking Evidence

Although numerous studies have been conducted in developed economies such as the United States, the United Kingdom, China, and other European countries, limited evidence exists on the combined effects of the SERVQUAL and UTAUT constructs in the Malaysian banking sector.

Malaysia's unique banking environment, comprising conventional and Islamic banks, as well as newly established digital banks, provides a valuable context for investigating customer behavior.

Gap 4: Limited Examination of Customer Satisfaction as a Mediator

Previous studies frequently treat customer satisfaction as a direct outcome variable rather than examining its mediating role between service quality, technology acceptance, and customer loyalty.

Understanding customer satisfaction as a mediating mechanism may provide deeper insights into how customer perceptions translate into loyalty behaviors.

Gap 5: Lack of Comprehensive Customer Loyalty Models

Many customer loyalty studies focus on either behavioral intentions or technology adoption outcomes, without incorporating both the service quality and technology acceptance perspectives.

Consequently, existing models may not adequately capture the multidimensional nature of customer loyalty within digital banking environments.

Research Contribution

The proposed framework addresses the identified research gaps in several ways.

First, it integrates SERVQUAL and UTAUT into a unified theoretical model.

Second, it examines traditional service quality dimensions and technology acceptance constructs simultaneously.

Third, it positions customer satisfaction as a mediating mechanism linking service quality and technology acceptance to customer loyalty.

Fourth, it contributes to Malaysian banking literature by providing a context-specific framework tailored to an increasingly digitalized financial environment.

Finally, the framework provides a foundation for future empirical studies examining customer satisfaction and customer loyalty using advanced analytical techniques such as Structural Equation Modeling (SEM).

Proposed Conceptual Framework

Based on the theoretical foundations and identified research gaps, the following conceptual framework is proposed:

Service Quality (SERVQUAL)
• Reliability
• Responsiveness
• Assurance
• Tangibles
↓
Technology Acceptance (UTAUT)
• Performance Expectancy
• Effort Expectancy
• Social Influence
• Facilitating Conditions
↓
Customer Satisfaction (Mediator)
↓
Customer Loyalty

The framework proposes that both service quality dimensions and technology acceptance constructs positively influence customer satisfaction, which subsequently influences customer loyalty among banking customers in Malaysia.

Proposed Research Model and Proposition Development

Proposed Research Model

Drawing upon the SERVQUAL framework and the Unified Theory of Acceptance and Use of Technology (UTAUT), this study proposes an integrated conceptual model that explains customer loyalty through customer satisfaction in the Malaysian banking industry. The model recognizes that contemporary banking customers evaluate both service quality attributes and technology-related characteristics when interacting with banking institutions.

The proposed model positions reliability, responsiveness, assurance, tangibles, performance expectancy, effort expectancy, social influence, and facilitating conditions as antecedents of customer satisfaction. Customer satisfaction is subsequently proposed to influence customer loyalty.

The model further assumes that customer satisfaction mediates the relationship between service quality and technology acceptance and loyalty outcomes.

This conceptualization is consistent with contemporary relationship marketing theory, which suggests that customers' evaluations of service encounters influence satisfaction, which in turn shapes loyalty intentions and behavioral outcomes.

Proposition Development

Reliability and Customer Satisfaction

Reliability represents the bank's ability to perform promised services accurately and consistently. Customers expect banking institutions to process transactions correctly, maintain accurate records, and provide uninterrupted access to banking services. Since financial transactions involve high levels of trust and perceived risk, reliability remains one of the most critical dimensions of service quality.

Previous studies have consistently reported positive relationships between reliability and customer satisfaction within banking environments. Reliable services enhance customer confidence, reduce uncertainty, and contribute to favorable service evaluations.

Proposition 1 (P1): Reliability positively influences customer satisfaction in the Malaysian banking industry.

Responsiveness and Customer Satisfaction

Responsiveness reflects a bank's willingness to provide timely assistance and effective support to customers. Customers increasingly expect immediate responses to inquiries, complaints, and service issues, particularly in digital banking environments, where interactions occur in real time.

Resolving problems promptly contributes significantly to customer satisfaction by reducing frustration and improving service experiences.

Proposition 2 (P2): Responsiveness positively influences customer satisfaction in the Malaysian banking industry.

Assurance and Customer Satisfaction

Assurance refers to customers' confidence in the bank's competence, professionalism, integrity, and security measures. Given the sensitive nature of financial transactions, assurance is essential in establishing trust between customers and banking institutions.

Customers who perceive banking services as secure and trustworthy are more likely to experience satisfaction and maintain positive relationships with the institution.

Proposition 3 (P3): Assurance positively influences customer satisfaction in the Malaysian banking industry.

Tangibles and Customer Satisfaction

Tangibles encompass both physical and digital aspects of banking service delivery. In contemporary banking environments, tangibles include branch facilities, websites, mobile applications, user interfaces, and technological infrastructure. Visually appealing and user-friendly banking platforms enhance customers' perceptions of service quality and improve overall experiences.

