Palestine Technical University
Deanship of Graduate Studies and Scientific Research
Masters in Accounting and Finance

"The Impact of FinTech Service Quality on Bank Performance: The Mediating Role of Customer Satisfaction and Customer Loyalty: An Empirical Study on Palestinian Banks"

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THESIS APPROVAL CERTIFICATE

The undersigned right here, by way of means of certifying that they have read, examined, and endorsed to the Deanship of Graduate Studies and Scientific Research at Palestine Polytechnic University a thesis entitled: *The Impact of FinTech service quality on Bank Performance: The Mediating Role of Customer satisfaction and customer Loyalty: Empirical study on Palestinian banks*" Submitted via *Hadeel Fayez ibrahim Abu Qwider* in partial achievement of the necessities for the diploma of master's in accounting.

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ABSTRACT

The rapid adoption of financial technology (FinTech) has transformed the banking sector, highlighting the critical role of high-quality digital services in shaping customer behavior and enhancing bank performance (Abu-Shanab & Yaseen, 2022; Parasuraman et al., 2005; Zeithaml et al., 2018). This study investigates the impact of FinTech service quality on bank performance in Palestinian commercial banks, with a particular focus on the mediating roles of customer satisfaction and customer loyalty. A total of 456 bank customers participated in the study, and data were analyzed using structural equation modeling (SEM) to examine both direct and indirect effects. The findings indicate that all dimensions of FinTech service quality—efficiency, system reliability, fulfillment, security, responsiveness, personalization, and usability—significantly improve customer satisfaction, which in turn positively influences customer loyalty. Additionally, customer loyalty serves as a strong mediator, amplifying the effect of service quality on bank performance. The study contributes theoretically by integrating service quality and loyalty frameworks within the FinTech context, and offers practical implications for bank managers and policymakers seeking to enhance digital banking services and financial sector stability in emerging markets (Alshurafa & Al-Hawary, 2018; Narteh et al., 2022).

Keywords: FinTech Service Quality, Customer Satisfaction, Customer Loyalty, Bank Performance.

الملخص التنفيذي

شهد التبني السريع للتكنولوجيا المالية (FinTech) تحولًا جوهريًا في القطاع المصرفي، حيث أبرز الدور الحاسم لجودة الخدمات الرقمية عالية المستوى في تشكيل سلوك العملاء وتعزيز أداء البنوك(Abu-Shanab & Yaseen, 2022; Parasuraman et al., 2005; Zeithaml et al., 2018). تسعى هذه الدراسة إلى استقصاء أثر جودة خدمات التكنولوجيا المالية على أداء البنوك في المصارف التجارية الفلسطينية، مع التركيز بشكل خاص على الدورين الوسيطين لكلٍ من رضا العملاء وولائهم. وقد شملت الدراسة عينة مكونة من 456 عميلًا مصرفيًا، وتم تحليل البيانات باستخدام نموذج المعادلات الهيكلية (SEM) لفحص كلٍ من التأثيرات المباشرة وغير المباشرة. وتشير النتائج إلى أن جميع أبعاد جودة خدمات التكنولوجيا المالية—وهي الكفاءة، وموثوقية النظام، والوفاء (تحقيق الوعود)، والأمان، والاستجابة، والتخصيص، وقابلية الاستخدام—تُسهم بشكل ملحوظ في تعزيز رضا العملاء، والذي يؤثر بدوره إيجابيًا على ولاء العملاء. إضافةً إلى ذلك، يُعد ولاء العملاء وسيطًا قويًا يعزز من تأثير جودة الخدمة على أداء البنوك. تُسهم هذه الدراسة من الناحية النظرية في دمج أطر جودة الخدمة والولاء ضمن سياق التكنولوجيا المالية، كما تقدم دلالات تطبيقية مهمة لمديري البنوك وصنّاع السياسات الساعين إلى تحسين خدمات الصيرفة الرقمية وتعزيز استقرار القطاع المالي في الأسواق الناشئة.(Alshurafa & Al-Hawary, 2018; Narteh et al., 2022)

الكلمات المفتاحية :جودة خدمات التكنولوجيا المالية، رضا العملاء، ولاء العملاء، أداء البنوك.

الاهداء

إلى الله عزّ وجلّ، الذي أنار دربي بنوره، ومنحني القوة والصبر لإتمام هذا العمل، فله الحمد أولًا وآخرً . وإلى سيد الخلق، نبينا محمد ﷺ، الذي كان ولا يزال النور الهادي، والمثال الأسمى في الصبر والعلم والعمل، عليه أفضل الصلاة وأتمّ التسليم.

إلى أمي الحبيبة "إيمان التكروري"، نبض قلبي ودفء روحي، التي كانت دعواتها تحيطني في كل لحظة، وتمنحني الطمأنينة حين يثقل الطريق. يا أمي، كنتِ دائمًا النور الذي لا ينطفئ، والقلب الذي لا يخذل، فلكِ هذا الإنجاز وكل ما هو آتٍ بإذن الله.

وإلى والدي العزيز "فايز"، سندي الذي لا يميل، وظلي الذي أستند إليه، الذي علّمني أن لا مستحيل مع الإرادة، وأن الطريق مهما طال لا بد أن يُكمل. هذا النجاح يحمل بصمتك في كل خطوة.

إلى ابنتي الصغيرة "رزان"، يا أجمل هدية من الله، ويا ضحكتي التي تضيء أيامي... رغم صغر سنكِ، كنتِ دافعي لأكمل، ونورًا يخفف عني تعب الطريق. وأهديكِ هذا الإنجاز ليكون يومًا حكاية فخر ترويها . أحبكِ بقدر هذا التعب وأكثر .

إلى خالتي الغالية "ملكة"، التي كانت دائمًا أول المهنئين وأصدق الفرحين، حضوركِ الدافئ وكلماتكِ المليئة بالمحبة لم تكن مجرد دعم عابر، بل كانت قوة حقيقية تدفعني للاستمرار فكنتِ سببًا في أن أُكمل الطريق بثبات وثقة. لكِ مني كل الامتنان والمحبة.

وإلى إخوتي الأحبة، سندي في هذه الحياة، الذين لم يبخلوا عليّ بدعمهم ومحبتهم، فكانوا دائمًا سببًا في قوتي واستمراري. لكم مني كل الامتنان.

إلى صديقاتي الغاليات "إسلام" و"ريان" و"دنيا"، اللواتي لم يكنّ مجرد صديقات، بل كُنّ روحًا تساندني حين أضعف، ويدًا تمتد لي حين أتعب، وكلمة صادقة تعيد لي الأمل.

اللهم كما جمعتني بهم على المحبة، فاجمعني بهم على الخير دائمًا، واكتب لهم من الفرح مثل ما تمنّوا لي وأكثر. إليكم جميعًا أهدي هذا العمل، ليس فقط كإنجاز علمي، بل كقطعة من قلبي تحمل امتنانًا لا يُكتب بالكلمات.

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Full form	Abbreviations	
1	AVE	Average Variance Extracted
2	CA	Cronbach's Alpha
3	CAA	Convenience and Accessibility
4	CBBP	Customer-Based Bank Performance
5	CR	Composite Reliability
6	CS	Customer Satisfaction
7	FinTech	Financial Technology
8	M	Sample Mean
9	O	Original Sample
10	OEAC	Operational Efficiency and Competitiveness
11	PAFS	Profitability and Financial Stability
12	PEOU	Perceived Ease of Use
13	PLS-SEM	Partial Least Squares Structural Equation Modeling
14	PU	Perceived Usefulness
15	Q^2	Predictive Relevance
16	R^2	Coefficient of Determination
17	SAP	Security and Privacy
18	SD / STDEV	Standard Deviation
19	SQ	Service Quality
20	T-stat	T-Statistics
21	TAM	Technology Acceptance Model
22	VIF	Variance Inflation Factor

Chapter One

1. Introduction

1.1 Research Background

The accelerating development of financial technology (FinTech) has profoundly reshaped the structure and functioning of the banking industry worldwide. Banks are increasingly relying on FinTech-based services—such as electronic and mobile banking platforms—to enhance service delivery, improve operational efficiency, and strengthen overall bank performance (Chen et al., 2019; Al-Smadi, 2021). In this context, FinTech service quality has become a strategic factor that influences not only customers ’perceptions of banking services but also banks ’ability to achieve sustainable competitive advantage.

In emerging economies, particularly in the Middle East, the adoption of FinTech and electronic banking services has expanded rapidly, yet unevenly. Prior studies indicate that while banks in the Arab world have made notable progress in digital service provision, several challenges continue to hinder optimal utilization, including technological readiness, customer trust, perceived security risks, and regulatory constraints (Abu-Shanab & Bataineh, 2014; Chong et al., 2019). Within the Palestinian banking sector, these challenges are intensified by economic volatility, political uncertainty, and regulatory pressures, making effective FinTech implementation and service quality management even more critical (Palestinian Monetary Authority [PMA], 2022; PMA, 2023).

Empirical evidence consistently suggests that FinTech adoption and electronic banking services exert a positive influence on bank

performance by improving cost efficiency, expanding service reach, enhancing customer retention, and supporting financial stability (Alshurafa & Al-Hawary, 2018; Kanaan-Jabareen, 2021; Abu-Shanab & Yaseen, 2022). However, recent literature emphasizes that the mere adoption of FinTech solutions is insufficient to achieve superior performance outcomes. Instead, the quality of FinTech services—reflected in system reliability, responsiveness, security, and ease of use—plays a decisive role in translating digital investments into tangible performance gains (Parasuraman et al., 2005; Zeithaml et al., 2018).

From a marketing and service management perspective, customer loyalty represents a critical mechanism through which service quality affects organizational performance. Classical and contemporary loyalty theories assert that high-quality services foster favorable customer attitudes, repeat usage, and long-term relational commitment (Dick & Basu, 1994; Oliver, 1999). In the banking sector, extensive empirical research confirms that service quality positively influences customer loyalty, either directly or indirectly through mediating variables such as customer satisfaction and trust (Caruana, 2002; Hammoud et al., 2018; Islam et al., 2021).

In digital banking environments, the role of service quality becomes even more pronounced due to reduced human interaction and increased reliance on technological interfaces. Studies on electronic and digital service quality demonstrate that customers 'loyalty intentions are strongly shaped by their perceptions of FinTech service performance, system availability, privacy protection, and transactional accuracy (Parasuraman et al., 2005; Narteh et al., 2022). Loyal customers, in turn, contribute to improved bank performance through increased usage of digital channels, lower service costs, enhanced cross-selling opportunities, and positive word-of-mouth effects (Srinivasan et al., 2002; Khan et al., 2020).

Despite the growing international literature on FinTech, service quality, and bank performance, empirical research examining these relationships within the Palestinian banking sector remains limited. Existing local studies have largely investigated FinTech adoption or electronic banking services in isolation, without sufficiently exploring the mediating role of customer loyalty In linking FinTech service quality to bank performance (Alshurafa & Al-Hawary, 2018; Kanaan-Jabareen, 2021). This gap highlights the need for an integrated empirical framework that captures the direct and Indirect effects of FinTech service quality on bank performance in Palestine.

Accordingly, this study aims to examine the impact of FinTech service quality on bank performance, with particular emphasis on the mediating role of customer

loyalty in Palestinian banks. This study adopts a customer-based perspective in evaluating bank performance.

By grounding the analysis In established service quality and loyalty theories and contextualizing them within a developing and constrained banking environment, the study seeks to contribute both theoretically and practically to the understanding of digital banking performance in emerging markets

The link between FinTech and bank performance Is not automatic; it depends on how users perceive and interact with the technology. Therefore, to understand bank performance, it is necessary to examine the drivers of customer acceptance—specifically perceived usefulness and perceived ease of use—and how these factors contribute to building customer loyalty, which ultimately supports sustainable financial success.

1.2 Research Problem

Although banks continue to invest heavily in digital technologies, customer acceptance of digital banking services varies significantly. Many customers still underutilize available digital platforms, despite their advanced features and potential benefits. Previous studies suggest that this gap may be attributed to customers ’perceptions of limited usefulness or difficulties in using digital banking systems (Alalwan et al., 2017).

In several banking contexts, customers may perceive digital banking services as complex, insufficiently responsive to their needs, or lacking in tangible value. Such perceptions can negatively affect their willingness to adopt and continue using these services, thereby reducing the expected returns from banks ’digital transformation initiatives (Venkatesh et al., 2012).

Despite the extensive application of TAM in technology adoption research, empirical evidence regarding its applicability to digital banking services—particularly in relation to customers ’perceptions of usefulness and ease of use—remains inconclusive in some contexts. Moreover, limited attention has been given

to identifying which aspects of perceived usefulness are considered most important by customers.

Accordingly, the research problem of this study can be articulated as follows: Despite significant investments in digital banking technologies, Palestinian banks continue to face a noticeable performance gap.

While technological deployment levels are relatively high, customer utilization of FinTech services and long-term loyalty remain inconsistent. This indicates that technological adoption alone does not guarantee improved bank performance.

The core research problem lies in the lack of empirical clarity regarding how FinTech service quality and Technology Acceptance Model (TAM) dimensions—namely perceived usefulness and perceived ease of use—collectively influence customer satisfaction and customer loyalty, and how these factors subsequently drive bank performance. Without an integrated understanding of these relationships, Palestinian banks are unable to effectively transform digital investments into sustainable competitive advantages and measurable performance outcomes.

1.3 Research Questions

Based on the research problem, the study seeks to answer the questions include main and sub questions

- Main Research Question

  MRQ: To what extent does FinTech service quality impact bank performance in Palestinian banks through the serial mediating roles of customer satisfaction and customer loyalty?

- Sub-Research Questions

  SRQ1 What is the perceived level of FinTech service quality among customers of Palestinian banks?

  SRQ2 What is the Impact of FinTech service quality on customer satisfaction in Palestinian banks?

SRQ3 What is the Impact of customer satisfaction on customer loyalty in Palestinian banks?

SRQ4 What is the Impact of customer satisfaction on bank performance in Palestinian banks?

SRQ5 What is the Impact of customer loyalty on bank performance in Palestinian banks?

SRQ6 Does customer satisfaction mediate the relationship between FinTech service quality and customer loyalty In Palestinian banks?

SRQ7 Does customer loyalty mediate the relationship between customer satisfaction and bank performance in Palestinian banks?

1.4 Objectives of the Study

Research Objectives

- Main Research Objective

  To examine the Impact of FinTech service quality on bank performance in Palestinian banks, considering the mediating roles of customer satisfaction and customer loyalty.

