

-RESEARCH ARTICLE-

## THE IMPACT OF FINANCIAL TECHNOLOGY (FINTECH) ON ENHANCING FINANCIAL PERFORMANCE: AN APPLIED STUDY IN THE NATIONAL INSURANCE COMPANY

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### —Abstract—

The enhancement of financial performance within insurance companies fundamentally relies on achieving a balance between premium income and the compensatory disbursements made in response to policyholder claims. This study investigates the extent to which financial technology (FinTech) contributes to the improved financial performance of the Iraqi National Insurance Company. To address this objective, the research outlines the core problem and integrates findings from existing literature concerning both FinTech adoption and strategies for financial enhancement. A conceptual framework was established to examine the relationship between FinTech utilisation and financial performance improvements. To empirically validate the research hypothesis, a structured questionnaire was designed and distributed to a purposive sample of 150 employees drawn from the information systems, finance, and sales/customer service departments of the Iraqi National Insurance Company. The data were analysed using the Statistical Package for the Social Sciences (SPSS), with a Likert-scale instrument applied to measure relevant constructs. The results revealed a significant positive correlation ( $R = 0.621$ ) between FinTech implementation and financial performance, with technological factors accounting for 38.6% of the variance in performance outcomes. These findings support the hypothesis that FinTech exerts a direct and measurable impact on the financial efficiency of the company. The study concludes that there exists a strong and direct association between the integration of FinTech solutions and the enhancement of financial performance within the Iraqi National Insurance Company.

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## INTRODUCTION

Against the backdrop of digitalisation proliferation and the exponential rate of technological growth, financial and insurance technology (InsurTech) has emerged as an indispensable instrument for minimising costs of operations, heightening risk analysis, and standardising customer services. The literature emphasizes the point that the integration of technologies ranging from artificial intelligence, Internet of Things, blockchain, and digital managerial systems is revolutionising the traditional operational paradigms of insurance organisations (Meiling et al., 2021). Empirical evidence also tends to support the point that applications from InsurTech play a substantive part in perfecting actuarial gradations and facilitating improved accuracy levels for customer loss models. The tools also markedly lower costs and tempos for claim processing. For example, a recent study utilised machine learning-based InsurTech approaches to perfect a commercial insurance loss model, leading to significant enhancements for predictive outputs (Quan et al., 2025). Similarly, digital financial services (DFS), which include financial technology applications, not only facilitate improved performance from institutions but also support competitiveness levels across industries other than core banking.

"Tech insurance" was first referred to in 2011, and the first worldwide initiative was launched in London by 2015. The Organisation for Economic Co-operation and Development (OECD) has defined tech insurance as a term referring to insurance industry innovative technologies, focused on regulating insurance market practice (El-Shamy, 2024). Insurers these days face heightened pressure to balance premium income and claims liability. Information technologies provide solutions to these problems through increased precision in asset valuation and risk profiling through big data analytics, streamlining claims processing and administrative activities to shorten time and costs, and digital channel expansion to increase customer coverage and raise loyalty levels (Bittini et al., 2022).

Notwithstanding the well-acknowledged advantages associated with those technologies, Iraqi insurer adoption is minimal. More empirical studies are needed to investigate the impact of FinTech on the performance of insurance in certain domestic contexts. Sustainability Balanced Scorecards (SBSCs), for instance, can be utilised as a basis for integrating organisational performance measures and strategy. The first dimension of the SBSC taxonomy elucidates the relationship between an insurer's value system and the alignment of strategic goals across performance dimensions. The second dimension focuses on how corporate sustainability strategies are embedded within SBSC perspectives through the integration of sustainability-oriented strategic objectives. Implementing modern SBSC models within insurance companies

necessitates effective measurement and management of financial performance outcomes (Chehimi & Naro, 2024). Information and communications technology (ICT) has permeated all operational areas of insurance businesses. Increasingly, consumers utilise online platforms to obtain insurance quotes and access products. This has introduced new distribution channels, offering insurers considerable growth potential. Product innovation and the development of new service offerings have become key drivers of transformation in the insurance sector. Investment in contemporary technologies supports not only administrative efficiency—such as information systems and risk modelling tools—but also informs strategic decision-making processes (Skryl & Hlushko, 2023).

However, the integration of such technologies is not without risk. Cybersecurity concerns continue to pose significant threats to the data and assets of financial institutions (Alisawi et al., 2023). Offering low interest rates has become a tactical strategy among banks to support sustainability objectives. The emergence of FinTechs—facilitated by advanced communication tools and the rising demand for tailored financial products—has introduced new market players. Although collaborative efforts between banks and FinTech companies are increasing to meet market demands and improve service delivery, these partnerships also introduce substantial cybersecurity risks. This raises a strategic dilemma: whether banks should adopt a cautious, risk-averse stance to safeguard sustainability, or pursue such collaborations to boost profitability. Evidence points to a heightened cybersecurity risk associated with FinTech–bank partnerships (Najaf et al., 2021). The FinTech sector has garnered extensive attention from regulators, policymakers, and financial actors. A study conducted on 146 FinTech firms in the United States, across ten market categories from 2000 to 2016, investigated the relationship between leverage and company performance. Findings revealed that higher leverage adversely affected both profitability and risk-adjusted returns, with the influence of leverage varying based on the firm’s age (Papadimitri et al., 2021).

