The Moderating Effect of Financial Literacy on the Relationship between Financial Technology and Firms' Performance

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Abstract: - A strong understanding of financial issues makes it easier to make the most out of the different financial technology (FinTech) tools. Companies can make sure they get the most out of their investments by knowing how to utilize the FinTech's capabilities. Higher levels of the FL enable businesses to easily incorporate FinTech solutions into their current workflows, improving overall performance, cost savings, and efficiency. The main objective of this research is to investigate the moderating influence of the FL on the relationship of FinTech with firms' performance in the Jordanian context, as a representative market for the Middle East. Using 208 analyzed questionnaires obtained from the study’s sample in the listed Jordanian companies in the industrial sector, findings of the Structural-Equation-Modelling showed a significant and positive relationship between Fintech and with the performance of the firms. The findings also revealed that the FL moderates the relationship of FinTech with firms' performance in the Jordanian context. Businesses may invest in the training programs targeted FL for workers, senior managers, and decision-makers to boost their understanding of FinTech and enhance its impact on performance, where legislators could integrate FL requirements into the framework of governing by adopting accountable and knowledgeable FinTech through the numerous industries.

Key-Words: - FinTech, Financial Literacy, Firms Performance, Trust in Fintech, Perceived risk, Perceived usefulness, Jordan, Middle East.

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1 Introduction

1.1 Overview

The growth of financial technology (FinTech) has led to a transformation of old-fashioned industries by offering unique opportunities for novelty and proficiency, where its addition can change the way establishments work and compete, [1]. Jordanian market must examine the multifarious factors that define adoptions between FinTech and firms’ performance.

The juncture between FinTech and business success in the Jordanian industry has arisen as a central theme, where the ongoing expansion of the high-tech revolution has experienced major transformations in financial transactions, decision-making processes, and operational strategies.

Therefore, the significance of determining the complex association between FinTech and a company's success cannot be overstated, [2], [3].

Financial Literacy (FL) has recently emerged as a social finance topic; due to its reputation for recording financial decisions and conducts, where FL allows persons to make comprehensive short and long-term financial decisions by understanding key financial principles, goods, and services; as well as implementing the proper financial approaches and behaviors, [4].

The human aspect of technology innovations arises as a key forecaster of significant FinTech integration within different organizations, where FL that involves knowledge and responsiveness of financial theories acts as a mediator for individuals who sail across the complex settings of FinTech, [5]. It's essential to examine the diminishing effect of FL on FinTech firm performance; due to the diverse financial literacy of the labour force in Jordan. The old-fashioned business practices in Jordanian companies are mixed with entrepreneurship and modernization, which calls for huge modifications of FinTech adoption. The financial performance indicators are eventually measured by businesses' adaptation of FinTech technologies and platforms, as well as the implementation of financial knowledge by individuals within these enterprises.

However, the financial literacy in business environment remains the foundation of knowledgeable decision-making and requires a distinctive active role of individuals, [6], [7]. In the Jordanian vigorous economy, businesses aim to adjust and flourish in dealing with the technology blows, [8], where this research investigate the prospective adjusting impact of FL on FinTech firms' performance.

In Jordan, FinTech services have the potential to significantly improve the performance of the firms through revolutionizing traditional business activities and fostering greater efficiency. With the rapid adoption of digital financial activities, the companies in Jordan can streamline operations, decrease the costs, and enhance access to capital through innovative solutions like peer-to-peer lending and mobile payments. These technologies enable organizations to reach wider markets, optimize cash flow management, and harness valuable data analytics for informed decision-making. Moreover, as FinTech promotes financial inclusion, even SMEs can leverage these tools to compete more effectively, driving economic growth and resilience in a challenging economic environment. By embracing FinTech, organizations in Jordan can not only boost their performance but also contribute to the economic development of the country, paving the direction for a more dynamic and sustainable future.

The primary purpose of the current study is to discover tiny details in the FinTech measures association, such as; perceived usefulness (hereafter PU), perceived ease (hereafter PE), trust in Fintech services (hereafter TFS), and perceived risk (hereafter PR), with the performance of the various firms, with a special emphasis on the FL as a moderating influence. Our research seeks to give meaningful insights for businesses, governments, and educators by investigating the extent to which FL amplifies or mitigates the FinTech firms' performance association. The outcomes have the potential not just to contribute to academic research, but also to provide practical counsel for firms negotiating the complex intersection of FinTech, FL, and the performance of the industrial companies in Jordan. In essence, this study serves as a beacon illuminating the path toward a comprehensive understanding of how financial literacy, as a moderating force, shapes the outcomes of FinTech adoption within the Jordanian industrial sector.