- Specific Research Objectives

1) To investigate the level of FinTech service quality perceived by customers of Palestinian banks.
2) To investigate the effect of FinTech service quality on customer satisfaction in Palestinian banks.
3) To investigate the Impact of customer satisfaction on customer loyalty in Palestinian banks.
4) To investigate the effect of customer satisfaction on bank performance in Palestinian banks.
5) To investigate the Impact of customer loyalty on bank performance in Palestinian banks.
6) To investigate the mediating role of customer satisfaction in the relationship between FinTech service quality and customer loyalty.

7) To investigate the mediating role of customer loyalty In the relationship between customer satisfaction and bank performance.

1.5 Significance of the Study

This study holds significant theoretical and practical importance by addressing a critical gap in the digital banking and FinTech literature, particularly within the context of emerging economies and the Palestinian banking sector.

- Theoretical Significance

  From a theoretical perspective, this research contributes to the existing body of knowledge by developing and empirically testing an integrated framework that links FinTech service quality to bank performance through the mediating roles of customer satisfaction and customer loyalty. While prior studies have extensively examined FinTech adoption, electronic banking services, and bank performance, limited attention has been given to the underlying behavioral mechanisms through which FinTech service quality translates into performance outcomes. By incorporating customer satisfaction and customer loyalty as sequential mediators, this study extends classical service quality and loyalty theories (e.g., Parasuraman et al., 2005; Oliver, 1999) into the FinTech-enabled banking context.

  Moreover, this research enriches the FinTech and digital banking literature by providing empirical evidence from the Palestinian banking sector, a context that remains underrepresented in prior empirical studies. The findings are expected to offer contextual insights that enhance the generalizability and applicability of service quality and customer behavior theories in developing and constrained banking environments.

  Furthermore, this study bridges the gap between technology acceptance theory and relationship marketing literature by demonstrating how technical attributes such as perceived usefulness and ease of use form the foundation of broader FinTech service quality perceptions. These perceptions subsequently influence customer

satisfaction and loyalty, thereby linking technological evaluation with long-term relational and performance outcomes

- Practical Significance

  From a practical standpoint, the findings of this study are expected to provide valuable insights for bank managers, policymakers, and regulators. Understanding how FinTech service quality influences customer satisfaction and loyalty can assist bank management in prioritizing digital service improvements that directly contribute to enhanced bank performance. The results may guide banks In allocating resources more effectively toward improving system reliability, security, responsiveness, and user experience in FinTech services.

  Additionally, the study offers important implications for regulatory authorities, particularly the Palestinian Monetary Authority, by highlighting the role of FinTech service quality in strengthening customer trust, financial inclusion, and banking sector stability. The empirical evidence generated by this research can support informed policymaking and the development of regulatory frameworks that encourage sustainable digital transformation within the banking sector.

  The study also provides a practical roadmap for bank managers and marketers to move beyond simple digital adoption metrics, such as application downloads, toward fostering meaningful customer engagement and loyalty. This shift from adoption to sustained usage represents the true driver of return on investment (ROI) in digital transformation initiatives within the banking sector.

- Methodological Significance

  Methodologically, this study contributes by employing a structural equation modeling (SEM) approach to examine both direct and Indirect relationships among key variables. The use of mediating analysis provides a more comprehensive understanding of the causal mechanisms linking FinTech service quality to bank

performance, thereby enhancing the robustness and explanatory power of the research model.

1.6Research Limitations

Despite the potential contributions of this study, several limitations should be acknowledged to provide context for the interpretation and generalization of the findings:

- Geographical Scope:

The study focuses exclusively on Palestinian commercial banks, which limits the generalizability of the findings to other countries or regions with different banking regulations, technological infrastructure, and economic conditions.

- Cross-Sectional Design:

Data are collected at a single point in time, making it difficult to capture the dynamic and evolving nature of FinTech service adoption and customer behavior. Longitudinal studies could provide deeper insights into changes In customer satisfaction, loyalty, and bank performance over time.

- Self-Reported Data:

The study relies on customer surveys to measure perceptions of FinTech service quality, satisfaction, and loyalty. Self-reported data may be subject to response bias, social desirability bias, or misperception, which could affect the accuracy of the results.

- Limited Variables:

While the study examines FinTech service quality, customer satisfaction, and loyalty as determinants of bank performance, other potential influencing factors—such as organizational culture, employee competence, regulatory changes, or macroeconomic conditions—are not included in the model.

- Measurement Constraints:

The operationalization of constructs relies on established scales (e.g., E-S-QUAL for service quality), which may not fully capture local context-specific nuances of digital banking experiences in Palestine.

- Technological Bias:

Customers 'familiarity and comfort with digital banking tools may vary based on age, education, or technological literacy, which could influence responses and limit the applicability of the findings to all customer segments.

- Causal Inference Limitation:

Although SEM analysis allows testing of direct and indirect relationships, the cross-sectional nature of the study prevents establishing strong causal relationships between FinTech service quality, customer satisfaction, loyalty, and bank performance

1.7 Structure of the Study

Research Structure

This study is structured into five main chapters, each designed to provide a comprehensive and logical progression from theoretical foundations to empirical findings and conclusions. The chapters are organized as follows:

Chapter 1: Introduction

This chapter introduces the research topic, provides the research background, and explains the importance of examining the impact of FinTech service quality on bank performance in Palestinian banks. It outlines the research problem, objectives, research questions, and significance of the study,

Chapter 2: Literature Review

The literature review chapter critically examines existing studies related to FinTech adoption, electronic banking service quality, customer satisfaction, customer loyalty, and bank performance. It identifies gaps in the existing research, particularly in the context of Palestinian banks, and provides the theoretical foundation for the research hypotheses. The chapter also discusses relevant models,

such as E-S-QUAL, service quality, and loyalty frameworks, and establishes the conceptual relationships among the study variables.

Chapter 3: Research Methodology

This chapter explains the research design, including the population and sampling, data collection methods, and measurement instruments for each variable. It provides a detailed description of the structural equation modeling (SEM) approach, including the assessment of reliability, validity, and model fit. Ethical considerations and limitations related to data collection are also addressed.

Chapter 4: Data Analysis and Results

In this chapter, the collected data are analyzed using Smart PLS or equivalent SEM software. The chapter presents descriptive statistics, measurement model assessment, and structural model testing. It reports the direct, indirect, and mediating effects of FinTech service quality on bank performance through customer satisfaction and customer loyalty. The results are interpreted In light of the research questions and hypotheses.

Chapter 5: Discussion, Conclusions, and Recommendations

The final chapter discusses the key findings of the study, comparing them with previous research. It provides conclusions, theoretical and practical implications, and policy recommendations for bank.

Chapter Two

2. Literature Review

2.1 theoretical literature review (core theories & constructs)

2.1.1 FinTech adoption - FinTech-enabled services.

IT has deeply transformed industries, including banking. Banks invest heavily in IT, but customer-facing systems still focus on basic operational tasks. The rise of disruptive technologies—similar to media and travel industry shifts—signals that banking may face similar disruption. (Alt,2012)
FinTech refers to digital financial technologies (mobile banking, e-wallets, P2P payments, robo-advice, AI chatbots) that change how banks deliver services. FinTech adoption can be studied both as the firm-side implementation (bank investment & capability) and the customer-side uptake (use, frequency, trust).

Four major drivers of transformation to FinTech are identified by Alt (2012): (1) consequences of financial crises; (2) changing behavior of digital-native customers; (3) rapid diffusion of innovative IT solutions; (4) emergence of non-banks offering financial services. These factors intensify pressure on banks to innovate**.**

Research on FinTech adoption commonly builds on classical technology-acceptance frameworks such as TAM and UTAUT/UTAUT2, often extended with trust and perceived risk constructs. Several empirical studies integrate TAM/UTAUT constructs (perceived usefulness, ease of use, performance expectancy) with trust/security variables to better explain behavioral intentions toward FinTech. Systematic reviews confirm TAM/UTAUT remain dominant but highlight that pure technology factors alone are insufficient without trust/security considerations. (amnas et.al,2023)

2.1.2 Key determinants of FinTech adoption

- Perceived usefulness / perceived benefits — consistently strong positive predictor of adoption across contexts (developed and emerging markets). (al-mamun,2025)

- Ease of use / usability — supports initial adoption and influences continued use through better user experience. (wei,2025)
- Trust and security — among the most robust mediators/moderators: trust reduces the negative effect of perceived risk and often mediates between system features and behavioral intention. Several reviews and empirical papers place trust as central. (amnas,2023)
- Perceived risk (financial, security, time, social) — consistently shown to hinder adoption; different studies disaggregate risk types (e.g., Zhao et al. identify time, financial, social, and performance risks).(zhao,2023) Social influence & social influence and facilitating conditions — important in collectivist or lower-tech contexts; social proof and infrastructure/support increase uptake(almashhadani,2023).

2.1.3 Technology Acceptance Model (TAM).

The Technology Acceptance Model (TAM), originally developed by Davis (1989), posits that perceived usefulness (PU) and perceived ease of use (PEOU) are primary determinants of a user's behavioral intention to adopt a technology. In the FinTech field, researchers widely leverage TAM to understand why individuals accept or reject digital financial services. Studies apply TAM in its classic form and often extend It by integrating trust, risk, and service quality variables, given the specific nature of financial technologies (Amnas, 2023; Almashhadani, 2023).

2.1.4 Empirical Evidence: Use of TAM in FinTech Adoption

Amnas (2023) investigated the determinants of FinTech adoption and found that perceived usefulness and perceived ease of use remain significant predictors. However, the study also highlighted that these are not enough to fully explain adoption behavior in financial applications; trust and security play crucial additional roles.

In Jordan, Almashhadani (2023) applied an extended TAM-UTAUT model to examine digital banking usage. Their results showed that besides PU and PEOU,

social influence and facilitating conditions had notable effects, suggesting that contextual and social factors complement the TAM core constructs.

Wei (2025) analyzed mobile FinTech adoption through perceived value and perceived risk, but also referenced TAM to explain how users ’evaluations of usefulness and risk mediate their intentions. In their model, PU contributed positively to behavioral intention, while risk had a negative effect.

- Integrating Trust and Risk into TAM

  Because financial transactions inherently involve uncertainty and sensitive information, many FinTech studies extend TAM by incorporating trust and perceived risk:

  Jafri (2023) conducted a systematic literature review on how trust and security influence FinTech behavioral intentions. The review found that In TAM-based studies, trust often mediates the relationship between perceived usefulness / ease of use and intention to adopt. Moreover, security concerns (data breaches, fraud) may moderate these relationships.

  Relatedly, Zhao et al. (2024) examined different types of perceived risk (e.g., financial, performance, social) and found that risk negatively impacts the intention to use FinTech. Their findings suggest that simply improving PU and PEOU may not be sufficient; mitigating perceived risk is equally important for encouraging adoption.

- Role of Service Quality in TAM-based FinTech Research

  Service quality is another critical extension of TAM in FinTech, since users assess not just the technology, but the quality of the financial service offered through it:

  Sharma (2024) explored whether service quality matters in FinTech payment platforms. By combining TAM with service-quality dimensions (such as responsiveness, reliability, security), Sharma found that service quality significantly moderates the effect of perceived usefulness on intention to adopt. In other words, even if a platform Is perceived as useful, low service quality can weaken the adoption intention.

In a Saudi banking context, Aldaarmi (2024) integrated TAM with service-quality constructs and demonstrated that assurance, responsiveness, and usability of FinTech services strongly influence customer satisfaction, which in turn mediates the relationship between TAM constructs and continued usage**.**

2.1.5 Expectation–Confirmation Theory (ECT) & Service Quality frameworks.

1- **Expectation–Confirmation Theory (ECT)**

Expectation Confirmation Theory (ECT), that's the theory is developed by Oliver (Oliver, 1977, 1980), posits that individuals form expectations prior to experiencing a service or product, and after consumption, they compare these expectations with their actual experience. If performance meets or exceeds expectations, confirmation occurs, leading to satisfaction (Greeshma,2025),Shukla, A(2025) ECT explains how consumers form expectations before using a product and evaluate satisfaction after comparing expectations with actual performance. Satisfaction influences loyalty, repurchase, and post-adoption behavior. The theory links to cognitive dissonance, highlighting how mismatches between beliefs and experiences generate disconfirmation

Briefly, Expectation Confirmation Theory (ECT) suggests that consumer satisfaction depends on the relationship between their expectations and their perception of the actual performance of a product or service. When performance meets or exceeds expectations, it leads to confirmed satisfaction. Conversely, if performance fails to meet expectations, it leads to uncertainty and dissatisfaction. (Greeshma,2025) .

In the same study Shukla, A(2025) ECT follows four steps:

1. Formation of expectations

Pre-purchase information: Consumers form initial expectations based on their prior knowledge, experience, and information from various sources.

Information sources:

Mass media: Advertising, media reports, and other forms of media exposure provide product information.

Direct channels: Personal selling, peers, opinion leaders, and influencers also shape expectations.

Realism: Accurate information leads to realistic expectations, while misleading information can lead to unrealistic ones.

2. Interaction and experience

Consumers purchase and use the product after considering the information they have gathered.

During use, they form perceptions of the product's performance.

3. Confirmation or disconfirmation

Consumers compare their perceived performance to their initial expectations.

Positive disconfirmation: Perceived performance is greater than expectations.

Negative disconfirmation: Perceived performance is less than expectations.

Simple confirmation: Perceived performance is equal to expectations.

4. Cognitive adjustment and satisfaction

Consumers adjust their attitudes based on the outcome of the confirmation process.

Positive disconfirmation and simple confirmation: Lead to satisfaction, a positive attitude, and a higher likelihood of repurchasing.

Negative disconfirmation: Leads to dissatisfaction and an unfavorable attitude toward the product.

ECT is used across marketing (consumer satisfaction, loyalty), sociology (police-citizen encounters), public policy (citizen satisfaction with public services), social psychology (stereotypes), and information systems (continuance of digital services). It helps predict behavior in mobile banking, e-learning, AI assistants, wearables, ride-sharing, and more. But the theory limited in struggles with extreme expectations, unrealistic expectations, and situations where satisfaction does not

match performance. Expectation formation is less applicable to IS contexts, where users always have predefined expectations. The theory treats expectations as static; despite evidence they evolve over time. Other factors (habit, enjoyment, culture, social influence) also affect continuance intentions. **(**Shukla, A (2025

(ECT) technique has undergone several revisions to address its limitations and enhance its applicability in diverse contexts. A key revision has been the incorporation of the concept of "uncertainty sensitivity" (Ailawadi et al., 2001), which explores how consumers' reactions to the same level of uncertainty vary based on their past experiences, personality traits, or situational factors. On other side the theory is contribute ins its integration with other psychological concepts, such as justice and fairness. Researchers have argued that consumers' perceptions of fairness in the exchange process can improve the relationship between uncertainty and satisfaction (Greeshma,2025).