Globally, the financial services industry is actively adapting to capitalise on emerging digital financial solutions. Technological progress, particularly in mobile devices, internet infrastructure, and IT systems, has significantly influenced the evolution of banking and financial services. The adoption of blockchain and FinTech tools is central to ongoing digitalisation, which is substantially impacting service delivery and necessitating modernisation of operations to better address societal demands (Kumari & Devi, 2022). In Kenya, a study assessing the relationship between FinTech and financial performance in the insurance sector focused on 56 firms regulated under the 2021 Individual Retirement Act (IRA). Results demonstrated a statistically significant, though negative, impact of FinTech on financial performance. These findings suggest the need for enhanced awareness campaigns regarding available FinTech solutions, enabling customers to optimise usage while allowing firms to better manage associated operational costs (Miriti, 2023). FinTech is broadly defined as the

innovation-driven provision of financial services by institutions that leverage technology to offer financing and financial products through online and mobile platforms.

**Table 1: The Advancement of Financial Technology Occurred in the Final Years of the Twentieth Century**

Year	FinTech Development
1950-2000	<p>Diners Club International emerged as the first autonomous credit card enterprise, launching the Diners Club credit card as its flagship financial product.</p> <p>The interdisciplinary domain focused on designing machines capable of simulating human intelligence became formally recognised as artificial intelligence (AI).</p> <p>The introduction of the first automated teller machine (ATM) marked a transformative advancement in self-service banking technology.</p> <p>The establishment of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) created a global infrastructure facilitating secure financial communication among banks and related institutions.</p> <p>E-TRADE was inaugurated as a digital platform enabling the electronic exchange of financial assets, alongside offering a suite of ancillary financial services.</p> <p>The Financial Services Technology Association, later recognised under the name Citicorp, was instituted to support innovation within the financial services industry.</p> <p>The institution now ranks as the second-largest bank based on metrics including deposit volume, mortgage service provision, and issuance of debit cards, and was also among the pioneers in launching an online checking account.</p> <p>Mobile payments were initiated through the application of text messaging, marking the beginning of mobile-based financial transactions.</p>
2000-2025	<p>A prototype blockchain system based on Bitcoin was publicly unveiled, representing a foundational step in the evolution of decentralised ledger technologies.</p> <p>Google Pay was launched as a peer-to-peer payment solution, enabling users to transfer funds without charges via desktop or mobile devices.</p> <p>Coinbase was founded as a digital platform for cryptocurrency trading, facilitating the exchange between cryptocurrencies and fiat currencies while also offering secure management and storage of digital assets.</p> <p>Apple Pay entered the financial ecosystem as a mobile payment solution, streamlining contactless transactions for users of Apple devices.</p> <p>Blockchain 2.0 emerged as a significant development, characterised by its independence from digital currencies and its applicability to broader financial and interoperable transactional systems.</p> <p>Ethereum was introduced as a blockchain platform integrating advanced functionalities, including smart contracts and decentralised applications, expanding the scope of blockchain utility beyond digital currency.</p> <p>The "The Financial System We Need" report from the United Nations Environment Programme was released, firmly stating that financial technology must become green.</p>

Its objectives include streamlining financial service management, offering technological solutions, and utilising IT infrastructures. Examples of FinTech applications encompass electronic payments, digital wallets, fund transfers, insurance services, loan facilitation, investment platforms, and online trading services (Elia et al., 2023). The development of financial technology towards the end of the twentieth

century is detailed in [Table 1](#), as illustrated in the referenced literature ([Abad-Segura et al., 2020](#)).

## **The Significance of the Study**

Given the growing global exposure to risks affecting individuals and property, there is a pressing need to mitigate these threats. Insurance is widely recognised as a key mechanism for risk reduction, offering partial compensation for incurred losses. This study contributes to academic research by addressing four core areas: insurance, FinTech, InsurTech, and financial performance improvement. The application of the study to the National Insurance Company in Iraq reinforces its practical relevance by aiming to maximise benefits for all participants in the insurance process, thus underscoring both the scientific and applied significance of the research. In recent years, the insurance sector has undergone notable changes. More than a decade of persistently low interest rates has weakened confidence in insurance firms. Meanwhile, customer expectations are evolving rapidly in line with digital innovation, and insurers are under pressure to adapt accordingly. Digital transformation offers a pathway for insurance companies to align with customer needs by enhancing product development and distribution mechanisms [11]. This study investigates the statistical relationship between the application of FinTech and improved financial performance, with a focus on digital tools and key performance indicators. The hypotheses were evaluated using rigorous analytical methods. Findings indicate a statistically significant relationship between FinTech adoption in the Iraqi National Insurance Company and enhancements in financial performance.

## **Research Problem**

Numerous challenges are associated with the implementation of FinTech within insurance firms and its effect on enhancing financial performance. These challenges can be summarised as follows:

Significant disparities exist in financial performance indicators among various branches of insurance companies. These discrepancies arise from sector-specific difficulties, regulatory and legislative constraints, and variations in the technological infrastructure adopted across firms, particularly in areas involving core operational processes unique to insurance operations. Furthermore, exclusive reliance on traditional financial indicators to assess performance does not align with contemporary technological advancements. This necessitates the integration of FinTech into insurance companies to elevate their operational efficiency, especially within the context of increasingly competitive global insurance markets. There is growing concern that the four traditional dimensions of the Balanced Scorecard—the financial, customer, internal process, and learning and growth perspectives—are inadequate for effectively evaluating performance in the insurance sector ([Hutahayan, 2020](#)). Another issue concerns the limited ability of some insurance companies to

maximise returns from investing collected premiums through digital platforms, particularly by engaging with domestic and international financial markets and capitalising on electronic financial services.

