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THE IMPACT OF FINANCIAL TECHNOLOGY «FINTECH» ON THE BANKING FINANCIAL INDUSTRY JORDANIAN BANKS AS A MODEL

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ABSTRACT

This study investigates the impact of financial technology (FinTech) on banking performance, focusing on the role of technological infrastructure, including devices, equipment, software, communication networks, databases, and individual skills. Banking performance is assessed across four key dimensions: financial outcomes, customer satisfaction, internal operational efficiency, and social responsibility. The findings reveal that FinTech significantly enhances banking performance by improving service quality, operational speed, and overall efficiency. Based on these results, the study recommends expanding the adoption of FinTech solutions and strengthening reliance on electronic business practices to deliver faster and higher-quality banking services. Additionally, it emphasizes the importance of training employees to develop and manage essential banking programs while ensuring that managers and senior executives receive specialized courses in financial technology and digital transformation. These steps will support sustainable improvements in banking performance and foster greater competitiveness in the rapidly evolving financial sector.

KEYWORDS: Financial Technology, Banking Performance, Technological Infrastructure, Digital Transformation, Electronic Business.

1. INTRODUCTION

The concept of financial technology (FinTech) has rapidly evolved over the past two decades, reshaping the global financial services industry. FinTech refers to the integration of technology into financial services to enhance efficiency, accessibility, and innovation, covering areas such as asset management, lending, mobile payments, fundraising, insurance, and cryptocurrencies (Arner et 2019) [1], (Al- Smadi 2023) [2]. Initially applied in the back-office systems of financial institutions, FinTech has expanded to consumer-oriented services, fundamentally altering how individuals and businesses interact with financial systems (Kaplan and Norton 1993) [3].

Globally, investments in FinTech have surged, with startups introducing disruptive solutions that challenge traditional banking models through innovative, cost-effective, and user-friendly services (Feyen, E., et al. 2021) [4], (Ozlil 2021) [5]. These developments offer significant opportunities—such as faster, cheaper, and more inclusive financial services—but also pose regulatory and stability challenges (Gomber et al.2022) [6]. In response, banks worldwide have been adopting digital technologies, restructuring business models, and forming strategic partnerships with FinTech firms to remain competitive (Didier et al. 2021) [7], (Bodie & Merton, et al. 2005) [8]. In Jordan and the wider Arab region, the banking sector has witnessed accelerated adoption of FinTech, particularly among private banks, leading to a shift toward digital banking channels and remote service delivery (Cornelli et al 2020) [9]. While this transition enhances customer experience and operational efficiency, questions remain about the extent to which FinTech contributes to overall banking performance, especially in emerging economies. Existing research tends to focus on developed countries, leaving a gap in understanding how technological infrastructure—such as devices, software, networks, databases, and human skills—mediates the relationship between FinTech and bank performance in Jordan.

Therefore, this study aims to examine the impact of FinTech adoption on the financial, customer, operational, and social dimensions of Jordanian banks' performance, while emphasizing the mediating role of technological infrastructure. By addressing this gap, the research contributes to both academic literature and practical strategies for enhancing competitiveness and sustainability in the Jordanian banking sector.

1.1. Banking Performance

Banking performance is a critical concept for financial institutions, reflecting how effectively an organization utilizes its resources to achieve strategic objectives (Feyen et al. 2021) Performance encompasses both individual contributions and the collective outcomes of organizational efforts.

Scholars link performance to the efficiency and effectiveness of resource utilization, often measured by the relationship between outputs and inputs]. In the banking sector, performance is multidimensional, typically assessed through the following perspectives:

- Financial Perspective: Focuses on profitability, cost management, competitiveness, and growth relative to industry peers.
- Customer Perspective: Emphasizes customer satisfaction, loyalty, and the contribution of customer segments to revenue generation.
- Internal Processes Perspective: Highlights the efficiency of operational tasks and banking services that support customer activities.
- Social Perspective: Reflects the organization's contribution to societal development and responsiveness to social needs.