2-service quality framework - SERVQUAL

The SERVQUAL model is a popular framework used to measure and evaluate the quality of services provided by organizations. It was developed by researchers Parasuraman, Zeithaml, and Berry in the 1990s and is widely used in service and customer experience management (Asubonteng et al., 1996; Sharma et al.,2024**)**.

The SERVQUAL model includes ten dimensions for measuring service quality. These ten dimensions were then further divided into five dimensions comprising 22 items: reliability, tangibility, responsiveness, empathy; and assurance. It has been claimed that these dimensions are general and can be used in different scenarios (Yuen and Thai, 2015; Zhou et al.,2020).

In Sharma et al (2024) study explained these elements as follows:

1. Reliability (R): Service providers ensure consistent, accurate, and reliable delivery, including keeping promises, providing reliable information, and performing services on time.

2. Responsiveness (RES): The service provider assists customers by offering prompt and attentive support, including a willingness to help, responding to customer inquiries and concerns, and quickly resolving issues.

3. Assurance (ASS): This encompasses the service provider's skill in building trust, providing accurate information, and demonstrating professionalism and competence while delivering the service.

4. Empathy (EMP): The service provider shows great concern by understanding and addressing customers' concerns, listening to them attentively, and empathizing with their feelings and needs.

5. Tangibles (TAN): The tangible elements include the visible elements of the service, covering physical evidence such as facilities, equipment, and personnel.

The main steps of SERVQUAL to evaluate service quality: (GeeksforGeeks, 2025):

1. Establishing Client Objectives
2. Evaluating Views of Actual Service Provision
3. Calculating the Gap
4. Evaluating and Understanding the Data
5. Putting Improvements into Practice
6. Constant Monitoring and Feedback.

2.2 Relationship Marketing & Loyalty

Relationship marketing is a long-term strategy focused on building strong relationships with your customers. Not only is marketing to existing customers more cost-effective (six to seven times cheaper!), but loyal customers are also less likely to lose trust, and the longer your relationship with them lasts, the more profitable it will be.

Research on relationship marketing has expanded significantly in recent years, although no single definition has been universally accepted. Overall, it is viewed as a strategic process that focuses on building strong, long-term relationships with customers at every point of interaction. Relationship marketing involves understanding customer needs, developing strategies to meet their expectations, and fostering sustainable, mutually beneficial relationships. Scholars emphasize that it is an extension of traditional marketing, aiming to create ongoing value through

customer knowledge, trust, and continuous engagement, ultimately helping firms achieve a competitive advantage (Cevallos,2024).

To develop a genuine relationship, you need to build a strong connection with your customers, and build friendships and feelings that cannot be competed with by any price changes, marketing campaigns, or discounts. Relationship marketing allows you to get inside the customer's mind (and heart) via 5 ways:1- emotional connection, 2- purpose-driven connection, 3- leveraging the brand community ,4- implementing customer feedback mechanisms 5- providing exclusive offers (SuperOffice, 2026) .

Companies that invest in relationship marketing achieve a much greater **ROI** compared to transactional marketing .

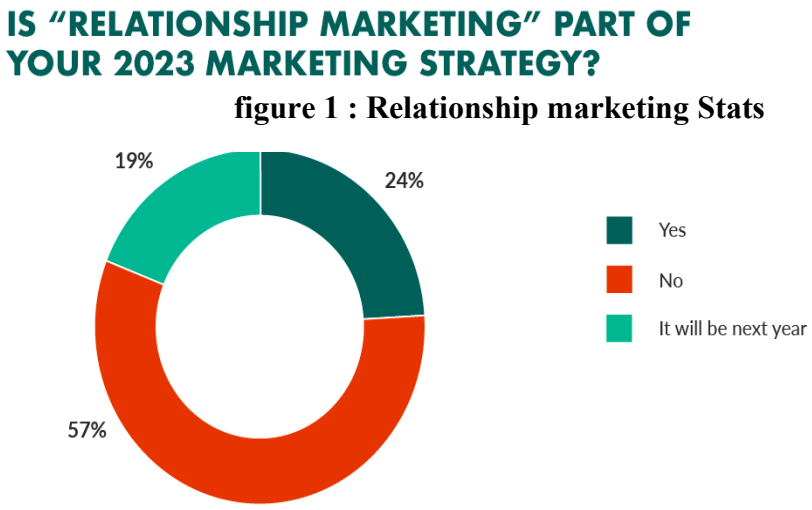


figure 1 : Relationship marketing Stats

In light of current intense competition and radical changes in consumer lifestyles, many companies have sought to change their business model, these changes can significantly impact individual purchasing behaviors, prompting companies to adapt and explore all necessary avenues to improve their existing products or services to better meet their customers' needs. (Kim et al,2024).

Customer loyalty is widely defined by Jacoby and Kyner (1973) as a non-random, repeated behavioral response—such as repeat purchasing—made over time by a decision-making unit toward a preferred brand among several alternatives. This definition emphasizes that loyalty involves deliberate, consistent choices, not accidental repetition. Oliver (1999) builds on earlier definitions and views loyalty as progressing through three key phases: 1. Cognitive loyalty – based on the consumer's evaluation of information about the product or service. 2. Affective loyalty – the development of positive feelings toward the brand. 3. Conative loyalty – a strong intention or commitment to repurchase. Oliver also adds a fourth phase: Action loyalty, which reflects actual commitment and consistent purchasing despite situational influences or external pressures. According to him, loyalty is a deeply held commitment to repurchase a preferred product or service consistently in the future. He distinguishes between: Proactive loyalty: an active, intentional desire to continually buy the brand. Situational loyalty: when purchasing is influenced by specific circumstances or special occasions. In service contexts—where purchases often recur annually—situational factors play an important role. Therefore, customer loyalty is not measured only by purchase frequency, but also by the strength and stability of the consumer's commitment to the brand. (McMulan,2008).

In Kim (2024) study summarize Loyalty as a deep commitment to remain with the same service provider, which leads customers to repurchase from that provider in the future. In the literature, two main forms of loyalty are commonly assessed: attitudinal loyalty and behavioral loyalty. Attitudinal loyalty reflects a psychological inclination or positive attitude toward a brand, often expressed through intentions to buy or recommend, without necessarily requiring actual repurchase behavior. Behavioral loyalty, on the other hand, refers to a consistent pattern of repeat purchasing, indicating a customer's long-term commitment to a product or service. To explain how loyalty develops, various relationship theories suggest that social relationships between customers and firms evolve through mutual exchanges and obligations. These exchanges do not rely solely on frequency but are also influenced by unexpected outcomes and perceived fairness between the

parties. Even a small imbalance in reciprocal exchange can generate strong relational bonds—such as trust, generosity, and loyalty—between customers and firms. When firms meet customer needs by providing products or services, customers respond with positive reactions, ultimately reinforcing trust and strengthening loyalty. In the same study the researcher describes customer loyalty in the banking sector, the banking industry is often described as highly complex and competitive, where financial institutions offer similar products and services. As a result, banks have increasingly adopted strategic mechanisms to differentiate themselves from competitors and maintain customer loyalty, recognizing that retaining customers is essential for long-term sustainability. In response to this need, numerous theoretical models have been developed to identify and explain the factors that influence customer loyalty in the banking sector. These models help clarify the key determinants of loyalty and guide empirical studies examining the role of relationship effectiveness, customer satisfaction, and other variables in shaping loyal customer behavior.

2.3Resource-Based View (RBV) and Bank Performance.

Based on the concept of difficult-to-imitate company attributes as sources of superior performance and competitive advantage (Barney, 1986; Hamel and Prahlade, 1996; Madhani,2010). Resources that are difficult to transfer or purchase, and that require an extended learning curve or a significant change in the organization's climate and culture, are likely to be unique to the organization and therefore difficult for competitors to imitate(Madhani,2010).

From RBV, FinTech capabilities (IT infrastructure, data analytics, customer-facing platforms) constitute strategic resources that can improve productivity, reduce costs, enable new products and thus improve financial/market performance. Empirical syntheses find mixed effects — benefits via efficiency and customer retention, risks via compliance and competition. (feng,2025).

2.4 Bank Performance (Concept and Measurement)

Bank performance is a multidimensional construct that can be evaluated using both objective financial indicators and subjective, perception-based measures. Traditionally, bank performance has been assessed using financial indicators such as profitability, return on assets (ROA), and return on equity (ROE), which reflect the financial efficiency and overall success of banking institutions. However, in service-oriented industries—particularly in the banking sector—such objective measures may not fully capture the experiential and relational aspects that shape customer evaluations of performance.

In the marketing and service management literature, increasing attention has been given to subjective measures of performance, especially those based on customer perceptions. These measures focus on how customers evaluate the effectiveness of service delivery, including dimensions such as reliability, responsiveness, efficiency, and overall service quality. Prior studies suggest that customer-based evaluations represent a valid and meaningful proxy for organizational performance, particularly when the research focuses on behavioral outcomes such as satisfaction and loyalty (Cronin & Taylor, 1992; Zeithaml, 2000).
Furthermore, empirical evidence indicates that customer satisfaction and loyalty are strongly associated with improved organizational performance over time, as they contribute to customer retention, repeat usage, and positive word-of-mouth, which ultimately enhance financial outcomes (Anderson et al., 1994; Fornell et al., 2006). This perspective aligns with contemporary approaches that emphasize the strategic importance of customer experience in achieving sustainable competitive advantage in the banking sector.

In the context of financial technology (FinTech), the concept of bank performance becomes increasingly linked to customers' interactions with digital services. As banking services are increasingly delivered through online and mobile platforms, customers assess performance based on their experiences with these technologies, including ease of use, accessibility, security, and service efficiency. Therefore,

relying solely on financial indicators may overlook critical aspects of performance that are directly perceived by customers.

Accordingly, this study adopts a customer-based perspective and conceptualizes bank performance as perceived bank performance, defined as customers' overall evaluation of their bank's effectiveness in delivering high-quality FinTech services and meeting their expectations. This conceptualization provides a more comprehensive understanding of performance in digital banking environments and is consistent with the study's focus on customer behavior and perceptions.

2.5 Theoretical Framework Integration

This study is grounded In multiple theoretical perspectives that explain the relationships among the research variables.

First, the Technology Acceptance Model (TAM) explains how perceived usefulness and perceived ease of use Influence customer satisfaction, as customers are more likely to be satisfied when digital banking services are easy to use and beneficial.

Second, Expectation Confirmation Theory (ECT) explains customer satisfaction as a result of comparing expectations with actual service performance. When FinTech services meet or exceed expectations, customer satisfaction increases, which subsequently enhances customer loyalty.

Third, Service Quality Theory (E-S-QUAL) provides the foundation for measuring FinTech service quality dimensions such as efficiency, security, and responsiveness, which directly influence customer perceptions and satisfaction.

Finally, Relationship Marketing Theory explains how customer satisfaction leads to customer loyalty, which in turn enhances bank performance through long-term relationships.

Thus, the study Integrates these theories to explain the direct and Indirect relationships between FinTech service quality, customer satisfaction, customer loyalty, and bank performance

2.6 Empirical literature

2.6.1 Studies on FinTech Service Quality

FinTech service quality has been recognized as a key factor influencing customer satisfaction and usage of banking services. Parasuraman, Zeithaml, and Malhotra (2005) developed the E-S-QUAL scale to assess electronic service quality across four dimensions: efficiency, fulfillment, system availability, and privacy. Their findings indicated that high service quality enhances customer satisfaction and promotes continued use of online services.

Similarly, Zeithaml, Bitner, and Gremler (2018) emphasized that the quality of digital banking services depends not only on technical functionality but also on responsiveness, accessibility, and data security. These dimensions are critical in shaping customers' perceptions of FinTech services.

In a study on mobile banking adoption, Chong, Lim, Hua, and Pervan (2019) found that service quality positively affects trust and continuous usage of digital banking applications, with security and ease of use being the most influential factors.

In the Arab banking context, Al-Khalil and Al-Naser (2020) reported that electronic banking service quality significantly improves customer satisfaction, which strengthens long-term relationships between customers and banks.

Empirical Findings on FinTech Service Quality Dimensions

FinTech service quality Is a critical determinant of customers 'perceptions and continued usage of digital financial services. Parasuraman et al. (2005) introduced the E-S-QUAL model, identifying efficiency, fulfillment, system availability, and privacy as core dimensions of electronic service quality. Subsequent studies confirmed that high digital service quality enhances satisfaction, trust, and usage Intention (Srinivasan et al., 2002; Zeithaml et al., 2018).

Recent literature emphasizes cybersecurity, data privacy, reliability, and system integration as dominant quality dimensions in FinTech services (Gomber et al., 2018; Vives, 2019; Thakor, 2020). Empirical evidence from mobile and online banking contexts shows that ease of use, responsiveness, and perceived security

significantly influence customer trust and continuance intention (Chong et al., 2019; Shaikh et al., 2020; Dwivedi et al., 2021).

In Arab and emerging markets, FinTech service quality has been found to positively affect customer satisfaction, relationship quality, and adoption intention (Al-Khalil &Al-Naser, 2020; Hammoud et al., 2018; Narteh et al., 2022; Li et al., 2023

The empirical literature highlights the critical role of FinTech service quality dimensions in shaping customer perceptions and driving banking performance. The main findings related to each dimension are summarized below:

1. Efficiency

Findings: Studies consistently report that high efficiency in digital banking platforms enhances customer satisfaction by reducing transaction time and effort (Al-Khalil & Al-Naser, 2020; Narteh et al., 2022).

Impact: Efficient systems contribute directly to increased customer loyalty and indirectly to improved bank performance through repeat usage and positive word-of-mouth.

2.System Availability (Reliability)

Findings: Reliable and consistently available FinTech services positively influence both customer trust and satisfaction. Interruptions, system crashes, or downtime are strongly associated with dissatisfaction and attrition (Parasuraman et al., 2005; Hammoud et al., 2018).

Impact: System reliability is strongly linked to customer loyalty, which in turn mediates its effect on bank performance (Al-Smadi, 2021).