The distinctive structure of insurance services also complicates the use of the internet as a distribution channel. Customers often require expert guidance when selecting policies, and insurance products typically involve customisation based on numerous variables, making standardisation difficult. Additionally, most insurance contracts span at least a year, and insurers depend more heavily on sellers than buyers for distribution. These complexities collectively present considerable barriers for firms attempting to integrate digital distribution models (Didenko & Sidelnik, 2021). Insurance providers also face substantial losses resulting from fraudulent activities. Certain policyholders may submit identical claims to multiple insurers or fabricate incidents to secure undue compensation. Such practices are exacerbated by limited transparency and insufficient access to real-time data, leading to a surge in claims and financial strain. Addressing these challenges requires advanced technologies that offer transparency and enable instant access to accurate data. This would improve operational performance by streamlining processes, reducing time and cost burdens, preventing fraudulent activities, and employing secure digital trust frameworks (Abdou, 2023).

The researcher posits that the difficulties associated with applying FinTech to enhance financial performance are closely linked to leveraging InsurTech to expand market reach. This expansion would enable insurers to increase premium volumes and thereby offset losses incurred by policyholders, ultimately stabilising the insurer's financial standing. Additionally, the researcher argues that while FinTech implementation involves significant initial investment, particularly in establishing secure technological infrastructure and safeguarding sensitive customer data, the long-term financial gains are likely to exceed these costs. Consequently, the effective application of FinTech holds the potential to positively reshape the cost structure and improve overall financial performance. The central research question can therefore be articulated as follows: What is the impact of applying FinTech in insurance companies on enhancing financial performance?

## Research Objectives

The study seeks to determine the nature of the relationship between the adoption of FinTech within the Iraqi National Insurance Company and the enhancement of its financial performance. The primary objectives of the research are outlined as follows:

- Firstly, the study offers a distinctive contribution by presenting a rare empirical investigation into the FinTech–insurance dynamic within the Iraqi context, addressing a significant gap in the local literature.
- Secondly, it proposes actionable implementation frameworks that support

insurance firms in aligning technological innovation with corporate strategy, thereby linking digital transformation initiatives to measurable financial outcomes.

- Thirdly, the study identifies specific areas in which advanced technologies—including artificial intelligence, the Internet of Things, and digital platforms—exert a measurable influence on key financial performance indicators, such as profitability and liquidity.

## THEORETICAL FRAMEWORK

An analysis of the role of FinTech in advancing Islamic financial inclusion in Purwakarta reveals several determinants influencing public adoption. The study identified key adoption factors including accessibility, compliance with Shariah principles, transparency, and data security. It further highlighted that FinTech supports Islamic financial inclusion by broadening access to financial services, facilitating the financing of Shariah-compliant micro, small, and medium-sized enterprises (MSMEs), and addressing challenges such as limited digital literacy and weak regulatory structures (Putri & Hanif, 2024). Financial performance enhancement is shaped by a combination of financial and non-financial factors. Within Islamic banking, indicators of Shariah governance are significantly influenced by internal Shariah audits, Shariah risk management, and internal compliance mechanisms. These variables are proposed as a future model for evaluating the application of Shariah principles in Islamic financial institutions. The Shariah Supervisory Board (SSB) plays a crucial role in this regard, with key indicators including the number of board members, frequency of meetings, educational qualifications, dual roles, and the reputation of members. Specifically, board size and educational background are closely linked to Shariah audit, compliance, and risk management processes (Minaryanti & Mihajat, 2024).

Corporate social responsibility, intellectual capital, and environmental performance have a significant positive impact on financial performance and profitability. Studies on pharmaceuticals from the Indonesian Stock Exchange for the period 2017-2019 demonstrated that the three aspects play a critical role in organisational performance development (Qomariah & Satoto, 2021). For Nigeria, financial performance on the part of insurance organisations is influenced through corporate governance structures, namely composition and effectiveness, on the part of boards of directors. Following on from stakeholder theory, where organisation is obliged to be responsible for the interests of all constituencies of workers, providers, regulators, customers, and communities, the study demonstrated that size and independence of boards have a significant impact on return on equity. In a similar vein, board diversity and independence were found to be correlated to Tobin's Q and return on equity and proved the effect on governance quality on performance and valuation from the equity perspective [15].

Insurance companies have also increased their engagement with environmental, social, and governance (ESG) considerations as part of their broader sustainability commitments. The insurance sector contributes to societal stability and supports long-term development and climate neutrality goals through tailored products. Findings from a study on US-based insurers demonstrated that strong governance, ESG-aligned policies, and sustainability practices were positively correlated with financial performance (Sylos Labini et al., 2025). FinTech has also been shown to positively influence key banking metrics, such as total deposits and net profits. This has prompted calls for banks to formulate long-term strategies aligned with sustainable development. A study covering commercial banks listed on the Amman and Abu Dhabi Securities Exchanges analysed data from 2012 to 2020 in Jordan and the United Arab Emirates. The findings indicated that the use of FinTech tools contributed to enhancing financial outcomes and institutional efficiency (Baker et al., 2023).