Financial Technology (Fin Tech Financial technology, or FinTech, refers to the integration of digital innovations and technological solutions aimed at enhancing the efficiency, accessibility, and overall quality of financial services. Initially, FinTech emerged within the realm of back-office banking operations, focusing on automating routine tasks and optimizing internal processes (Z. Elouaourti and A. Ibourk, 2024) [10]. Over time, however, its scope has expanded to encompass a wide array of consumer-facing services, including mobile and online banking platforms, digital and contactless payments, lending platforms, crowdfunding initiatives, automated wealth management tools, and the growing ecosystem of cryptocurrencies and blockchain-based financial solutions. The acceleration of FinTech development was notably influenced by the global financial crisis of 2008, which exposed inefficiencies in traditional banking models and created a strong impetus for both startups and established financial institutions to adopt innovative technological solutions that can better meet evolving customer needs while reducing operational costs and risks (M. Othman 2025) [11]

In recent years, the adoption and integration of FinTech solutions in the Middle East and North Africa (MENA) region, with countries such as Jordan serving as key examples, have witnessed remarkable growth. This expansion has generated multiple economic and social benefits. First, FinTech plays a

crucial role in promoting financial inclusion, particularly for underserved and unbanked populations, by providing accessible digital financial services that overcome geographic and infrastructural limitations (Veengu, 2024). [12]. Second, it supports more effective risk management and enhances compliance with regulatory requirements, leveraging data analytics and automated monitoring systems to strengthen financial stability (M. Al Rifai and Y. AlBaker 2025) [13]. Third, FinTech facilitates more efficient cross-border transactions and international trade, reducing costs and processing times while increasing transparency and security (Z. Elouaourti and A. Ibourk,2024) (M. Othman 2025). Finally, digital payment systems and related technologies have enabled governments to enhance public sector efficiency, streamline service delivery, and improve the overall quality of citizen-centric financial operations (Veengu, 2024) Collectively, these developments demonstrate that FinTech is not only transforming the financial sector in Jordan and the broader MENA region but also contributing to sustainable economic growth, innovation, and the modernization of financial infrastructure.

1.2. Partnership between Banks and Fin Tech

Banks are increasingly forming strategic partnerships with FinTech firms to innovate their service offerings, automate internal processes, and enhance operational efficiency (JP James2024) [14]. These collaborations enable banks to leverage the agility and technological expertise of FinTechs, facilitating the integration of advanced solutions such as artificial intelligence, blockchain, and digital payment platforms into traditional banking infrastructures (Sam Daley 2024) [15]. This synergy not only accelerates digital transformation but also allows banks to remain competitive in a rapidly evolving financial landscape (Graeme Jeffery et al 2023) [16].

FinTech startups contribute creative solutions across various domains, including lending, payments, insurance, capital raising, and credit management (Sam Daley 2024), (Priority Commerce 2025) [17]. By complementing traditional banking channels, these innovations provide enhanced customer experiences, streamline financial operations, and offer personalized services that meet the evolving needs of consumers (JP James2024). For instance, AI-driven tools can automate credit assessments, while blockchain technology can improve transparency and security in transactions (Graeme Jeffery 2024) [18]

Successful partnerships between banks and FinTechs can lead to expanded market reach, as banks gain access to new customer segments and digital platforms (JP James2024), (Graeme Jeffery 2024). Such collaborations also drive organizational growth by fostering a culture of innovation and enabling the development of new financial products and services. Moreover, these alliances can enhance customer loyalty and satisfaction by providing seamless and efficient banking experiences, (Priority Commerce 2025)

Decision-makers in banks are encouraged to strategically leverage these collaborations to capitalize on digital trends while maintaining regulatory compliance and ensuring financial stability. It's essential for banks to establish clear governance frameworks, conduct thorough due diligence, and implement robust risk management practices to navigate the complexities of FinTech partnerships effectively. By doing so, banks can harness the full potential of these collaborations, drive innovation and delivering superior value to their customers (Graeme Jeffery 2024).