3. Fulfillment (Accuracy of Service)

Findings: Accurate transaction processing, timely updates, and error-free records are crucial in building trust. Empirical evidence shows that service fulfillment significantly increases both customer satisfaction and loyalty (Abu-Shanab & Yaseen, 2022; Alshurafa & Al-Hawary, 2018).

Impact: Fulfillment enhances operational performance by reducing complaints and operational costs, positively affecting financial and non-financial performance indicators.

4. Privacy and Security

Findings: Security and privacy are among the most influential factors affecting digital banking adoption and continued usage. Studies indicate that strong security measures increase customer trust and encourage repeated engagement with digital platforms (Chong et al., 2019; Chen et al., 2019).

Impact: Secure platforms not only strengthen loyalty but also contribute to overall bank performance by minimizing fraud and enhancing customer retention.

5.Responsiveness

Findings: Timely support through digital channels, including chatbots, online help, and customer service, improves satisfaction and reduces perceived risk (Islam et al., 2021; Narteh et al., 2022).

Impact: Responsive digital services enhance loyalty, as customers feel valued and supported, indirectly boosting bank performance.

6.Personalization / Customization

Findings: Personalized digital services increase engagement and satisfaction. Customers are more likely to remain loyal to banks that provide tailored services, targeted recommendations, and customized alerts (Caruana, 2002; Al-Khalil & Al-Naser, 2020).

Impact: Personalization enhances loyalty and cross-selling opportunities, thereby improving revenue streams and overall bank performance.

7.Usability / User-Friendliness

Findings: Studies show that easy-to-use, intuitive platforms significantly reduce errors and improve user satisfaction, especially among less technologically experienced users (Parasuraman et al., 2005; Zeithaml et al., 2018).

Impact: High usability strengthens customer loyalty and encourages continued use of digital services, contributing indirectly to better financial and operational outcomes.

Overall, empirical research demonstrates a clear positive relationship between FinTech service quality dimensions and customer satisfaction and loyalty, which in turn enhance bank performance. While all dimensions are important, studies consistently highlight system reliability, security, and efficiency as the most influential in driving both loyalty and performance outcomes. These findings underscore the need for banks, particularly in developing contexts like Palestine, to invest strategically in high-quality FinTech services to achieve sustainable competitive advantage and improved financial results (Abu-Shanab & Yaseen, 2022; Alshurafa & Al-Hawary, 2018; Narteh et al., 2022).

2.6.2 Studies on Customer Loyalty

Customer loyalty represents a strong commitment to continue engaging with a service provider over time.

Customer loyalty reflects a deeply held commitment to repurchase or continue using a preferred service consistently (Oliver, 1999). Dick and Basu (1994) conceptualized loyalty as comprising behavioral and attitudinal dimensions shaped by service quality, satisfaction, and trust, Oliver (1999) defined loyalty as a deeply held commitment to repurchase or continue using services despite situational influences or marketing efforts by competitors.

Dick and Basu (1994) conceptualized loyalty as consisting of two dimensions: behavioral and attitudinal loyalty. They argued that perceived service quality and trust are key factors in developing both dimensions.

Within digital banking, Srinivasan, Anderson, and Ponnavolu (2002) found that e-service quality affects customer loyalty indirectly through satisfaction and trust. They highlighted that providing a positive digital experience is crucial for fostering loyalty in online banking services.

Moreover, Hammoud, Bizri, and El Baba (2018) demonstrated that in the Lebanese banking sector, high-quality e-services positively influence customer loyalty, especially when services are reliable and responsive.

Within digital banking and FinTech environments, service quality indirectly influences loyalty through satisfaction and trust (Srinivasan et al., 2002; Islam et al., 2021). Recent studies highlight the roles of personalization, perceived value, and digital experience quality in strengthening loyalty toward FinTech-enabled services (Foroughi et al., 2019; Nguyen et al., 2020; Akram et al., 2021; Gupta et al., 2022).

2.6.3 Studies on Bank Performance

According to Davis et al. (1989), non-financial performance encompasses various non-monetary indicators, including customer satisfaction, product quality, innovation, employee development, and operational efficiency, which reflect the overall effectiveness and long-term performance of an organization.

Digital transformation and FinTech adoption have significant effects on banks' operational and financial performance. Chen, Wu, and Yang (2019) indicated that FinTech innovation enhances operational efficiency, increases profitability, and strengthens competitive advantage.

Similarly, Khan, Bose, and Johns (2020) found that investment in technological innovations improves both financial and non-financial performance, while customer satisfaction and loyalty amplify this effect.
In the MENA region, Al-Smadi (2021) reported that high-quality electronic banking services positively impact organizational performance by improving customer satisfaction and reducing operational costs.

In Palestine, Abu-Shanab and Yaseen (2022) demonstrated that adopting FinTech solutions improves the corporate image and customer satisfaction, leading to better overall bank performance.

2.6.4 Studies on the Mediating Role of Customer Loyalty

Several studies highlighted the mediating role of customer loyalty between service quality and organizational performance. Caruana (2002) found that customer loyalty mediates the relationship between service quality and financial performance in service organizations. Improving service quality enhances loyalty, which in turn improves performance outcomes.

Islam, Rahman, and Hossain (2021) confirmed that in banking contexts, customer loyalty mediates the relationship between electronic service quality and bank performance, contributing to increased customer retention and revenue growth.

More recently, Narteh, Amoako-Gyampah, and Odoom (2022) emphasized that in emerging markets, customer loyalty serves as a critical link between digital service quality and competitive advantage.

2.7 Palestinian Studies on FinTech and Bank Performance

Several Palestinian studies have examined the impact of financial technology and digital banking services on the performance of Palestinian banks by employing different independent and dependent variables. Alshurafa and Al-Hawary (2018) analyzed the effect of electronic banking services as the independent variable, measured through dimensions such as internet banking, ATM services, mobile banking, and electronic payment systems, on bank performance as the dependent variable. Bank performance was assessed using operational efficiency, service quality, and customer satisfaction indicators. The study found a statistically significant positive relationship between electronic banking services and bank performance in Palestinian commercial banks.

In a related context, Abu-Shanab and Bataineh (2014) examined technology adoption in banking as the independent variable, focusing on perceived usefulness, ease of use, and technological infrastructure, while the dependent variable was bank competitiveness and service quality. Although the study covered both Jordanian and Palestinian banks, its findings confirmed that technology-driven banking services positively influence banks' competitive position and non-financial performance indicators in Palestine.

Furthermore, Kanaan-Jabareen (2021) investigated the impact of digital transformation initiatives, including FinTech applications, digital platforms, and electronic service innovation, as independent variables, on bank performance as the dependent variable. Bank performance was measured using operational performance, cost efficiency, and sustainability. The results revealed that digital transformation has a significant positive effect on the operational performance of Palestinian banks, particularly in improving efficiency and reducing operational costs.

At the institutional level, reports issued by the Palestinian Monetary Authority (PMA) emphasized the role of FinTech investment and digital banking infrastructure as key explanatory variables influencing financial performance indicators of Palestinian banks, such as profitability, cost efficiency, and financial inclusion. These reports highlighted that increased reliance on digital payment systems, electronic clearing, and mobile banking services has contributed to enhancing banks' overall financial performance despite the challenging economic environment in Palestine (PMA, 2022; PMA, 2023).

Overall, the reviewed Palestinian literature demonstrates that financial technology-related variables—whether measured through electronic banking services, digital transformation, or technological infrastructure—have a positive and significant impact on both financial and non-financial dimensions of bank performance, supporting the inclusion of FinTech as a key explanatory variable in studies focusing on Palestinian banks.

2.8 Summary of Previous Studies and Research Gap

The review indicates growing interest in FinTech service quality, customer loyalty, and bank performance. However, most prior studies were conducted in foreign or Arab contexts, with limited research focusing on the Palestinian banking sector. Moreover, the mediating role of customer loyalty in the relationship between FinTech service quality and bank performance has been underexplored. This highlights the need for the current study, which aims to empirically test an integrated model in the Palestinian banking environment.

2.9 Hypothesis Development

2.9.1 FinTech Service Quality and Customer Satisfaction

Extensive empirical research has examined the relationship between digital service quality and customer satisfaction across various banking contexts. Parasuraman, Zeithaml, and Malhotra (2005) developed the E-S-QUAL scale and demonstrated that efficiency, system availability, and privacy are significant determinants of customer satisfaction in electronic service environments. Similarly, Zeithaml, Bitner, and Gremler (2018) emphasized that digital service quality dimensions—including reliability, responsiveness, and ease of use—directly influence customers' evaluative judgments.

In the Arab banking context, Al-Khalil and Al-Naser (2020) found that electronic banking service quality significantly improves customer satisfaction, while Hammoud, Bizri, and El Baba (2018) confirmed that reliable and responsive e-services enhance satisfaction levels among Lebanese bank customers. More recently, Aldaarmi (2024) employed structural equation modeling and demonstrated that convenience, accessibility, and system integration significantly contribute to customer satisfaction in Saudi digital banking.

Despite these consistent findings, prior research has predominantly examined FinTech service quality as a unidimensional construct or has focused on individual dimensions in isolation. Limited attention has been given to simultaneously examining the combined effects of perceived usefulness, ease of use, security, and

convenience within a single integrated framework, particularly in the Palestinian banking context. Moreover, the Technology Acceptance Model (TAM) posits that perceived usefulness and perceived ease of use are primary determinants of user acceptance (Davis, 1989), yet empirical validation of these relationships within the FinTech-enabled banking environment in Palestine remains scarce.

Building on the theoretical foundations of TAM and the empirical evidence from prior studies, this study proposes the following hypotheses:

- H1: Convenience and accessibility of FinTech services have a significant positive effect on customer satisfaction in Palestinian banks.
- H2: Perceived ease of use of FinTech services has a significant positive effect on customer satisfaction in Palestinian banks.
- H3: Perceived usefulness of FinTech services has a significant positive effect on customer satisfaction in Palestinian banks.
- H4: Security and privacy of FinTech services have a significant positive effect on customer satisfaction in Palestinian banks.

2.9.2 Customer Satisfaction and Customer Loyalty

The relationship between customer satisfaction and customer loyalty has been extensively documented in the marketing and banking literature. Oliver (1999) conceptualized loyalty as a deeply held commitment to repurchase or continue using a preferred service, with satisfaction serving as a key antecedent. Dick and Basu (1994) similarly argued that satisfaction forms the foundation of attitudinal and behavioral loyalty.

Empirical studies have consistently confirmed this relationship. Caruana (2002) found that service quality influences loyalty primarily through satisfaction, establishing satisfaction as a critical mediating mechanism. In the digital banking context, Islam, Rahman, and Hossain (2021) demonstrated that customer satisfaction significantly predicts loyalty intentions, while Ho et al. (2025) confirmed that satisfaction is the strongest predictor of loyalty in mobile banking services.

However, previous studies have largely examined the satisfaction-loyalty link in traditional banking or general e-commerce settings. The extent to which this

relationship holds specifically within the FinTech-enabled banking environment in Palestine—where digital adoption is evolving under unique economic and political conditions—remains empirically underexplored. Additionally, the potential mediating role of satisfaction between FinTech service quality dimensions and loyalty has received limited attention in the Palestinian context.

Therefore, this study proposes:

- H5: Customer satisfaction has a significant positive effect on customer loyalty in Palestinian banks.
- H6: Customer satisfaction mediates the relationship between FinTech service quality dimensions and customer loyalty.

2.9.3 Customer Loyalty and Bank Performance

The strategic importance of customer loyalty in driving organizational performance has been well established in relationship marketing literature. Srinivasan, Anderson, and Ponnavolu (2002) found that loyal customers contribute to improved performance through increased usage, lower service costs, and positive word-of-mouth. Khan, Bose, and Johns (2020) further demonstrated that customer loyalty enhances both financial and non-financial performance indicators in banking contexts.

In emerging markets, Narteh, Amoako-Gyampah, and Odoom (2022) emphasized that customer loyalty serves as a critical link between digital service quality and competitive advantage. Recent empirical evidence by Xu et al. (2025) confirmed that customer loyalty significantly enhances operational performance and long-term financial sustainability in FinTech-enabled banking environments.

Despite this evidence, the direct effect of customer loyalty on perceived bank performance—specifically from a customer-based perspective—has been underexamined in the Palestinian banking sector. Most prior Palestinian studies have focused on financial performance indicators rather than perceived performance, leaving a gap in understanding how loyalty translates into customers' perceptions of bank performance. Additionally, the mediating role of loyalty

between satisfaction and perceived bank performance remains unexplored in this context.

Thus, this study proposes:

H7: customer loyalty mediate the relationship between customer satisfaction and bank performance in Palestinian banks

Chapter Three

3. Research Methodology

3.1 Introduction

This chapter presents a comprehensive explanation of the research methodology adopted to investigate the impact of Financial Technology (FinTech) on the performance of Palestinian banks. The purpose of this chapter Is to outline the systematic procedures and methodological choices employed to ensure the scientific rigor, validity, and reliability of the study findings. By clearly describing the research design, data collection methods, measurement of variables, and analytical techniques, this chapter provides a transparent framework that supports the credibility of the empirical results.

Given the growing importance of FinTech In transforming banking operations and enhancing competitive performance, a robust methodological approach is required to capture the complex relationships between technological adoption and bank performance outcomes. Accordingly, this study adopts a quantitative research approach supported by a descriptive–analytical design, which enables the examination of both the current state of FinTech usage and its causal effects on bank performance through statistical analysis.

This chapter also explains the selection of the study population and sample, the development of the research instrument, and the operationalization of the study variables based on established theoretical and empirical foundations. Furthermore, it details the use of Structural Equation Modeling (SEM) as the primary analytical technique to test the proposed hypotheses and examine the mediating roles of customer satisfaction and customer loyalty in the relationship between FinTech and bank performance.

Overall, this chapter serves as a methodological roadmap for the study, ensuring that the research procedures are logically aligned with the study objectives and hypotheses. The chapter is structured into several sections covering the research design, population and sample, data collection instrument, validity and reliability assessment, data analysis techniques, and ethical considerations, thereby providing

a coherent and systematic basis for the subsequent presentation and discussion of the research findings

3.2Research Design

This study adopts a quantitative research design using a descriptive–analytical approach to examine the impact of Financial Technology (FinTech) on the performance of Palestinian banks. The quantitative design is appropriate for this research as it enables the systematic measurement and statistical analysis of relationships among the study variables based on numerical data collected from a large sample of bank customers.

The descriptive component of the research design aims to describe the characteristics of the study sample and summarize respondents' perceptions of FinTech services, customer satisfaction, customer loyalty, and bank performance. Meanwhile, the analytical component focuses on testing the hypothesized causal relationships between these constructs.