Additionally, the financial performance of BUMN banks was examined prior to and subsequent to the sector applying FinTech innovations. Performance was described through measures such as return on assets (ROA), non-performing loans (NPL), loan-to-deposit ratio (LDR), and the operating expenses to income ratio (BOPO). The results justified that FinTech facilitated the provision of services to small and medium-sized enterprises (SMEs), strengthened bank reputations, and improved general financial performance and profitability (Fatmawati, 2023). FinTech has been a seminal innovation across global financial sectors, particularly through facilitating financial inclusion and organizational effectiveness. In Indonesia, FinTech has been integral to deepening financial services coverage for different segments of the population. Through digital payment, virtual lending, and investments, FinTech makes people effective participants in the digital economy. Further, it makes financial literacy programs easier and decreases the complexity and expenses entailed accessing financial services. Through improved workflow operations, decision-making facilitation on a real-time basis, and risk management enhancement, FinTech significantly optimizes financial performance. The study inferred that unified efforts from government institutions, regulators, and players from the insurance sector are imperative to sustaining the development of FinTech and facilitating financial inclusion and sector growth in Indonesia (Tahu & Verawati, 2024).

The insurance industry has entered a phase of innovation, driven by emerging technologies such as chatbots, the Internet of Things, blockchain, artificial intelligence, and telecommunications. These advancements have significantly influenced both institutional performance and broader economic outcomes. A study aimed at evaluating the impact of InsurTech on the operational and financial efficiency of the insurance sector examined how technological innovation benefits both customers and providers. Findings revealed that technology adoption not only assists in customer acquisition and retention but also contributes to increased premium income. Furthermore, the use of InsurTech reduces operational risks by enabling more

effective data sharing and client profiling (Uddin et al., 2023). The researcher posits that the role of FinTech in insurance institutions is multidimensional, involving several interrelated elements, as illustrated in Figure 1.



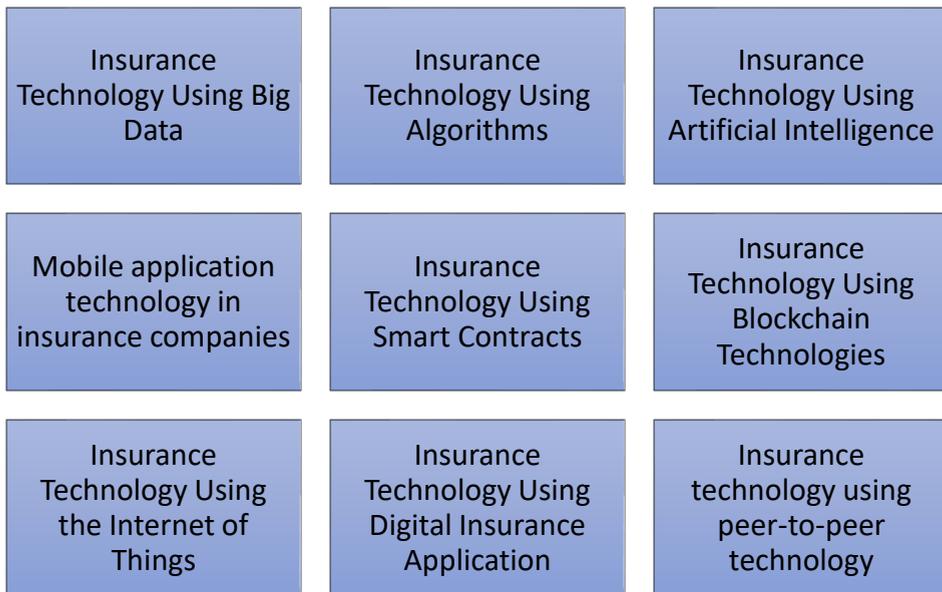
**Figure 1:** Financial Technology in Insurance Companies

### Impact of Digital Technology on Insurance Companies

AI has become a central component within FinTech, fundamentally transforming data analysis, automation, and decision-making in the financial sector. Increasingly, AI-driven algorithms are deployed to undertake traditionally labour-intensive activities, such as loan assessments, fraud detection, and operational automation. These systems enhance transaction speed and accuracy, reduce operational costs, and streamline core financial processes. In investment management, AI is utilised by hedge funds, asset managers, and financial institutions to optimise returns, minimise time spent on research and analysis, and detect fraudulent activities by monitoring credit card transactions. Moreover, AI contributes to risk reduction and fosters greater consumer confidence by reinforcing security measures (Gopal et al., 2023). Effective oversight of technological systems is vital for insurance firms. It supports the enhancement of service quality, ensures a safe and compliant working environment, boosts productivity and efficiency, and enables the identification and mitigation of risks. This oversight involves setting standards for service performance, offering technical training and support, ensuring compliance with legal requirements, penalising violations, implementing cybersecurity protocols, resolving security vulnerabilities, and safeguarding sensitive customer data (Alzoubi et al., 2022). The researcher asserts that employing modern technologies, particularly blockchain, can significantly enhance regulatory oversight within insurance entities.

The emergence of InsurTech has redefined the insurance industry by introducing

transformative shifts that influence all market stakeholders, including clients, brokers, insurers, and reinsurers. These changes have enriched policyholder services while reducing associated costs. InsurTech firms are broadly classified into three categories (Xiang et al., 2023): (1) Specialists, who offer focused services across various segments of the traditional insurance value chain; (2) Distributors, who apply alternative business models within the insurance sector; and (3) Innovators, who develop entirely new operational frameworks for insurance provision. The International Association of Insurance Supervisors (IAIS) evaluated three supervisory scenarios, identifying critical themes and considerations relevant to oversight in the digital era (Akhil, 2022). The researcher maintains that the impact of digital technologies on insurance companies is comprehensively represented in Figure 2.