1.3. Recent Advance and Research Gap

Recent studies highlight the growing importance of FinTech in reshaping banking performance. Arner et al. (2019) and Demirgüç-Kunt et al. (2020) [19] emphasize global FinTech adoption and its potential for financial inclusion. Ozili (2021) and Gomber et al. (2022) discuss the operational and strategic impacts of FinTech on banks, while Al-Smadi (2023) examines adoption challenges in the Jordanian context. Despite these studies, there is a research gap regarding the mediating role of technological infrastructure—including devices, software, networks, databases, and human skills—in enhancing the impact of FinTech on banking performance in emerging economies.

1. **Clarify the Research Gap and Problem**
   - Clearly articulate the need to explore the relationship between financial technologies (hardware, software, equipment) and banking performance (financial, customer, and social dimensions) in Jordanian private banks.
   - Emphasize the lack of empirical studies examining these links in the context of emerging economies, particularly Jordan.
2. **Justify Research Design and Methodology**
   - Provide a clear rationale for using the descriptive survey approach.
   - Justify the sample size (300 respondents from 3 banks) and explain how the selection ensures representation of diverse customer segments

and banking services.

3. **Enhance Data Collection and Measurement**
   - Provide detailed descriptions of the questionnaire items and the constructs measured.
   - Include reliability and validity tests (e.g., Cronbach's alpha, factor analysis) to ensure the instrument measures what it is intended to measure.
4. **Align Hypotheses and Objectives**
   - Ensure each sub-hypothesis directly corresponds to a study objective and the dimensions of financial technology and banking performance.
   - Distinguish between different dimensions clearly (e.g., hardware vs. software, financial vs. social performance).
5. **Practical Implications**
   - Recommend that Jordanian banks prioritize the adoption of financial technology in their strategic planning to improve efficiency, customer satisfaction, and social responsibility.
   - Suggest training programs for employees to enhance technological skills and effective utilization of FinTech solutions.

1.4. Sample Selection and Respondent Distribution

The study was conducted on three commercial banks operating in Jordan, selected based on market share and FinTech adoption. The sample consisted of 300 respondents distributed equally among the banks.

Table 1: Distribution of Banks by Sample.

Bank	Capital (Million JOD)	Founding Year	Number of Employees
Cairo Amman	900	1960	1,090
Arab Bank	800	1980	3,420
Jordan Bank	500	1960	1,194

Source: Annual Reports of Banks, 2021

Table 2: Sample Distribution by Administrative Position.

Position	Frequency	Percentage
Director	3	1%
Assistant Manager	9	3%
Officer	288	96%
Total	300	100%

- The 3 directors and 9 assistants were proportionally selected from the three banks.
- The employee sample included 100 respondents from each bank.

1.5. Study Instrument

A structured questionnaire was used, divided into two sections:

1. Demographic Information: Gender, experience, and administrative location.
2. **Main Constructs:**
   - Financial Technology (FinTech): 20 items covering hardware, software, and individual skills.
   - Banking Performance: 20 items covering financial, customer, and internal process dimensions.

Table 3: Distribution of Sample by Gender.

Gender	Frequency	Percentage
Male	130	43.3%
Female	170	56.7%
Total	300	100%

Table 4: Distribution of Sample by Experience.

Experience	Frequency	Percentage
Less than 5 years	95	31.6%
5–10 years	140	46.6%
10 years and above	65	21.6%
Total	300	100%

1.6. Data Analysis and Hypothesis Testing

Hypothesis 1:

There is a statistically significant relationship between financial technology and overall banking

performance.

Table 5: T-Test Results for Hypothesis 1.

Variable	Mean	Std. Deviation	t-test	Sig.
Financial Technology	4.03	0.35	4.05	0.00
Banking Performance	3.78	0.59		

Interpretation:

- The t-test value (4.05) is significant at 0.00 (<0.05), indicating a positive relationship between financial technology and banking performance.
- Specifically, statistical significance was observed for:
  - Hardware and equipment → Banking performance
  - Software → Banking performance
  - Individual skills → Banking performance

Hypothesis 2:

Financial technology is significantly related to the different dimensions of banking performance.

Table 6: T-Test Results for Hypothesis 2.