To achieve the research objectives, Structural Equation Modeling (SEM) is employed as the primary analytical technique. SEM is particularly suitable for this study because it allows for the simultaneous examination of multiple relationships, including direct and indirect (mediating) effects, within a single comprehensive model. This approach enhances the robustness of the findings by accounting for measurement error and providing a more accurate representation of the complex relationships between FinTech adoption and bank performance.

Overall, the adopted research design ensures methodological rigor and provides reliable empirical evidence to support hypothesis testing related to the role of Financial Technology in enhancing the performance of Palestinian banks.

3.3 population and sample

The population of this study consists of customers of Palestinian banks. According to data published by the Palestinian Central Bureau of Statistics (PCBS) and the

Palestinian Monetary Authority (PMA), the total number of bank customers in Palestine is estimated at approximately 4,500,000 individuals.

However, the target population of this study is more specifically defined as bank customers who actively use Financial Technology (FinTech) services, including mobile banking, online banking, and digital payment platforms. This group is particularly relevant due to its direct interaction with digital financial services and its ability to provide informed insights into the impact of FinTech on bank performance.

To ensure the validity and relevance of the collected data, participants were selected based on clearly defined inclusion and exclusion criteria.

Inclusion Criteria:

1. Participants must hold an active account in at least one Palestinian bank.
2. Participants must have used at least one form of digital banking service (e.g., mobile banking applications, online banking platforms, or ATM services) within the last six months.
3. Participants must be at least 18 years of age to ensure legal capacity and adequate understanding of financial transactions.
4. Participants must reside in Palestine and actively engage with the local banking system.

Exclusion Criteria:

1. Individuals who do not use any form of digital banking services.
2. Individuals who do not hold an active bank account in a Palestinian bank.
3. Individuals under the age of 18 years.
4. Questionnaires with incomplete or inconsistent responses were excluded from the final data analysis.

3.3.1 Sampling Technique and Justification

This study employed a convenience sampling technique to select participants from the target population of Palestinian bank customers who use FinTech services. Convenience sampling is a non-probability sampling method in which participants

are selected based on their accessibility, availability, and willingness to participate in the study (Etikan, Musa, & Alkassim, 2016).

The adoption of this technique is justified by several practical and methodological considerations. First, the absence of a comprehensive and accessible sampling frame poses a significant limitation. A complete list of Palestinian bank customers who actively use FinTech services is not publicly available due to banking privacy regulations and data protection policies. This makes the application of probability sampling methods, such as simple random or stratified sampling, impractical (Saunders, Lewis, & Thornhill, 2019)

Second, the geographical dispersion of the population across different Palestinian governorates creates logistical challenges in reaching respondents through probabilistic sampling methods. Conducting random sampling would require substantial time, cost, and field access, which may not be feasible within the constraints of this study (Taherdoost, 2016).

Third, convenience sampling is widely used in studies related to FinTech, digital banking, and technology adoption, particularly in emerging market contexts. Previous empirical research has demonstrated that this method can yield valid and reliable results when the study focuses on user perceptions and behavioral analysis (Alalwan et al., 2017; Al-Smadi, 2021; Hammoud et al., 2018; Islam et al., 2021).

While convenience sampling limits the ability to generalize findings to the entire population with full statistical confidence, it is considered appropriate for this study, which aims to examine relationships between variables and provide explanatory insights. Therefore, the findings can be interpreted with reasonable confidence within the context of FinTech users in Palestinian banks.

3.3.2 Sample Size Calculation

To determine the appropriate sample size for this study, the researcher relied on established sample size determination approaches, including the formula developed by Yamane (1967) and the Krejcie and Morgan (1970) table. These methods are

widely accepted in social science research for estimating the minimum required sample size for a given population.
Based on an estimated population size of approximately 4,500,000 bank customers, a confidence level of 95%, and a margin of error of 5%, the minimum required sample size was calculated to be approximately 385 respondents.

A total of 456 questionnaires were collected and deemed valid for statistical analysis. This exceeds the minimum required sample size, thereby enhancing the statistical power, reliability, and robustness of the study results.
Furthermore, the achieved sample size is considered adequate for Structural Equation Modeling (SEM) analysis, as it satisfies recommended thresholds for reliable parameter estimation and hypothesis testing (Hair et al., 2019; Kline, 2016). The relatively large sample size contributes to improved model stability and supports the validity of the empirical findings within the context of Palestinian FinTech users.

3.4 Data Collection Method

Primary data were collected using a structured questionnaire distributed online to customers of Palestinian banks. The questionnaire was developed based on validated measurement scales adopted from previous FinTech and banking performance studies, ensuring content validity and consistency with the research objectives.

3.5 Research Instrument

The primary data collection instrument used in this study was a structured questionnaire designed to examine the impact of Financial Technology (FinTech) on the performance of Palestinian banks. The questionnaire was developed based on an extensive review of relevant literature and previously validated measurement scales to ensure content validity and methodological rigor.

The questionnaire consists of two main sections. The first section collects demographic information about the respondents, including gender, age, educational level, type of bank, and experience with FinTech services. This information was used to describe the study sample and provide contextual background for interpreting the research findings.

The second section comprises measurement items related to the study's main constructs, namely Financial Technology (FinTech), customer satisfaction, customer loyalty, and bank performance. All items were measured using a five-point Likert scale, ranging from (1) Strongly Disagree to (5) Strongly Agree, which is widely accepted in behavioral and banking research due to Its simplicity and reliability.

The questionnaire items were adapted to suit the Palestinian banking context while maintaining their original conceptual meanings. Prior to the main data collection, the instrument was reviewed by academic experts to ensure clarity, relevance, and appropriateness of the wording. A pilot test was also conducted to confirm the reliability and comprehensibility of the instrument before final distribution

3.6Study Variables and Operational Definition

This study examining the relationship between finteck and bank performance and mediating it by using customer loyalty and customer satisfaction < in the following table the researcher describe and definite every variable from the literature :

Table 1 : Study Variables, Definitions, and Sources

Variable Type	Variable / Dimension	Operational Definition	Source
Independent Variable	Financial Technology (FinTech)	The use of modern digital technologies by banks to deliver	Lee & Shin (2018)

		financial services efficiently, securely, and innovatively.	
	Ease of Use	The degree to which FinTech services are easy to understand and use.	Davis (1989); Venkatesh et al. (2003)
	Security & Privacy	Customers' perception of safety and protection of personal and financial data.	Kim et al. (2010)
	Service Quality	Reliability, speed, and accuracy of FinTech-based banking services.	Parasuraman et al. (1988)
Mediating Variable	Customer Satisfaction	Customers' overall evaluation of their experience with FinTech services compared to expectations.	Oliver (1997)
	Customer Loyalty	Customers' intention to continue using and recommend the bank's FinTech services.	Dick & Basu (1994); Zeithaml et al. (1996)
Dependent Variable	Bank Performance	Customers' perception of the bank's financial strength, efficiency, and competitiveness.	Walsh et al. (2009)

	Financial Performance	Perceived profitability and financial stability of the bank.	Walsh et al. (2009)
	Operational Performance	Perceived efficiency, innovation, and competitive advantage enabled by FinTech.	Nguyen & Leblanc (2001)

3.7Research Hypotheses

The hypotheses of this study were developed based on prior empirical studies and established theoretical models.

Previous studies (Davis, 1989; Parasuraman et al., 2005) confirm that perceived usefulness and ease of use significantly affect customer satisfaction. Additionally, studies such as Caruana (2002) and Islam et al. (2021) indicate that customer satisfaction positively influences customer loyalty, which In turn affects organizational performance.

Based on these theoretical and empirical foundations, the following hypotheses are proposed:

H1: Financial Technology (convenience and accessibility) has a significant positive effect on the customer satisfaction

H2: Financial Technology (perceived ease of use) has a significant positive effect on customer satisfaction.

H3: Financial Technology (perceived usefulness has a significant positive effect on customer satisfaction.

H4: : Financial Technology (security and privacy) has a significant positive effect on customer satisfaction.

H5: Customer satisfaction) has a significant positive effect on customer loyalty.

H6: Customer satisfaction mediates the relationship between Financial Technology and customer loyalty.

H7: customer loyalty has a significant positive effect bank performance.

3.8Data Analysis Techniques

Before the main data collection, a pilot study was conducted on a sample of 30 respondents to ensure the clarity and reliability of the questionnaire. The pilot study aimed to Identify any ambiguities in the questions and assess the internal consistency of the measurement items.

The results indicated that all items were clear and understandable, and the reliability values exceeded the acceptable threshold (Cronbach's Alpha > 0.70), confirming the suitability of the instrument for full-scale data collection

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS) and SmartPLS software in order to achieve the research objectives and test the proposed hypotheses. The data analysis process was conducted through several systematic stages, as outlined below:

First, data screening and preparation were performed using SPSS to ensure the accuracy and suitability of the data for statistical analysis. This included checking for missing values, outliers, and data entry errors, as well as assessing the normality of the data distribution.

Second, descriptive statistical analysis was conducted to summarize the demographic characteristics of the respondents using frequencies and percentages. In addition, means and standard deviations were calculated to describe respondents' perceptions of Financial Technology services, customer satisfaction, customer loyalty, and bank performance.

Third, the measurement model assessment was carried out using SmartPLS to evaluate the reliability and validity of the latent constructs. Reliability was assessed through Cronbach's Alpha and Composite Reliability (CR), while convergent validity was examined using factor loadings and Average Variance Extracted (AVE). Discriminant validity was evaluated using the Fornell–Larcker criterion and cross-loadings.

Fourth, the structural model assessment was performed to examine the hypothesized relationships between the study variables. Path coefficients, t-values, and p-values were estimated using the bootstrapping technique, which allows for robust hypothesis testing without strict normality assumptions.

Fifth, mediation analysis was conducted to assess the indirect effects of Financial Technology on bank performance through customer satisfaction and customer loyalty. The significance of mediating effects was evaluated based on bootstrapped confidence intervals.

Finally, the overall predictive power of the model was assessed using coefficient of determination (R^2).

3.9Validity and Reliability

3-9-1Content Validity

Content validity was ensured by adapting measurement items from established scales used in previous studies. The questionnaire was reviewed by academic experts to ensure clarity and relevance.

3-9-2. Reliability

Reliability was assessed using Cronbach's Alpha and Composite Reliability (CR). All values exceeded the acceptable threshold of 0.70, indicating satisfactory internal consistency

3.10Ethical Considerations

This study was conducted in accordance with established ethical standards for academic research. Prior to data collection, participants were clearly informed about the purpose of the study and the voluntary nature of their participation. Respondents were assured that their involvement was entirely optional and that they had the right to withdraw from the study at any stage without any consequences.

Informed consent was obtained from all participants before completing the questionnaire. Participants were also assured that all information provided would be treated with strict confidentiality and used exclusively for academic research

purposes. No personal identifiers were collected, and respondents' anonymity was fully preserved throughout the data collection and analysis processes.

The collected data were securely stored and accessed only by the researcher. The study did not involve any physical, psychological, or social risks to participants. In addition, the research complied with the ethical guidelines and regulations of the relevant academic institution, ensuring integrity, transparency, and responsibility in all stages of the research process.

Chapter four

4.Data analysis and results

4.1 Introduction

This chapter presents the empirical results of the study based on the data analysis conducted using Structural Equation Modeling (SEM) within the SmartPLS environment. The main objective of this chapter is to evaluate the proposed research model and test the study hypotheses through a systematic and rigorous analytical approach.

The chapter begins with a demographic analysis of the respondents by using SPSS to provide an overview of the sample characteristics, including gender, age, educational level, employment status, length of relationship with the bank, and frequency of using digital banking services. This analysis helps assess the representativeness of the sample and provides essential contextual information for interpreting the subsequent findings.

Next, a descriptive statistical analysis is conducted to examine the central tendencies and dispersion of the study variables. This step offers an initial understanding of respondents' perceptions toward the constructs under investigation and highlights the general patterns within the data.

Subsequently, the chapter proceeds with the assessment of the measurement model, focusing on evaluating the reliability and validity of the constructs using established criteria such as Cronbach's Alpha and other relevant measures. Finally, the structural model is evaluated to examine the hypothesized relationships among the study variables, including direct and indirect effects, and to assess the explanatory power of the proposed model.

Overall, this chapter provides a comprehensive empirical foundation that supports the discussion of results and the development of conclusions in the following chapter.

4.2 Interpretation of demographic characteristics

Understanding the demographic characteristics of the respondents is an essential step in empirical research, as it provides an overview of the sample profile and helps assess the representativeness and relevance of the collected data. Demographic

analysis offers important contextual information that supports the interpretation of subsequent statistical results and enhances the credibility of the research findings. Accordingly, this section presents a descriptive analysis of the respondents' demographic characteristics, including gender, age, educational level, employment status, length of relationship with the bank, and frequency of using the bank's digital channels. These variables contribute to a clearer understanding of the background of the participants and ensure that the sample is appropriate for examining the research model and testing the proposed hypotheses.

Table 2 : Demographic Characteristics of the Respondents

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	255	55.9
	Female	201	44.1
Age	18-24	16	3.5
	25–34	132	28.9
	35–44	134	29.4
	45 -54	98	21.5
	55 and above	76	16.7
Educational Level	High school	13	2.9
	Diploma	40	8.8
	Bachelor's degree	257	56.4
	Master's degree	116	25.4
	PhD	30	6.6
Employment status	Employed	307	67.3
	Self employed	101	22.1
	Student	15	3.3
	Other	33	7.2
Length of relationship with bank	Less than 1 year	28	6.1
	1–3 years	29	6.4
	4-6 years	81	17.8
	7years or more	318	69.7
	Daily	45	9.9

Frequency of Using the Bank's Digital Channels	Weekly	101	22.1
	Monthly	239	52.4
	Rarely	71	15.6

The demographic profile of the respondents indicates a relatively balanced gender distribution, with males constituting 55.9% (N = 255) of the sample and females accounting for 44.1% (N = 201). This balance suggests that the study reflects perspectives from both genders in a reasonable manner.

In terms of age, the majority of respondents fall within the 25–34 years (28.9%) and 35–44 years (29.4%) categories, followed by those aged 45–54 years (21.5%). Respondents aged 55 years and above represent 16.7%, while the 18–24 years group accounts for only 3.5%. This distribution indicates that most participants are in their economically active and professionally mature years, which is appropriate for studies related to banking services.