**Figure 2:** Impact of Digital Technology on Insurance Companies

### **Impact of Financial Technology Techniques on Insurance Companies on Improving Financial Performance Indicators**

Insurance companies, as financial institutions, play a pivotal role in safeguarding the national economy by providing coverage for both individual and project-related economic activities. Premiums collected from insured parties contribute to national savings, which are then channelled into direct investments or indirectly utilised through bank deposits and stock market activities. The primary investment avenues typically include risk-free instruments, government securities, and mutual funds (Kohl, 2022). FinTech has significantly influenced various operational dimensions of insurers (Baker et al., 2023). These impacts include a renewed concentration on core functions, with non-essential processes being outsourced to external partners.

Furthermore, FinTech reduces entry barriers for new market participants and lowers overall operational expenses. For example, digital platforms enable direct distribution without intermediaries, resulting in lower premium costs when compared to traditional insurers. Additionally, these technologies expand insurers' access to a broader customer base.

The role of IoT in enhancing the precision of insurance premium calculation is becoming increasingly vital, particularly in the motor insurance segment. When assessing premiums, various parameters are considered, such as the vehicle model, its intended usage, engine size, the driver's past record, location, safety features, and driving competency (Ieosanurak et al., 2023). Blockchain technology, when integrated with sensors and AI, facilitates real-time data collection related to driving behaviour, speed patterns, adherence to traffic regulations, and exposure to risk. The use of blockchain further enables insurers to streamline operations by lowering transaction costs, reducing intermediary involvement, addressing data inconsistency through smart contracts, cutting resource utilisation, and fostering a more trustworthy and transparent operational environment. It also aids in enhancing competitiveness, simplifying audits, preserving data privacy, and improving the claims settlement process (André et al., 2021).

## RESEARCH METHODOLOGY

The inductive approach facilitated the exploration of patterns and themes emerging from empirical observations, while the deductive approach enabled hypothesis formulation and theoretical validation based on existing frameworks. The study centres on establishing the nexus between FinTech adoption in the Iraqi National Insurance Company and enhancements in financial performance. This has been achieved through an extensive exploration of the conceptual evolution of FinTech, its advantages and limitations, and the scope of its application. Particular emphasis is placed on the role of FinTech in insurance institutions, referred to as InsurTech, along with the contributions of the International Association of Insurance Supervisors toward advancing InsurTech practices. The analysis also considers various factors influencing the realisation of FinTech within insurance entities, including the role of AI and the significance of technological oversight. Furthermore, the research evaluates the concept of financial performance by delineating its core indicators and assessing how FinTech applications within insurance firms contribute to improvements in these metrics. Within this study, FinTech represents the independent variable. Its characteristics are discussed through the theoretical constructs of both FinTech and InsurTech. The dependent variable is financial performance enhancement, which is examined by reviewing key indicators commonly acknowledged in existing literature as essential for evaluating and improving financial performance.

## Financial Performance and Its Indicators

The financial dimension constitutes the initial component of the balanced scorecard model, which assesses an organisation's short-term financial outcomes. It reflects the tangible outcomes of strategic decisions and operational activities, enabling the evaluation of profitability derived from strategic initiatives, as well as comparisons of cost efficiency relative to competing firms. This dimension emphasises various financial indicators, such as operational income volume, return on invested capital, sales progression, return on equity, return on total assets, value added, and the enhancement of operational cash flows. Within this scope, two principal strategies are highlighted: revenue generation and productivity enhancement ([ABDELRAHEEM & HUSSIEN, 2022](#)). The robustness and effectiveness of an organisation's financial operations are also captured through the assessment of financial performance. This performance dimension encompasses a firm's capacity to generate revenue, sustain growth, manage expenses, and navigate financial risks. Several key indicators are employed to evaluate financial performance, including the following ([Bazyar, 2025](#)):

- **Revenue Ratio:** This indicator assesses a firm's capacity to generate profits from its operational activities. Typical metrics include net profit, earnings before interest and taxes, and the operating profit ratio.
- **Growth Ratio:** This ratio measures increases in overall revenue and profit levels. Common metrics include revenue growth rate and profit growth rate.
- **Liquidity Ratio:** This ratio gauges the firm's ability to convert assets into liquid funds. It comprises the cash flow ratio and the general liquidity ratio.
- **Debt Ratio:** This indicator reflects the extent of an organisation's indebtedness and its ability to meet financial obligations. It includes ratios such as debt-to-equity and debt-to-assets.

These indicators are instrumental in identifying and preventing financial failure, which is characterised by an entity's inability to fulfil its obligations in a timely manner. An enterprise is deemed technically insolvent when it cannot settle current liabilities as they mature, despite total assets exceeding liabilities. Financial failure may also occur when liabilities surpass asset value, rendering the firm unable to meet its commitments. Warning signs of impending failure include sustained declines in profitability, structural imbalances in financial composition, competitive disadvantages, poor management of working capital, inefficiencies in financial and administrative operations, failure to identify profitable ventures, unreliable accounting practices, delays in preparing financial statements, and weak disclosure practices ([Arhinful & Radmehr, 2023](#)).