Proposition 4 (P4): Tangibles positively influence customer satisfaction in the Malaysian banking industry.

Performance Expectancy and Customer Satisfaction

Performance expectancy refers to customers' perceptions regarding the usefulness and effectiveness of digital banking services. Customers are more likely to adopt and appreciate technologies that improve convenience, efficiency, and financial management capabilities.

When customers perceive that digital banking platforms provide meaningful benefits, satisfaction levels are likely to increase.

Proposition 5 (P5): Performance expectancy positively influences customer satisfaction in the Malaysian banking industry.

Effort Expectancy and Customer Satisfaction

Effort expectancy reflects the perceived ease of using digital banking technologies. User-friendly interfaces, intuitive navigation structures, and simplified transaction processes contribute to positive customer experiences.

Technologies that require minimal effort are more likely to elicit favorable evaluations and higher levels of customer satisfaction.

Proposition 6 (P6): Effort expectancy positively influences customer satisfaction in the Malaysian banking industry.

Social Influence and Customer Satisfaction

Social influence captures the extent to which customers perceive that significant others encourage the use of digital banking services. Recommendations from family members, friends, colleagues, and online communities increasingly shape customers' perceptions and attitudes.

Positive social influence can enhance confidence in banking technologies and contribute to favorable customer experiences.

Proposition 7 (P7): Social influence positively influences customer satisfaction in the Malaysian banking industry.

Facilitating Conditions and Customer Satisfaction

Facilitating conditions refer to the availability of technical resources, infrastructure, and support mechanisms necessary to use technology. Customers require reliable internet access, compatible devices, and effective technical support to use digital banking services fully.

Supportive facilitating conditions reduce barriers to technology adoption and improve customer experiences.

Proposition 8 (P8): Facilitating conditions positively influence customer satisfaction in the Malaysian banking industry.

Customer Satisfaction and Customer Loyalty

Customer satisfaction represents customers' cumulative evaluation of banking experiences. According to relationship marketing theory, satisfied customers are more likely to maintain long-term relationships with service providers.

Customer loyalty manifests through repeat usage, positive word-of-mouth recommendations, advocacy behaviors, and resistance to switching to competing institutions.

Proposition 9 (P9): Customer satisfaction positively influences customer loyalty in the Malaysian banking industry.

Mediating Role of Customer Satisfaction

Customer satisfaction serves as a central mechanism linking service quality and technology acceptance factors to loyalty outcomes. Customers first evaluate service quality and technology performance before developing satisfaction judgments. These satisfaction judgments subsequently influence loyalty behaviors.

Proposition 10 (P10): Customer satisfaction mediates the relationship between service quality dimensions and customer loyalty.

Proposition 11 (P11): Customer satisfaction mediates the relationship between technology acceptance constructs and customer loyalty.

Theoretical Contributions

The proposed framework contributes to the literature in several important ways.

First, the study advances research on customer loyalty by integrating SERVQUAL and UTAUT into a single conceptual framework. While previous studies have generally treated service quality and technology acceptance separately, this research recognizes their interconnectedness in modern banking environments.

Second, the framework extends service quality theory by demonstrating that traditional service quality dimensions remain relevant despite increasing digitalization. Although technology has transformed banking operations, customers continue to evaluate reliability, responsiveness, assurance, and tangibles when assessing banking services.

Third, the framework extends UTAUT by examining technology acceptance constructs beyond initial adoption behavior. Rather than focusing solely on technology usage intentions, the proposed model investigates how technology acceptance contributes to customer satisfaction and customer loyalty.

Fourth, the study contributes to relationship marketing theory by positioning customer satisfaction as a mediating mechanism linking customer perceptions and loyalty outcomes.

Finally, the proposed framework contributes to the Malaysian banking literature by providing a context-specific model that explains customer behavior in a rapidly evolving digital banking ecosystem.

Managerial Implications

The findings of this conceptual paper provide several practical implications for banking institutions, regulators, and policymakers.

First, banks should prioritize reliability by ensuring accurate transaction processing, system stability, and uninterrupted service availability. Reliable services strengthen customer trust and reduce service-related dissatisfaction.

Second, banking institutions should invest in responsive customer support systems, including live chat, artificial intelligence-based customer service platforms, and effective complaint management.

Third, banks should strengthen assurance through enhanced cybersecurity measures, privacy protection initiatives, fraud prevention systems, and transparent communication practices.

Fourth, banks should continuously improve digital banking platforms to enhance usability, functionality, and visual appeal. User-centered design approaches may significantly improve customer experiences.

Fifth, banks should focus on improving performance expectancy by demonstrating the practical benefits of digital banking services. Features such as real-time transaction monitoring, personalized financial management tools, and integrated digital ecosystems may enhance perceived usefulness.

Sixth, banks should improve effort expectancy through simplified interfaces, intuitive navigation, and customer education programs designed to increase digital literacy.

Seventh, banks may leverage social influence through referral programs, customer advocacy initiatives, influencer partnerships, and social media marketing strategies.