Regarding educational level, the sample is highly educated. More than half of the respondents hold a Bachelor's degree (56.4%), followed by Master's degree holders (25.4%). A smaller proportion possess a PhD (6.5%), while respondents with a Diploma (8.8%) or High school education (2.9%) represent a minority. This suggests that the respondents are well qualified and capable of providing informed evaluations.

With respect to employment status, the majority of respondents are employed (67.3%), while self-employed individuals represent 22.1%. Students constitute 3.3%, and 7.2% fall under other employment categories. This distribution reflects a sample largely engaged in economic activity and likely to interact frequently with banking services.

Concerning the length of relationship with the bank, most respondents (69.7%) have maintained a relationship for seven years or more, indicating strong customer experience and familiarity with banking services. Those with 4–6 years represent 17.8%, while shorter relationships of less than one year (6.1%) and 1–3 years (6.4%) are less common.

Finally, the frequency of using the bank's digital channels shows that monthly usage is the most common (52.4%), followed by weekly usage (22.1%). Daily users account for 9.9%, while 15.6% of respondents report using digital banking services rarely. This suggests moderate to high engagement with digital banking platforms among the majority of customers.

4.3 Descriptive Analysis of Study Variables

This section presents the descriptive statistics of the study variables, including. The analysis is based on the mean scores and standard deviations of respondents ' perceptions.

4.3.1 Perceived FinTech Service Quality

Perceived FinTech Service Quality including Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Security and Privacy, and Convenience and Accessibility related of independent variables, the results of descriptive statistic explained in the following table:

Table 3 : Descriptive statistic related Perceived FinTech Service Quality

B1.	Perceived Usefulness (PU)	Standard deviation	Mean
1.	The bank's digital services provide all the functions I need.	0.626	3.866
2.	The digital banking services are innovative and offer useful features.	0.568	3.956
3.	The bank's digital services make managing my finances easier and more efficient.	0.533	4.035
B2.	**Perceived Ease of Use (PEOU)**		
4.	The digital banking interface is easy to use and well-designed.	0.618	3.939

5.	The registration and login process (e.g., verification codes) is simple and secure.	0.658	3.941
6.	Interaction with the digital banking system is clear and understandable.	0.608	3.917
B3.	**Security and Privacy**		
7.	The bank's digital system is reliable and operates consistently.	0.596	3.93
8.	The bank ensures the security and privacy of my digital transactions.	0.554	4.009
9.	The bank's digital channels protect my financial information (e.g., card details, account numbers).	0.54	4.048
B4.	**Convenience and Accessibility**		
10.	The digital banking platform is fast and operates without errors during transactions.	0.656	3.862
11.	The bank's digital services are well integrated with other financial applications (e.g., e-wallets, payment apps).	0.564	3.906
12.	I can access the bank's digital services anytime and anywhere without restrictions.	0.636	3.89

4.3.1.1 1Perceived Usefulness (PU)

The results indicate a high level of perceived usefulness of digital banking services among respondents. The mean values range between 3.866 and 4.035, which are above the neutral midpoint, reflecting positive perceptions.

The statement“ The bank’s digital services make managing my finances easier and more efficient ”recorded the highest mean (M = 4.035, SD = 0.533), indicating strong agreement that digital banking enhances financial management efficiency.

Respondents also agreed that digital banking services are innovative and offer useful features (M = 3.956, SD = 0.568). Additionally, the item related to the availability of all needed functions achieved a relatively high mean (M = 3.866, SD = 0.626). Overall, the low standard deviations suggest consistency in respondents ’ opinions, confirming that digital banking services are perceived as useful and effective.

4.3.1.2 Perceived Ease of Use (PEOU)

The findings show that respondents generally perceive digital banking systems as easy to use.

The statement“ The digital banking interface is easy to use and well designed ” achieved a mean of 3.939 (SD = 0.618). The registration and login process was also perceived as simple and secure (M = 3.941, SD = 0.658). Interaction clarity and understandability scored a mean of 3.917 (SD = 0.608).

These results indicate that users experience minimal difficulty when interacting with digital banking platforms, which supports the Technology Acceptance Model (TAM) assumption that ease of use enhances user acceptance.

4.3.1.3 Security and Privacy

Security and privacy emerged as one of the strongest dimensions in the study.

The statement regarding the protection of financial information achieved the highest mean (M = 4.048, SD = 0.542), reflecting strong trust in the bank’s digital channels.

Ensuring the security and privacy of digital transactions also received a high level of agreement (M = 4.009, SD = 0.554).

System reliability and consistent operation recorded a mean of 3.930 (SD = 0.596).

These findings indicate that respondents have high confidence in the bank's digital security measures, which is critical for the adoption and continued use of digital banking services.

4.3.1.4 Convenience and Accessibility

The results reveal moderately high perceptions of convenience and accessibility.

The speed and error-free operation of the digital banking platform recorded a mean of 3.862 (SD = 0.656). Integration with other financial applications (e.g., e-wallets and payment apps) achieved a mean of 3.906 (SD = 0.564).

Accessibility anytime and anywhere scored a mean close to 3.89, indicating general satisfaction with availability and flexibility. Although slightly lower than security and usefulness, these results still reflect a positive evaluation of digital banking convenience.

In general, the descriptive results demonstrate that respondents hold positive perceptions toward digital banking services across all dimensions.

The high mean values and relatively low standard deviations indicate strong agreement and homogeneity in responses. Security and privacy appear to be the most influential dimension, followed by perceived usefulness and ease of use, which supports the theoretical assumptions of the Technology Acceptance Model (TAM).

4.3.2 Customer satisfaction and customer loyalty

Table4 : Descriptive statistic related customer satisfaction and customer loyalty

C	Section C: Customer Satisfaction	Standard deviation	Mean
13.	Overall, I am satisfied with my bank's digital services.	0.566	3.908
14.	The bank's digital services meet my expectations.	0.655	3.864

15.	Using the bank's digital channels is a pleasant experience.	0.629	3.943
D	**Section D: Customer Loyalty (Mediating Variable)**		
16.	I intend to continue using my bank's digital services in the future.	0.645	3.991
17.	I would recommend my bank's digital services to others.	0.614	4
18.	I prefer my bank's digital services over those offered by other banks.	0.709	3.853
19.	I am unlikely to switch to another bank due to the quality of the current digital services.	0.822	3.875

4.3.2. 1Section D: Customer

The results indicate a high level of customer satisfaction with the bank's digital services. The mean values for all satisfaction items range between 3.86 and 3.94, which are above the neutral midpoint, reflecting positive perceptions among respondents.

The highest mean (M = 3.94, SD = 0.63) Is observed for the statement "Using the bank's digital channels Is a pleasant experience", suggesting that customers generally enjoy interacting with the digital platforms. Overall satisfaction with digital services also records a strong mean (M = 3.91, SD = 0.57), indicating that customers are broadly satisfied.

The item related to meeting expectations shows a slightly lower, yet still high, mean (M = 3.86, SD = 0.66), Implying that digital services largely meet customer expectations.

The relatively low standard deviations across all items Indicate a high level of agreement among respondents regarding their satisfaction.

4.3.2.2 Section D: Customer Loyalty (Mediating Variable)

The descriptive results reveal a strong level of customer loyalty toward the bank's digital services, with mean values ranging from 3.85 to 4.00.

The highest mean Is reported for “I would recommend my bank’s digital services to others” (M ≈ 4.00, SD = 0.61), demonstrating strong advocacy intentions. Customers also show a high intention to continue using the digital services in the future (M = 3.99, SD = 0.65).Preference for the bank’s digital services over competitors (M = 3.85, SD = 0.71) and low switching intentions (M = 3.88, SD = 0.82) further confirm customer loyalty.

Although the standard deviation for switching intention is slightly higher, the mean still reflects overall loyalty and retention tendency.

In summary, the results demonstrate that respondents exhibit high satisfaction with digital banking services, which Is accompanied by strong customer loyalty behaviors. These findings support the theoretical assumption that customer satisfaction is positively associated with customer loyalty, justifying the role of loyalty as a mediating variable in the research model

4.3.3 Customer-Based Bank Performance (CBBP)

This section presents the descriptive statistics for Customer-Based Bank Performance (CBBP), which is divided into two dimensions: Perceived Profitability and Financial Stability and Perceived Operational Efficiency and Competitiveness.

Table 5 : Descriptive statistic related Perceived Bank Performance

E	(Customer-Based Bank Performance – CBBP)	Standard deviation	Mean
E1.	**Perceived Profitability and Financial Stability**		
20.	My bank is financially strong and stable.	0.682	3.662
21.	I believe my bank achieves good profitability compared to other banks.	0.674	3.724
22.	I believe my bank has sufficient financial strength to withstand economic challenges.	0.731	3.594
E2.	**Perceived Operational Efficiency and Competitiveness**		
23.	The bank provides fast and reliable services.	0.696	3.971
24.	The bank's digital services help save my time and effort.	0.564	4.079
25.	My bank is innovative in adopting new financial technologies.	0.673	3.912
26.	The bank offers services that provide good value for money.	0.69	3.86
27.	Overall, I believe my bank's performance is superior to that of its competitors.	0.66	3.816

4.3.3.1 : Perceived Profitability and Financial Stability

The results indicate that respondents hold moderately positive perceptions regarding their bank's profitability and financial strength. The mean values for this dimension range from 3.59 to 3.72, suggesting that customers generally perceive their banks as financially sound and reasonably profitable.

The statement "I believe my bank achieves good profitability compared to other banks" records the highest mean (M = 3.72, SD = 0.67), Indicating confidence in the bank's competitive profitability. Perceived financial strength and stability also shows a positive evaluation (M = 3.66, SD = 0.68).

The lowest mean within this dimension relates to the bank's ability to withstand economic challenges (M = 3.59, SD = 0.73), suggesting slightly more cautious customer perceptions under uncertain economic conditions. Overall, the standard deviations are relatively low, reflecting consistency in respondents' views.

4.3.3.2 E2: Perceived Operational Efficiency and Competitiveness

The findings reveal strong positive perceptions of the bank's operational performance and competitive position. Mean values range from 3.82 to 4.08, indicating a high level of customer agreement.

The highest mean Is observed for "The bank's digital services help save my time and effort" (M = 4.08, SD = 0.56), highlighting the effectiveness of digital banking services.

Respondents also perceive the bank as fast and reliable (M = 3.97, SD = 0.70), as well as innovative in adopting new financial technologies (M = 3.91, SD = 0.67).

Perceived value for money (M = 3.86, SD = 0.69) and overall superior performance compared to competitors (M = 3.82, SD = 0.66) further support the bank's competitive strength. The relatively low standard deviations indicate a high level of agreement among customers regarding operational efficiency and competitiveness.

In summary, the results demonstrate that customers perceive their banks as operationally efficient and competitive, particularly in terms of digital services, speed, and innovation. While perceptions of profitability and financial stability are positive, they are slightly less strong than operational performance perceptions. These findings suggest that digital service efficiency plays a key role in shaping customers' evaluations of bank performance, supporting the use of Customer-Based Bank Performance as an outcome variable in the study.

4-4 Factor Analysis

To ensure the validity of the measurement and to examine the underlying structure of the financial technology construct, an exploratory factor analysis (EFA) was conducted using the principal factors method. This analysis aims to determine whether the selected variables (PU, PEOU, SAP, and CAA) load onto a single latent factor representing financial technology.

Table 6 : Results of factor analysis for financial technology variables

variable	Factor loading
PU	0.746
PEOU	0.804
SAP	0.785
CAA	0.756

*Extraction method :principal factors

Eigenvalue =2.392 LR test :prob> chi^2=0.000

The results of the factor analysis indicate that a single factor was extracted, with an eigenvalue of 2.392, which exceeds the threshold value of 1. This suggests that all variables are associated with one underlying construct. The remaining factors reported eigenvalues less than one and were therefore not retained.

Furthermore, the factor loadings for all variables were high, ranging from 0.746 to 0.804. Specifically, PEOU recorded the highest loading (0.804), followed by SAP (0.785), CAA (0.756), and PU (0.746). These results indicate a strong relationship between the observed variables and the extracted factor.

In addition, the likelihood ratio (LR) test was statistically significant (Prob > chi^2 = 0.000), confirming that the correlation matrix is not an identity matrix and that factor analysis is appropriate for the data.

Overall, the findings confirm that the selected variables converge into a single factor, supporting their use as a composite measure of financial technology in subsequent analyses

4.5 Correlation matrix

The correlation matrix presents the relationships between the dimensions of financial technology, namely: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Security and Privacy (SAP), and Convenience and Accessibility (CAA), In addition to the study variables, which include Customer Satisfaction (CS), Customer Loyalty (CL), and Bank Performance (BP).

Table 7 : Correlation matrix

	CS	CL	BP
PU	0.6357	0.5531	0.565
PEOU	0.6458	0.5331	0.542
SAP	0.5792	0.5697	0.585
CAA	0.7119	0.6216	0.583
BP	0.6492	0.6592	

The results indicate the presence of positive and moderate to strong correlations among most variables, suggesting that these variables move In the same direction.
Regarding the dimensions of financial technology, the results show that:
There is a positive correlation between Perceived Usefulness (PU) and Customer Satisfaction (CS) (0.6357), as well as with Customer Loyalty (CL) (0.5581) and Bank Performance (BP) (0.5651). This indicates that customers' perception of the usefulness of financial technology enhances their satisfaction, loyalty, and positively influences organizational performance.

Furthermore, Perceived Ease of Use (PEOU) Is positively correlated with Customer Satisfaction (CS) (0.6458), Customer Loyalty (CL) (0.5381), and Bank

Performance (BP) (0.5416), Indicating that the ease of use of digital financial systems plays an important role In improving customer experience.

Security and Privacy (SAP) also shows a positive relationship with Customer Satisfaction (0.5792), Customer Loyalty (0.5697), and Bank Performance (0.5849), reflecting the importance of continuous availability of financial services.

Similarly, Convenience and Accessibility (CAA) is positively correlated with Customer Satisfaction (0.7119), which is the strongest correlation with CS, In addition to its correlation with Customer Loyalty (0.6216) and Bank Performance (0.5827), suggesting that automation is one of the most influential dimensions affecting customer satisfaction.