## Research Sample

The National Insurance Company in Iraq is a state-owned enterprise, originally

established under Law No. 56 of 1950, with an initial nominal capital of one million dinars. It was later restructured as a public company in accordance with the Public Companies Law No. 22 of 1997, permitting it to engage in all categories of insurance activities. The company's capital experienced successive increases, reaching 15 billion dinars in 2006 and expanding further to 60 billion dinars by 2023. The firm offers a comprehensive range of insurance services, including fire and accident, engineering, automotive, agricultural, marine, life, aviation, and reinsurance products. In addition to underwriting services, the company extends specialised consultancy in insurance matters. Investment activity constitutes a core parallel to insurance operations for the company, encompassing diverse domains such as real estate investment, financial deposits and remittances, equity participation in joint and private Iraqi and Arab enterprises, as well as real estate lending, among others.

The research population was composed of employees from the National Insurance Company, categorised into three equally represented sectors: information systems, finance, and sales/customer service, with a total of 150 participants (50 individuals from each sector). A random sampling approach was employed to select respondents from each group, ensuring that participants possessed adequate experience, technical proficiency, and contextual understanding to accurately complete the survey instrument.

Following the identification of the target sample across all categories, the study calculated the effective response rate and assessed the validity of the collected data for statistical analysis. Survey questionnaires were distributed via email, and upon receipt, the completed forms were sorted and screened to confirm their suitability for inclusion, with response and validity statistics detailed in [Table 2](#). Moreover, [Table 2](#) illustrates that 96 percent of the targeted sample completed the survey, reflecting a highly satisfactory response rate. Moreover, over 90 percent of the questionnaires from each category were deemed valid and suitable for statistical analysis.

**Table 2: Statistical Analysis of the Response Rate for the Questionnaires**

Research Sample	Distributed Questionnaire Lists	Retrieved Lists		Invalid Lists		Valid Lists		
		Number of Lists	List Ratio	Number of Lists	List Ratio	Number of Lists	List Ratio	Ratio
Information Systems Workers	50	50	100%	2	4%	48	96%	34.78%
Financial Sector Workers	50	48	96%	4	8.33%	44	91.67%	31.88%
Sales and Customer Service Workers	50	46	92%	0	0.00%	46	100%	33.33%
Total	150	144	96%	6	4.17%	138	95.83%	100%

The overall usability rate of the returned instruments reached 95.83 percent, indicating a robust and reliable dataset for subsequent analytical procedures.

## Data Collection Method

A structured questionnaire comprising a series of systematically arranged items was employed to evaluate the validity of the research hypothesis. The questions were formulated in a clear and logical sequence to ensure ease of comprehension and response for the participants.

## Structural Design of the Study

The questionnaire was divided into two principal sections: the first gathered demographic details of the respondents, while the second comprised the core investigative items. A five-point Likert scale was utilised to measure responses, as illustrated in Table 3. The questionnaire was designed to explore the existence of a relationship between the variables of the study hypothesis. The independent variable—namely, the application of financial technology within the National Insurance Company in Iraq—was measured through nine specific statements, which were encoded in the statistical analysis software using the range (G1X1:G1X9). The dependent variable, representing the enhancement of financial performance, was assessed using six statements, similarly coded within the analysis programme under the range (G1Y1:G1Y6).

**Table 3: Summary of Five-Point Likert Scale**

Trend of Approval of Questionnaire Lists According to the Five-Point Likert Scale			
Approval	Weight of Approval	Average	Direction of Approval
Extremely Disagreeable	1	1 - 1.79	Extremely Disagreeable
Disagree	2	1.80 - 2.59	Disagree
Neutral	3	2.60 - 3.39	Neutral
Agree	4	3.40 - 4.19	Agree
Extremely Agree	5	4.20 - 5	Extremely Agree

## Statistical Summary of the Data

The fundamental characteristics of the respondents were compiled and presented according to frequency and percentage distribution, as illustrated in Table 4.

**Table 4: Frequency and Relative Distribution of Basic Data of Respondents**

According to Years of Experience			According to Educational Qualification		
Experience Years	Ratio	Repetition	Qualification	Repetition	Ratio
1 – 5	18.8%	26	PhD	18	13%
5 – 10	18.8%	26	MSC	36	26.1%
10 – 15	20.3%	28	Professional Diplomas	30	21.7%
More than 15	42%	58	BSC	54	39.1%
Total	100%	138	Total	138	100%

## Testing the Study's Hypothesis

Table 5 presents a descriptive analysis of the independent variable, namely the utilisation of financial technology within Iraq's National Insurance Company.

**Table 5: Giving Opinions on the Phrases that Explain How Financial Technology is used in the National Insurance Company in Iraq**