Finally, banking institutions should establish strong enabling conditions by providing technical support, customer assistance services, and digital infrastructure that enable seamless technology use.

Collectively, these initiatives may contribute to higher customer satisfaction and stronger customer loyalty in the Malaysian banking industry.

Future Research Directions

The proposed conceptual framework offers several opportunities for future research within the banking and financial services literature.

First, future studies should empirically validate the proposed framework using quantitative research methods. Structural Equation Modeling (SEM), either covariance-based SEM (CB-SEM) or Partial Least Squares SEM (PLS-SEM), may be employed to examine the proposed relationships among service quality, technology acceptance, customer satisfaction, and customer loyalty. Empirical validation would provide evidence regarding the strength and significance of the proposed relationships.

Second, future researchers may investigate the moderating effects of demographic characteristics such as age, gender, educational background, income level, occupation, and digital literacy. Previous studies have suggested that technology acceptance behaviors vary

significantly across demographic groups. Understanding these differences may provide valuable insights for customer segmentation and targeted marketing strategies.

Third, comparative studies between conventional and Islamic banking institutions are recommended. Malaysia's dual banking system provides a unique environment for examining differences in customer expectations, perceptions of service quality, technology acceptance behavior, and loyalty formation. Such studies may contribute significantly to both banking and Islamic finance literature.

Fourth, future studies may incorporate additional constructs to enhance the explanatory power of the proposed framework. Variables such as trust, perceived risk, customer engagement, perceived value, customer experience, service innovation, and digital trust may provide a more comprehensive understanding of customer behavior within digital banking environments.

Fifth, longitudinal research designs are recommended to examine changes in customer perceptions over time. Customer expectations, technology adoption patterns, and satisfaction levels may evolve as banking technologies continue to develop. Longitudinal studies may therefore provide deeper insights into the dynamics of customer loyalty formation.

Sixth, future studies may extend the proposed framework to other financial service sectors, including insurance, fintech platforms, investment services, and digital payment providers. Such investigations may contribute to the framework's generalisability across different financial service contexts.

Finally, cross-country comparative studies across ASEAN countries may provide valuable insights into how cultural, economic, and regulatory factors influence customer satisfaction and loyalty. Comparative studies involving Malaysia, Indonesia, Singapore, Thailand, Vietnam, and the Philippines would significantly enrich the literature on digital banking adoption and customer behavior.

Conclusion

This conceptual paper develops an integrated SERVQUAL-UTAUT framework to explain how service quality and technology acceptance may jointly shape customer satisfaction and, subsequently, customer loyalty in the Malaysian banking industry. Importantly, the relationships advanced in this paper are conceptual propositions derived from the reviewed literature; they should not be interpreted as empirically established findings. Reliability, responsiveness, assurance, tangibles, performance expectancy, effort expectancy, social influence, and facilitating conditions are therefore proposed as antecedents of customer satisfaction. In contrast, customer satisfaction is proposed to influence customer loyalty and to mediate the effects of these antecedents on loyalty.

The framework's principal theoretical contribution is its direct response to the five research gaps identified in this paper. First, it addresses fragmented theoretical perspectives by integrating SERVQUAL and UTAUT within a single model rather than treating service quality and technology acceptance independently. Second, it addresses the limited integration of

traditional and digital banking factors by modeling service-quality evaluations and technology-acceptance perceptions simultaneously. Third, it responds to insufficient Malaysian banking evidence by providing a context-specific framework for a banking environment that includes conventional, Islamic, and increasingly digital banking services. Fourth, it addresses the limited examination of customer satisfaction as a mediator by positioning satisfaction as the mechanism through which service-quality and technology-acceptance perceptions are proposed to translate into loyalty. Fifth, it responds to the lack of comprehensive customer-loyalty models by linking these two theoretical perspectives to a common loyalty outcome.

Through these five contributions, the framework extends the application of SERVQUAL beyond conventional service evaluation and extends UTAUT beyond its predominant focus on technology adoption and usage intention. Their integration provides a theoretical bridge between service marketing and technology-acceptance research, while the mediating role assigned to customer satisfaction connects these antecedent evaluations with relationship-marketing outcomes. The paper's contribution is therefore not evidence that the proposed effects occur, but the development of a theoretically grounded and testable explanation of how they may operate together in the Malaysian banking context.

From a managerial perspective, the framework suggests that banks should consider service delivery and digital technology as interconnected components of the customer experience. Reliability, responsiveness, assurance, interface quality, perceived usefulness, ease of use, social influence, and enabling support may collectively shape satisfaction and, through satisfaction, loyalty. These implications remain provisional until the proposed relationships are empirically tested.

Future research should empirically validate the propositions using appropriate quantitative methods, including structural equation modeling, and assess the proposed mediating effects of customer satisfaction. Comparative testing across conventional, Islamic, and digital banks, as well as across different customer segments and ASEAN markets, would further establish the framework's explanatory power, boundary conditions, and generalisability. Such empirical validation would determine whether the integrated framework robustly explains customer satisfaction and loyalty in increasingly digitalized banking environments.

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