Regarding the dependent variables, there is a strong relationship between Customer Satisfaction (CS) and Customer Loyalty (CL) (0.7223). In addition, both variables are positively correlated with Bank Performance (BP), with values of (0.6492) and (0.6592), respectively.:

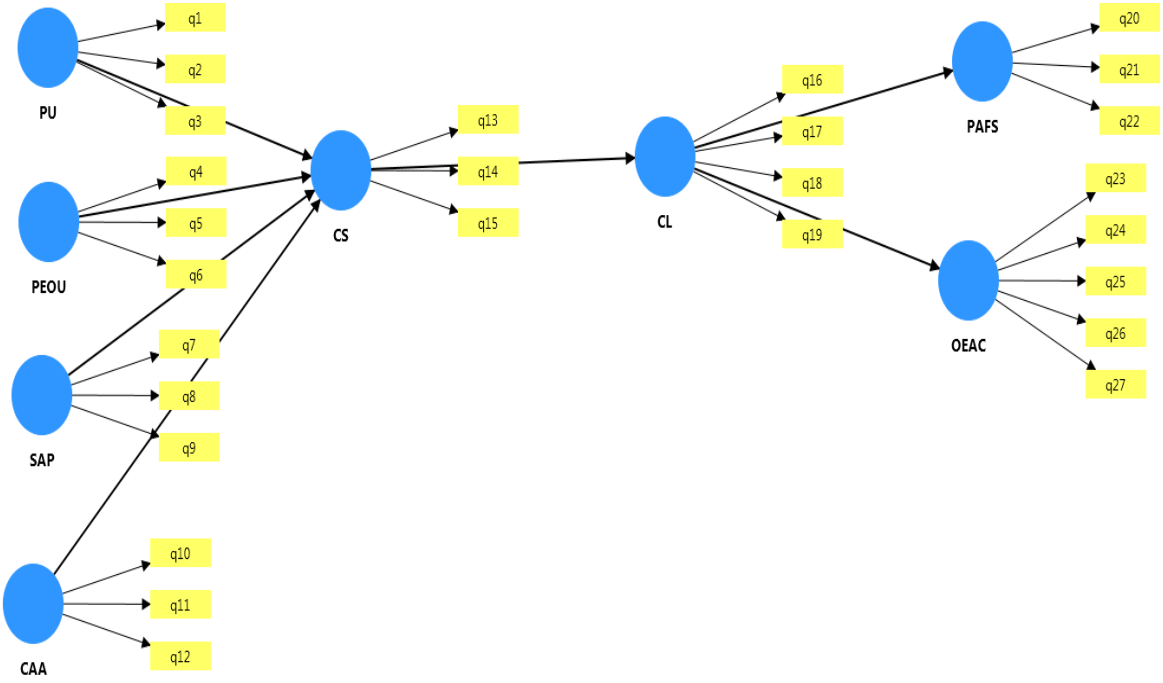
The results indicate that all dimensions of financial technology have positive relationships with customer satisfaction, customer loyalty, and business performance. It is also observed that Convenience and Accessibility (CAA) exhibits the strongest association among the dimensions.

4-6 SEM analysis and hypotheses testing result

This study employs Structural Equation Modeling (SEM) to examine the complex relationships among the research constructs within a unified analytical framework. SEM is particularly appropriate for this study as It allows for the simultaneous assessment of both the measurement model—which evaluates the reliability and validity of the latent constructs—and the structural model, which tests the hypothesized causal relationships between them. The proposed SEM model integrates key digital banking adoption factors as antecedents, with customer satisfaction influencing customer loyalty, which In turn affects customer-based

bank performance. By using SEM, the study captures both direct and indirect effects, providing a comprehensive understanding of how digital banking perceptions translate into customer loyalty and ultimately enhance bank performance from the customers' perspective.

Figure 2 :Research structural model (SEM)



4.2

4.6.1 Measurement Model Assessment

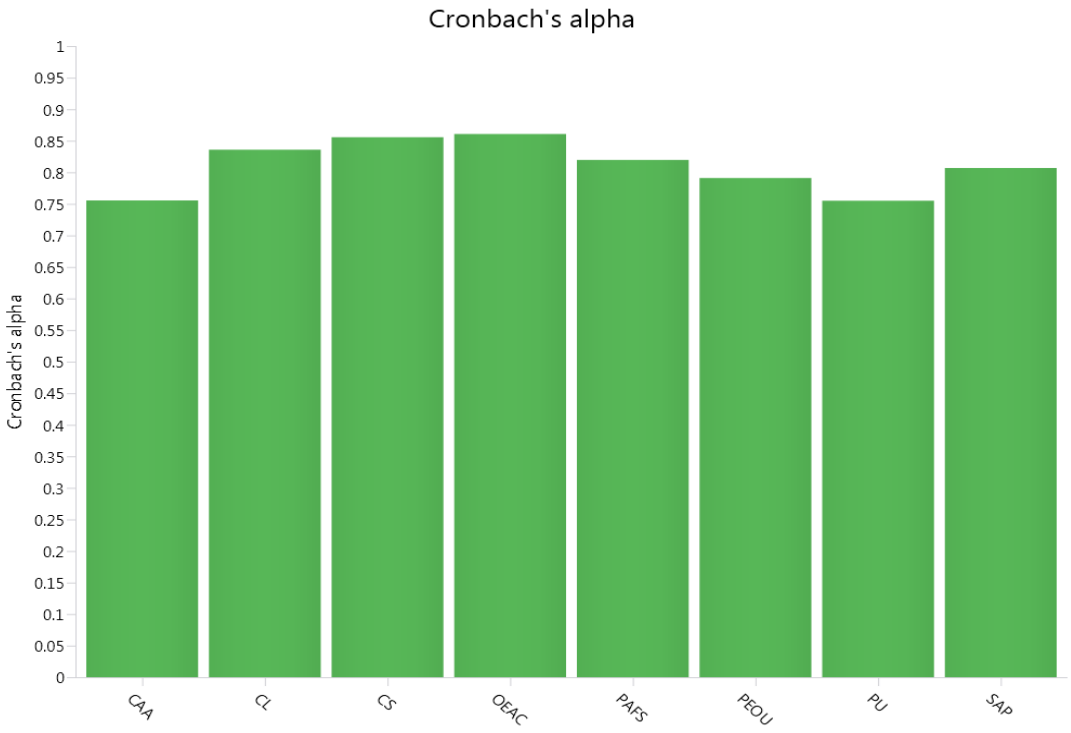
The assessment of the measurement model represents a critical step in Structural Equation Modeling (SEM), as it focuses on evaluating the reliability and validity of the latent constructs before examining the structural relationships. A sound measurement model ensures that the observed indicators accurately and consistently measure their intended constructs, thereby enhancing the robustness and credibility of the study findings.

In this study, the measurement model is evaluated using internal consistency reliability measures, with particular emphasis on Cronbach's Alpha. Cronbach's Alpha is employed to assess the degree to which the indicators of each construct

are internally consistent and reliably capture the underlying latent variable. Values exceeding the recommended threshold indicate acceptable reliability levels.

Figure (3) presents the Cronbach's Alpha diagram, illustrating the reliability values for each construct included in the measurement model. This visual representation facilitates a clear and concise interpretation of the reliability assessment and supports the decision to proceed with the evaluation of convergent and discriminant validity in subsequent sections.

Figure 3 : Cronbach's alpha diagram



The measurement model was evaluated using internal consistency reliability and convergent validity criteria. Cronbach's alpha and Composite Reliability values for all constructs exceeded the recommended threshold of 0.70, Indicating satisfactory internal consistency.

Table8 : Measurement Model Assessment

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CAA	0.755	0.755	0.860	0.672
CL	0.836	0.848	0.891	0.673
CS	0.856	0.859	0.912	0.777
OEAC	0.861	0.867	0.900	0.644
PAFS	0.820	0.839	0.891	0.731
PEOU	0.791	0.793	0.878	0.705
PU	0.755	0.763	0.860	0.672
SAP	0.807	0.808	0.886	0.721

Convergent validity was assessed using Average Variance Extracted (AVE). All constructs achieved AVE values greater than 0.50, confirming that the indicators adequately represent their latent constructs. These results indicate that the measurement model is reliable and valid, allowing for further structural analysis.

4.7 Structural Model Results

after confirming the adequacy of the measurement model, the structural model was assessed to test the hypothesized relationships. Bootstrapping was applied to evaluate the significance of the path coefficients using t-values and p-values the results explain during following table:

Table 9 : Structural Model Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CAA -> CS	0.435	0.427	0.068	6.416	0.000
CL -> OEAC	0.727	0.727	0.035	20.935	0.000
CL -> PAFS	0.492	0.491	0.053	9.216	0.000
CS -> CL	0.729	0.727	0.037	19.806	0.000
PEOU -> CS	0.206	0.211	0.070	2.932	0.003
PU -> CS	0.242	0.243	0.060	4.036	0.000
SAP -> CS	0.023	0.024	0.056	0.411	0.681

The results indicate that most of the proposed relationships are statistically significant, providing strong support for the research model. However, some paths were found to be insignificant, as discussed in the following section.

4-8 Results According to Research Hypotheses

This section presents the results of hypothesis testing in a structured manner consistent with the research framework.

H1 Convenience and Accessibility → Customer Satisfaction

The findings reveal a positive and statistically significant relationship between Convenience and Accessibility (CAA) and Customer Satisfaction (CS). This indicates that improved accessibility, functionality, and ease of navigation of digital banking applications lead to higher levels of customer satisfaction.

Therefore, H1 Is supported. This result highlights the importance of application accessibility in enhancing customer evaluations of digital banking services.

H2: Perceived Ease of Use → Customer Satisfaction

The results show that Perceived Ease of Use (PEOU) has a significant positive effect on Customer Satisfaction. Customers are more satisfied when digital banking systems are perceived as easy to learn and operate.

Accordingly, H2 Is supported. This finding Is consistent with the Technology Acceptance Model (Davis, 1989), which emphasizes ease of use as a key determinant of user satisfaction.

H3: Perceived Usefulness → Customer Satisfaction

The analysis indicates a statistically significant positive relationship between Perceived Usefulness (PU) and Customer Satisfaction. This suggests that customers value digital banking services that enhance efficiency and improve transaction performance.

Thus, H3 Is accepted, supporting the theoretical assumptions of TAM and prior empirical research in digital banking.

H4: Security and Privacy→ Customer Satisfaction

Contrary to expectations, Security and Privacy (SAP) does not have a statistically significant effect on Customer Satisfaction. This implies that adoption outcomes alone do not necessarily translate into higher satisfaction levels.

Therefore, H4 Is rejected. This finding suggests that customers prioritize service quality and perceived value over mere adoption indicators.

H5: Customer Satisfaction → Customer Loyalty

The results reveal a strong positive and statistically significant relationship between Customer Satisfaction and Customer Loyalty (CL). Higher satisfaction levels significantly increase customers ’intention to remain loyal to their banks.

Accordingly, H5 Is supported, confirming satisfaction as a key antecedent of customer loyalty.

H6: The Mediating Role of Customer Satisfaction

Mediation analysis was conducted using bootstrapping procedures to examine the mediating role of Customer Satisfaction in the relationship between digital banking service characteristics and Customer Loyalty.

The indirect effects are statistically significant, while the direct effects are reduced but remain significant, indicating partial mediation.

H6 Is supported these findings confirm that digital banking attributes influence customer loyalty primarily through enhancing customer satisfaction.

H7: Customer Loyalty → Perceived Profitability and Financial Stability

The results demonstrate that Customer Loyalty has a statistically significant positive effect on Perceived Operational Efficiency and Competitiveness (OEAC) and Perceived Profitability and Financial Stability (PAFS). Loyal customers are more inclined to adopt advanced digital banking services and maintain long-term relationships with their banks.

Thus, H7 Is accepted, highlighting the strategic role of loyalty In digital service adoption.

4.9 Indirect Effects (Mediation Analysis)

To examine the mediating effects among the study variables, bootstrapping analysis was conducted using SmartPLS. The results of the specific indirect effects are presented in Table (10).

Table 10 : Specific Indirect Effects Results

Path	Beta	Results
CS → CL → OEAC	0.531	Supported
CS → CL → PAFS	0.359	Supported
CAA → CS → CL → OEAC	0.231	Supported
CAA → CS → CL → PAFS	0.156	Supported

The findings reveal that customer satisfaction and customer loyalty play a significant mediating role in the relationship between FinTech service quality and bank performance. Specifically, customer satisfaction has a strong indirect effect on operational efficiency (OEAC) through customer loyalty ($\beta = 0.531$), as well as on financial performance (PAFS) ($\beta = 0.359$). These results indicate that satisfied customers are more likely to become loyal, which in turn enhances bank performance.

Furthermore, FinTech service quality dimensions, such as convenience and accessibility (CAA), also demonstrate indirect effects on performance through the sequential mediation of customer satisfaction and customer loyalty. For example, CAA has an indirect effect on OEAC ($\beta = 0.231$) and on PAFS ($\beta = 0.156$).

Overall, these findings confirm the presence of sequential mediation effects, where FinTech service quality influences customer satisfaction, which subsequently affects customer loyalty, leading to improved bank performance. This indicates that the relationship between FinTech and performance is not purely direct, but rather depends on customer experience variables.

4.10 Discussion of Results and Comparison with Previous Studies

The findings of this study are consistent with the Technology Acceptance Model proposed by Davis (1989), particularly regarding the effects of perceived ease of use and perceived usefulness on customer satisfaction. Similar results were reported by Lee (2009) and Makanyeza (2017), who emphasized usability and usefulness as key drivers of satisfaction In digital banking environments.

The strong relationship between Customer Satisfaction and Customer Loyalty aligns with the findings of Parasuraman et al. (2005), who Identified satisfaction as a critical antecedent of loyalty in technology-based services.

The insignificant effect of Service Adoption Performance on Customer Satisfaction supports the arguments of Marafon et al. (2018), suggesting that adoption alone does not guarantee positive customer evaluations unless accompanied by high service quality and perceived value.

Overall, the results reinforce the importance of customer-centered digital service design In fostering satisfaction and long-term loyalty.

Chapter Five

5. Discussion, Conclusions, and Recommendations

5.1 Introduction

This chapter discusses the empirical findings of the study that examined the impact of financial technology (FinTech) on bank performance, with customer satisfaction and customer loyalty serving as mediating variables.

The purpose of this chapter is to interpret the results in relation to the study objectives, hypotheses, and relevant literature. In addition, this chapter presents the main conclusions, theoretical and practical implications, study limitations, and recommendations for future research.

5.2 Discussion of the Findings

The findings of this study provide strong empirical support for the proposed research model and offer important insights into the role of FinTech service quality in enhancing bank performance through customer satisfaction and loyalty.