Elements (Phrases) that Define the Application of Financial Technology in the National Insurance Company in Iraq	Descriptive Statistics Measures			
	Approval Order	Relative Weight%	Standard Deviation	Arithmetic Mean
The use of financial technology for artificial intelligence in insurance companies helps improve financial performance by increasing the number of insurance subscribers, thereby increasing the number and value of insurance subscriptions.	1	84%	0.759	4.2**
The use of financial technology for big data in insurance companies helps manage operations such as underwriting and pricing, risk selection, fraud detection, claims forecasting, product offerings, and customer targeting.	4	82.6%	0.764	4.13**
The use of financial technology for the Internet of Things in insurance companies helps manage operations such as digital monitoring and usage-based insurance, customer targeting, providing comprehensive insurance platforms to prevent risks, product offers and recommendations, fraud detection, and digital reporting of actual losses using automated services.	9	80.6%	0.766	4.03**
The use of financial technology for cloud computing in insurance companies helps manage smart contracts: self-executing contracts, peer-to-peer insurance, on-demand insurance, providing insurance offers for specific periods, and digital insurance.	6	82.6%	0.821	4.13**
The use of financial technology for mobile applications in insurance companies helps in: reporting claims, managing contracts, customer service, displaying products, increasing the efficiency of sales processes, assisting brokers and agents, and providing various tools to facilitate procedures, such as electronic signatures.	3	82.6%	0.726	4.13**
The use of chatbots and robotic advisors in insurance companies helps in: providing information services - collecting user data to conduct specific conversations to automatically sell insurance products. Robotic advisors are also used in retail and asset management.	8	80.8%	0.794	4.04**
The use of websites and social media in insurance companies helps in introducing the insurance company itself, informing customers about the company's products, providing insurance services, communicating with customers, and responding quickly to complaints.	7	82.4%	0.796	4.12**
The use of video channels in insurance companies helps in advertising insurance products and services to support customers in making insurance decisions.	5	82.6%	0.765	4.13**
The use of digital technologies in insurance companies helps in the digitization process of all activities that make up the insurance value chain within an insurance company.	2	83.4%	0.839	4.17**

The mean values of respondents' answers across all items exceeded 3.0, indicating a general consensus in favour of adopting financial technology in the operations of the

company. The relative weights for all items exceeding 60% further support this conclusion. Additionally, the arithmetic means for all statements were found to be statistically significant at the 0.05 level, indicating that the respondents' views significantly diverge from the neutral benchmark value of 3.0.

### Descriptive Statistics

Table 6 illustrates that the arithmetic mean values for all items exceeded 3.0, indicating a general consensus among respondents in favour of enhancing financial performance.

**Table 6: Describe the Opinions on Statements that Reflect Improved Financial Performance**

Elements (Phrases) that Define Improved Financial Performance	Descriptive Statistics Measures			
	Approval Order	Relative Weight%	Standard Deviation	Arithmetic Mean
The use of financial technology for artificial intelligence in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index, debt index).	1	91%	0.582	4.55**
The use of financial technology for big data in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index).	4	89.6%	0.655	4.48**
The use of financial technology for the Internet of Things in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index).	5	88.4%	0.673	4.42**
dimensions of sustainable development in The use of financial technology for cloud computing in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index).	3	89.6%	0.633	4.48**
The use of financial technology for mobile applications in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index).	6	86.4%	0.757	4.32**
The use of chatbots, robotic consultations, web pages, and digital technologies in insurance companies helps improve financial performance indicators (profitability index, growth index, liquidity index).	2	89.6%	0.609	4.48**

**Note:** \*\*There is statistical significance at a significance level of 0.05.

The relative weights for all items exceeded 60%, signifying a departure from neutrality. Furthermore, at the 0.05 significance level, the arithmetic means for each statement were found to be statistically significant, reflecting substantial differences between the respondents' perspectives and the neutral benchmark value of 3. Upon

conducting a descriptive analysis of the data concerning the study hypothesis, the researcher concluded that the respondents generally acknowledged the significance of adopting financial technology within the National Insurance Company in Iraq, thereby lending empirical support to the validity of the hypothesis.

### Kruskal-Wallis Test

The analysis of average ranks and corresponding orderings indicates that employees within the financial sector category recorded the highest mean ranks for both variables of the study hypothesis. Specifically, the average ranks were 38.55 for the first variable and 35.07 for the second variable, respectively, as presented in [Table 7](#). The results of the Kruskal-Wallis Test revealed significance levels of 0.509 and 0.99 for the variables associated with the study hypothesis. As both values exceed the 5% threshold, this indicates that there are no statistically significant differences among the respondent groups. Therefore, it can be concluded that all groups within the sample share a consistent viewpoint regarding the importance of adopting financial technology within the National Insurance Company in Iraq.

**Table 7: Comparing the Opinions of the Different Sample Groups**

Elements (Dimensions) Associated with Study Hypothesis	Moral Test Kruskal-Wallis	Arrangement	Rank Average	Sample Category	Views
Elements that Determine the Indicators of Applying Financial Technology in the National Insurance Company in Iraq	0.509	2	34.98	Information Systems Workers	48
		1	38.55	Financial Sector Workers	44
		3	31.63	Sales and Customer Service Workers	46
				Total	138
Elements that Determine the Variable of Improving Financial Performance	0.99	2	35.06	Information Systems Workers	48
		1	35.07	Financial Sector Workers	44
		3	34.87	Sales and Customer Service Workers	46
				Total	138

**Note:** Statistically significant at a significance level of 0.05.

### Correlation

[Table 8](#) illustrates the association between the application of financial technology within the National Insurance Company in Iraq and improvements in financial performance. The presence of a statistically significant correlation coefficient confirms the existence of a direct relationship, while the coefficient's magnitude denotes the strength of that association. A correlation coefficient of 0.621 signifies a moderately strong positive relationship between the adoption of financial technology and enhanced financial outcomes within the company. This implies that a stronger commitment to implementing financial technology within the National Insurance

Company in Iraq corresponds with a greater potential to enhance financial performance. The correlation significance value (0.00) is below the accepted threshold of 0.01, thereby confirming the validity of the hypothesis which posits a statistically significant relationship between the use of financial technology and the improvement of financial performance.