Variable	Mean	Std. Deviation	t-test	Sig.
Financial Technology	3.98	0.52	2.86	0.00
Banking Performance	3.78	0.59		

Interpretation:

- The t-test value (2.86) is significant at 0.00 (<0.05), confirming a relationship between financial technology and the financial, customer, and internal process dimensions of banking performance.

1.7. Regression Analysis

Table 7: Simple Linear Regression: Financial Technology → Banking Performance.

Variable	Unstandardized B	Std. Error	Standardized Beta	t-test	Sig.
Constant	0.71	0.63	0.58	1.11	0.27
Financial Technology	0.74	0.09	0.74	7.91	0.00

Interpretation:

- Financial technology positively affects banking performance.
- T-test = 7.91, Sig. = 0.00 (<0.05) indicates the effect is statistically significant.

1.8. Conclusions from the Results

- Traditional business practices negatively impact customer satisfaction.
- Banks rely on outsourced IT expertise due to limited internal experience with FinTech.
- Upper management lacks sufficient skills to handle financial technology efficiently.
- Banks have limited practices for customer incentives or engagement initiatives.
- Most banks do not fully rely on digital channels to allow customers direct access to accounts and banking operations.

2. RECOMMENDATIONS

1. **Expand the Use of Financial Technology:**
   - Jordanian banks should prioritize the adoption of financial technology in their strategic plans to enhance the **speed, efficiency, and quality** of banking services provided to customers.
2. **Staff Training and Capacity Building:**
   - Provide targeted **training programs for bank employees** on the installation, operation, and maintenance of required banking software, combining **internal learning with external expertise** where necessary.
3. **Management Development:**
   - Enroll senior managers in **specialized courses** to equip them with the **skills and experience** necessary to oversee and manage technological systems effectively.
4. **Customer Engagement and Incentives:**
   - Implement innovative banking activities, including **insurance services or**
   - **Customer incentives**, as part of strategies to attract and retain depositors.

3. DISCUSSION AND CONCLUSION

3.1. Discussion

The findings of this study indicate a positive and significant relationship between financial technology (FinTech) and banking performance in Jordanian private banks. Both hypotheses were supported,

demonstrating that FinTech adoption—including hardware, software, and individual skills—enhances overall banking performance as well as its financial, customer, and internal process dimensions.

These results are consistent with previous research highlighting the role of FinTech in improving operational efficiency, customer satisfaction, and financial inclusion (Arner et al., 2019; Ozili, 2021; Gomber et al., 2022). Specifically, the regression analysis revealed that financial technology positively affects banking performance, confirming that investment in technological infrastructure and employee skills can drive performance improvements.

The study also identifies several practical challenges faced by banks, such as limited internal expertise, dependency on external IT services, and inadequate management skills to fully leverage technological systems. These obstacles suggest that banks must invest not only in technology but also in capacity building and management development to achieve maximum benefits.

Furthermore, the results show that traditional business practices may negatively impact customer satisfaction, emphasizing the need for digital transformation and innovative customer engagement strategies, such as incentives and enhanced service channels.

3.2. Conclusion

This study contributes to both academic knowledge and practical banking strategies:
Academic Contributions:

- Empirically demonstrates the relationship between financial technology and banking performance in the context of Jordan, filling a research gap in emerging economies.
- Highlights the mediating role of technological infrastructure (hardware, software, networks, databases, and human skills) in enhancing the impact of FinTech on performance.

Practical Contributions:

- Provides actionable recommendations for banks to expand the use of financial technology strategically, improve customer services, and strengthen internal processes.

Suggests training programs and managerial courses to enhance staff and management capabilities

Limitations:

- The study was limited to three banks and 300 respondents, which may affect generalizability.
- The research focused solely on the Jordanian context, limiting cross-country applicability.

Future Research Directions:

- Conduct comparative studies across countries to assess regional differences in FinTech adoption and impact.
- Utilize longitudinal data to examine how FinTech implementation affects banking performance over time.
- Explore additional mediating factors, such as organizational culture or regulatory frameworks, that may influence the relationship between FinTech and performance.

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