First, the results indicate that FinTech service quality dimensions—particularly convenience and accessibility, perceived usefulness, and perceived ease of use—have a significant positive effect on customer satisfaction. This finding is consistent with the Technology Acceptance Model (TAM) proposed by Davis (1989), which emphasizes that users are more satisfied when systems are useful and easy to use.

It also aligns with the findings of Makanyeza (2017), who confirmed that usability and functionality are key drivers of satisfaction in digital banking environments.

Interestingly, the results show that security and privacy do not have a significant direct effect on customer satisfaction. This finding may be explained by the fact that customers consider security as a basic requirement rather than a differentiating factor. This result is supported by Marafon et al. (2018), who argued that security alone does not enhance satisfaction unless accompanied by superior service quality and user experience.

Second, the study confirms a strong and statistically significant relationship between customer satisfaction and customer loyalty. This finding supports Expectation Confirmation Theory (ECT), which explains that satisfaction leads to

positive behavioral intentions, including continued usage and loyalty. It is also consistent with prior studies such as Caruana (2002) and Islam et al. (2021), which demonstrated that satisfied customers are more likely to remain loyal and maintain long-term relationships with service providers.

Third, the results reveal that customer loyalty has a significant positive impact on bank performance, both in terms of operational efficiency and perceived financial stability. This finding is in line with Relationship Marketing Theory, which suggests that loyal customers contribute to organizational success through repeat usage, reduced costs, and positive word-of-mouth. Similar results were reported by Khan et al. (2020), who emphasized that customer loyalty plays a critical role in enhancing bank performance in digital environments.

Moreover, the mediation analysis provides strong evidence that customer satisfaction and customer loyalty jointly mediate the relationship between FinTech service quality and bank performance. This indicates that FinTech does not directly translate into improved performance unless it enhances customer experience. This finding is consistent with Narteh et al. (2022), who highlighted that customer-related variables act as key mechanisms linking digital service quality to competitive advantage.

Overall, the findings suggest that improving FinTech service quality alone is not sufficient. Banks must focus on enhancing customer satisfaction and loyalty to fully realize the performance benefits of digital transformation.

5.3 Discussion of Results and Comparison with Recent Studies

This section compares the findings of the current study with recent empirical studies published , focusing on each construct separately and highlighting the analytical methods used in these studies.

1. Convenience and Accessibility → Customer Satisfaction (H1)

The present study confirms a positive and statistically significant effect of Convenience and Accessibility on Customer Satisfaction (β = 0.435, p .(0.001 >

This finding aligns with recent studies emphasizing the importance of accessibility and usability in enhancing digital banking satisfaction.

Aldaarmi (2024), in a study conducted on Saudi banks, examined the impact of FinTech service quality dimensions on customer satisfaction using Structural Equation Modeling (SEM). The findings revealed that convenience, accessibility, and system integration significantly improved customer satisfaction, highlighting the role of seamless service access in shaping positive customer experiences.

Similarly, Kim et al. (2024) analyzed mobile banking service design attributes using PLS-SEM, confirming that system accessibility and transaction convenience significantly influence satisfaction and continued usage intentions.

Thus, the current results are consistent with recent empirical evidence, reinforcing that digital accessibility is a critical determinant of customer satisfaction.

2. Perceived Ease of Use → Customer Satisfaction (H2)

   The results demonstrate a significant positive relationship between Perceived Ease of Use and Customer Satisfaction ($\beta = 0.206$, $p = 0.003$), confirming TAM assumptions.

   Ho et al. (2025) investigated mobile banking adoption and customer satisfaction using SEM analysis and found that ease of system navigation and interface simplicity significantly increased customer satisfaction and loyalty intentions. Their findings emphasize that ease of use reduces cognitive effort and enhances positive service experiences.

   Likewise, Aldaarmi (2024) employed SEM analysis and confirmed that perceived ease of use significantly improves customer satisfaction and re-use intentions in digital banking platforms.

   These findings strongly support the results of the present study and validate TAM's theoretical foundations in modern digital banking environments.

3. Perceived Usefulness → Customer Satisfaction (H3)

   The study confirms a positive and statistically significant effect of Perceived Usefulness on Customer Satisfaction ($\beta = 0.242$, p.(0.001 >

   Barjaktarović Rakočević et al. (2025) examined customer expectations and satisfaction in digital banking using PLS-SEM and found that perceived usefulness

and new digital functionalities significantly enhance satisfaction and service evaluation. Their results highlight that customers value platforms that improve efficiency, speed, and financial control.

Furthermore, Ho et al. (2025) also found that perceived usefulness significantly influences satisfaction and loyalty, confirming that customers prioritize functional performance and efficiency in digital services.

These findings strongly support the current study's results and demonstrate the continued relevance of perceived usefulness as a primary satisfaction driver.

4. Security and Privacy → Customer Satisfaction (H4)

   Contrary to expectations, the current study found no significant effect of Security and Privacy on Customer Satisfaction ($\beta = 0.023$, $p = 0.681$). This result is consistent with the findings of Marafon et al. (2018), who argued that once a basic level of security is assured, customers perceive it as a standard expectation rather than a differentiating factor.

   Recent evidence by Aldaarmi (2024) also suggests that while security is crucial for adoption, its direct impact on satisfaction diminishes when reliability and service efficiency dominate customer priorities. Thus, the current findings indicate that security has become a hygiene factor rather than a motivator, explaining its insignificant influence on satisfaction.

5. Customer Satisfaction → Customer Loyalty (H5)

   The results confirm a very strong positive relationship between Customer Satisfaction and Customer Loyalty ($\beta = 0.729$, p.(0.001 >

   Ho et al. (2025), using SEM analysis, reported similar results, emphasizing satisfaction as the strongest predictor of loyalty in mobile banking services.

   Moreover, Barjaktarović Rakočević et al. (2025) found that satisfaction significantly influences loyalty intentions and long-term digital banking usage, confirming the mediating role of satisfaction in sustaining customer relationships.

   These findings reinforce the robustness of the satisfaction–loyalty link in digital financial services.

6. Mediating Role of Customer Satisfaction (H6)

   The mediation analysis revealed partial mediation, indicating that digital banking attributes influence customer loyalty primarily through satisfaction.

   Aldaarmi (2024) validated similar mediation effects using PLS-SEM, confirming that satisfaction partially mediates the relationship between service quality dimensions and reuse intentions.

   Additionally, Ho et al. (2025) demonstrated through bootstrapped mediation testing that satisfaction significantly mediates the effect of service usability and usefulness on loyalty.

   This confirms that customer satisfaction serves as a critical transmission mechanism between service quality and loyalty.

7. Customer Loyalty → Bank Performance (H7)

   The results show that Customer Loyalty has a significant positive effect on both:

   Operational Efficiency & Competitiveness ($\beta = 0.727$, $p(0.001 >$

   Profitability & Financial Stability ($\beta = 0.492$, $p(0.001 >$

   Xu et al. (2025) conducted a large-scale bibliometric and SEM-based study examining FinTech impacts on bank performance and confirmed that customer loyalty significantly enhances operational performance and long-term financial sustainability.

   Similarly, Barjaktarović Rakočević et al. (2025) found that loyal customers significantly contribute to market competitiveness and digital banking performance indicators.

   These findings strongly validate the strategic role of customer loyalty in driving sustainable bank performance.

5. 4 Conclusions

This study concludes that FinTech service quality plays a crucial role in enhancing bank performance in Palestinian banks. However, this effect is largely indirect and operates through customer satisfaction and customer loyalty.

The results confirm that customer satisfaction is a key driver of customer loyalty, which in turn significantly improves perceived bank performance. This highlights the importance of adopting a customer-centered approach when implementing FinTech solutions.

Furthermore, the study demonstrates that not all FinTech dimensions have equal impact. While ease of use, usefulness, and accessibility strongly influence satisfaction, security and privacy do not directly enhance satisfaction, suggesting that they are perceived as basic expectations rather than value-added features.
Overall, the study validates the proposed model and confirms that integrating technology adoption theories with relationship marketing perspectives provides a comprehensive explanation of bank performance in the FinTech era.

5.5Theoretical Implications

This study contributes to the literature by integrating FinTech, customer satisfaction, customer loyalty, and performance into a single comprehensive structural model. By empirically testing both direct and mediating relationships, the study extends existing theories related to technology adoption and relationship marketing within the banking context. Moreover, the findings provide empirical support from a developing market perspective, enriching the generalizability of prior research.

5.6Practical Implications

From a practical standpoint, the findings offer valuable insights for bank managers and decision-makers. Banks are encouraged to invest in FinTech solutions that enhance service quality, convenience, and security, as these factors significantly influence customer satisfaction. Additionally, banks should design customer-centric strategies that strengthen satisfaction and loyalty, as these variables are key drivers of sustainable performance improvement.

The results also suggest that focusing solely on technological adoption without addressing customer satisfaction and loyalty may limit the expected performance benefits.

5.7Limitations of the Study

Despite its contributions, this study has certain limitations.
1-the use of a cross-sectional research design limits the ability to observe changes over time.
2-the study relied on self-reported data, which may be subject to response bias.
3-the findings are limited to the banking sector and the study sample, which may affect generalizability.
4- the use of convenience sampling, which may limit the generalizability of the findings. Additionally, the study focuses only on customer perceptions and does not Include objective financial performance indicators

5.8Recommendations for Future Research

Based on the findings, the following recommendations are proposed:
Banks should prioritize improving the usability and functionality of digital banking platforms, as ease of use and perceived usefulness significantly enhance customer satisfaction.

Financial institutions should focus on enhancing customer experience rather than relying solely on technological adoption, as satisfaction and loyalty are key drivers of performance.
Banks should invest in personalized digital services to strengthen customer relationships and increase loyalty.

Although security and privacy are essential, banks should communicate their security measures more effectively to increase customer confidence.
Decision-makers should adopt a customer-centric digital transformation strategy that integrates technology with customer needs and expectations.
Future research is recommended to explore additional moderating variables such as trust, perceived risk, and digital literacy, which may influence the relationship between FinTech service quality and customer behavior .Moreover, longitudinal studies are suggested to examine how customer satisfaction and loyalty evolve over time in response to technological advancements.

Comparative studies across different countries or sectors would also enhance the generalizability of the findings and provide deeper insights into the role of FinTech in different economic contexts

5.9 References and appendices

The Impact of FinTech service quality on Bank Performance: The Mediating Role of Customer Loyalty: Empirical study on Palestinian banks

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Questionnaire: FinTech Service Quality – Customer Loyalty – Bank Performance

Dear Participant,
Financial Technology (FinTech) has become a transformative force in the banking sector by introducing innovative digital solutions that enhance efficiency, improve customer experience, and support overall bank performance.

This questionnaire aims to examine how customers' perceptions of FinTech-based banking services influence customer loyalty, and how this loyalty, in turn, impacts perceived bank performance.

Your participation is voluntary and anonymous. Please answer honestly based on your actual experience with your bank's digital channels (mobile banking application and/or internet banking).
All responses will be used strictly for academic research purposes.

Thank you:
We sincerely appreciate your time and participation. Your responses will provide valuable insights into the evolving role of financial technology in shaping the future of the banking sector in Palestine and its financial performance.

Sincerely,
Hadeel Fayez Abu Qwider

Section A: Demographic Information
Please tick (✓) the appropriate option.

1. Gender
☐ Male ☐ Female

2. Age Group
☐ 18–24 ☐ 25–34 ☐ 35–44
☐ 45–54 ☐ 55 and above

3. Educational Level
☐ High School ☐ Diploma ☐ Bachelor's Degree
☐ Master's Degree ☐ PhD

4. Employment Status
☐ Employed ☐ Self-employed ☐ Student ☐ Other

5. Length of Relationship with the Bank
☐ Less than 1 year ☐ 1–3 years ☐ 4–6 years ☐ 7 years or more

6. Frequency of Using the Bank's Digital Channels
☐ Daily ☐ Weekly ☐ Monthly ☐ Rarely

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Section B: Perceived FinTech Service Quality

(Adopted from TAM and E-Service Quality literature)

Table 11 : **Questionnaire**

B	**Perceived Usefulness (PU) (Davis, 1989)**	1	2	3	4	5
1.	The bank's digital services provide all the functions I need.					
2.	The digital banking services are innovative and offer useful features.					
3.	The bank's digital services make managing my finances easier and more efficient.					
B2.	**Perceived Ease of Use (PEOU) (Davis, 1989)**					
4.	The digital banking interface is easy to use and well-designed.					
5.	The registration and login process (e.g., verification codes) is simple and secure.					
6.	Interaction with the digital banking system is clear and understandable.					
B3.	**Security and Privacy (Parasuraman et al., 2005; Kim et al., 2004)**					
7.	The bank's digital system is reliable and operates consistently.					
8.	The bank ensures the security and privacy of my digital transactions.					
9.	The bank's digital channels protect my financial information (e.g., card details, account numbers).					
B4.	**Convenience and Accessibility (Parasuraman et al., 2005)**					
10.	The digital banking platform is fast and operates without errors during transactions.					
11.	The bank's digital services are well integrated with other financial applications (e.g., e-wallets, payment apps).					
12.	I can access the bank's digital services anytime and anywhere without restrictions.					

C	**Section C: Customer Satisfaction (Oliver, 1980; Herington & Weaven, 2009)**	1	2	3	4	5
13.	Overall, I am satisfied with my bank's digital services.					

14.	The bank's digital services meet my expectations.					
15.	Using the bank's digital channels is a pleasant experience.					
D	**Section D: Customer Loyalty (Mediating Variable) (Zeithaml et al., 1996; Oliver, 1999)**					
16.	I intend to continue using my bank's digital services in the future.					
17.	I would recommend my bank's digital services to others.					
18.	I prefer my bank's digital services over those offered by other banks.					
19.	I am unlikely to switch to another bank due to the quality of the current digital services.					
E	**Section E: Perceived Bank Performance (Customer-Based Bank Performance – CBBP)**					
E1.	**Perceived Profitability and Financial Stability (Chen et al., 2009; Alalwan et al., 2017)**					
20.	My bank is financially strong and stable.					
21.	I believe my bank achieves good profitability compared to other banks.					
22.	I believe my bank has sufficient financial strength to withstand economic challenges.					
E2.	**Perceived Operational Efficiency and Competitiveness (Herington & Weaven, 2009)**					
23.	The bank provides fast and reliable services.					
24.	The bank's digital services help save my time and effort.					
25.	My bank is innovative in adopting new financial technologies.					
26.	The bank offers services that provide good value for money.					
27.	Overall, I believe my bank's performance is superior to that of its competitors.					

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