**Table 8: Clarifying Results of Correlation**

Dependent Variable and Independent Variable	(Y): Improving Financial Performance	Correlation Analysis Data
(X): Indicators Measuring the Variable of Applying Financial Technology in the National Insurance Company in Iraq	0.621	Coefficient of Correlation (R)
	0.000**	Level of moral

**Note:** \*\*Correlation coefficient is significant at a significance level of 0.01.

### Impact of Financial Technology on National Insurance Company in Iraq

A positive regression coefficient signifies that the adoption of financial technology by the National Insurance Company in Iraq exerts a direct influence on the enhancement of financial performance. As presented in Table 9, the value of the regression coefficient indicates that each one-unit increase in the independent variable results in a corresponding increase of 0.484 units in the dependent variable. The t-test result for the independent variable (0.00) falls below the established significance threshold of 0.05, thereby confirming the validity of the hypothesis that a relationship exists between the use of financial technology in the National Insurance Company in Iraq and improved financial performance. Furthermore, the coefficient of determination ( $R^2$ ), calculated at 0.386, indicates that 38.6% of the variance in the dependent variable can be attributed to the independent variable, while the remaining variation is influenced by other factors and variables. The statistical analysis conducted through the SPSS programme substantiates the presence of a significant association between the application of financial technology and enhanced financial performance, thereby reinforcing the hypothesis of the study.

**Table 9: Regression Analysis for the Impact of Financial Technology on the National Insurance Company in Iraq**

Statistical Significance	Moral Level	T-Test Values	Regression Coefficient (B)	Statement
Statistically Significant	0.000	7.890	2.458	Constant Amount (BO)
	0.000	6.485	0.484	(X): Indicators for measuring the application of financial technology in the National Insurance Company in Iraq
Value of the Coefficient of Determination $[R]^2 = 0.386$				
ANOVA Significance Level = 0.000				
F Test Value = 42.052				

## DISCUSSION

Insurance companies leverage FinTech to enhance customer experience through various applications that support interaction, such as claim submissions and real-time notifications. This includes improved digital accessibility, personalised services, and prompt service delivery. Automated processes, such as instant claims handling, policy underwriting, and premium payments, are accelerated, thereby reducing delays and increasing transparency. Additionally, self-service platforms allow customers to manage policies, submit claims, and access support independently through intuitive interfaces, minimising reliance on direct agent interactions. Fintech contributes significantly to improving financial performance by enhancing risk assessment through big data, leading to more precise pricing of insurance products. It also enables better understanding of customer preferences, facilitating the personalisation of services and products, which, in turn, strengthens financial outcomes. Further, fintech improves financial performance through digital integration by streamlining operations via electronic applications and digital signatures, employing data analytics to customise insurance policies, and automating claims procedures for quicker resolution. Moreover, it facilitates seamless access to policy management, payments, and support services, while offering instant quotations and tools to compare insurance policies in real time. The deployment of chatbots and AI ensures continuous customer support via virtual assistants, which boosts customer satisfaction, loyalty, and engagement. The use of fintech technologies (AI, big data, Internet of Things, cloud computing, mobile applications, websites, social media, video platforms, and other digital tools) enhances financial performance indicators, including profitability, growth, liquidity, and debt metrics.

## CONCLUSION

The study utilised field survey data collected from 150 employees working in the Information Systems, Finance, and Customer Service departments. The findings revealed a statistically significant positive correlation between the utilisation of FinTech and the financial performance of the Iraqi National Insurance Company. The correlation coefficient was recorded at 0.621, and the regression analysis indicated that the independent variable accounted for 38.6% of the variation in the dependent variable. The model demonstrated statistical significance at the 0.01 level. These findings underscore the potential of technologies such as AI, the Internet of Things, big data, cloud computing, and smartphone applications to exert a direct influence, provided that a reliable technical infrastructure and effective cost control mechanisms are in place. The results are consistent with previous studies, which have shown that FinTech adoption streamlines operations, reduces administrative expenditures, enhances risk pricing accuracy, and improves the overall customer experience. Moreover, the results indicate that InsurTech has the capacity to transform conventional insurance practices.

Main practical findings of the study involve a rise in the number of subscribers and a growth in the value of insurance premiums, driven by improved digital accessibility and the provision of superior, faster, and improved services. Further, costs of operations are mitigated through digital automation adoption, optimising claims administration and customer contact procedures. The above factors contribute cumulatively to superior financial performance measures, such as improved profitability, enhanced liquidity, increased growth, and debt ratios, under a contemporary technical infrastructure that enables better, data-driven decision-making. The study further suggests increased investment in FinTech integration across all operational segments, focusing on reinforcing data security and privacy through superior protection mechanisms and periodic technological enhancements. It also suggests striking a balance between information technology investment expenses and prospective returns, carefully controlling budgetary expenditure and financial results. Enhanced regulatory and technical cooperation with government and supervision authorities is also urged, aiming to establish a conducive and supportive supervision environment. The results support the assumption that FinTech application under Iraq's insurance industry has a significant and positive effect on financial performance, subject to its smart and intelligent use. The study confirms that investment in FinTech is not only a technological upgrade but a strategic move towards improved profitability and optimised resource utilisation, paving the way for sustainable and agile insurance operations responding to current challenges.

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