The classification of the current research is as follows; the first section consists of an overview of the research and its motivation. Section 2 consists of a literature review and hypotheses development regarding the relationships between financial technology, FL, and firms' performance. Data collection, developed questionnaire, population, sample, and measurement of the study's variables are presented in the third section. Section 4 shows a discussion of the main outcomes. Finally, conclusions, recommendations, and suggestions for future studies are presented in section 5.

1.2 Motivation

The Arab nations now to make valuable efforts regarding the concept of FinTech and are currently ongoing; nevertheless, more is required in the future, [9]. The relationship between FinTech and a company's performance is a crucial area of focus for the related parties, such as academics and business professionals in the dynamic economy in a developing country like Jordan, [10]. Utilizing FinTech has become a critical component affecting financial transactions, decision-making procedures, and overall company strategies as technology continues to transform old business structures. A number of Middle Eastern nations, including Jordan, are still in the process of developing their Fintech industries, [11].

It is impossible to overestimate the importance and function of the FL in this revolutionary age of financial revolution. Understanding financial principles and instruments, and financial knowledge, serves as a link between technology breakthroughs and their real-world financial applications, [12]. In the Jordanian context, understanding the potential interactive influence of FL offers a nuanced view of the complex link between FinTech and enterprises' performance.

Over the past 20 years, Jordan has faced a number of difficulties and shocks, including poor growth, overpopulation, the Arab Spring, unemployment, inflation, as well as budget deficits, [13], [14]. However, compared to other countries, Jordan has succeeded in overcoming such challenges and shocks, [10]. Jordan experiences the impact of global technological trends on its industries. Understanding how FL acts in the relationship of FinTech adoption with firms' performance becomes imperative for both policymakers and business leaders. Consequently, considering the shortcomings in the previous literature, this study seeks to unravel the intricate dynamics at play, shedding light on the pathways through which financial literacy affects and shapes the FinTech-firms performance relationship in the Jordanian context as a representative market of the MENA region. Given that the developing markets, i.e. the MENA region have been ignored from prior empirical studies.

By exploring this moderating effect, our research aims to contribute valuable insights that can inform strategic decision-making, policy formulation, and educational initiatives. As we delve into the complexities of this relationship, our findings will not only enhance academic understanding but also offer pragmatic implications for the various companies navigating the evolving landscape of finance and technology. In essence, this study aspires to be a guiding compass for stakeholders in the Jordanian sectors, offering actionable intelligence to harness the synergy between FinTech, financial literacy, and firms' performance in the pursuit of sustainable growth and competitiveness.

In general, FinTech, FL, and firm performance are intricately interconnected in the current dynamic economic landscape. FinTech innovations, such as mobile banking and automated investment platforms, enhance accessibility to financial services, empowering individuals and businesses to make informed financial decisions. This increased accessibility fosters FL, as users navigate new tools and resources, leading to a deeper understanding of financial concepts and practices. As companies adopt FinTech services, they can streamline operations, minimize their costs, and enhance decision-making processes, ultimately driving enhanced performance and competitive advantage. This symbiotic association not only elevates individual financial capability, but also propels firms' success, creating a cycle where enhanced FL translates into better use of FinTech, which in turn enhances performance of the firms.

The significance and contributions of the current research contain the enhancement of existing literature on the relationships between FinTech, FL, and firms' performance. In addition, this study creates a greater awareness of FinTech for the various firms. Furthermore, it fills the existing gaps in the previous studies by comparing outcomes between developed and developing economies. The outcomes of this investigation offer new evidence and insights into FinTech and financial literacy for firms, regulators, policymakers, financial technology firms, banks, and academics. It has the potential to assist the various organizations in managing their operations and enhancing their performance and competence in the practice. We believe that financial literacy, which possesses an important role in financial decisions, has the ability to change the strength of the association between FinTech and firms' performance. Therefore, our study anticipates that FL will moderate the FinTech-firms' performance relationship.

2 Literature Review and Hypotheses Development

2.1 Firms' Performance

The reverberations of the global financial crisis (2007-2010) echoed across the world, leaving an indelible mark on the whole world economy. Triggered by the collapse of the subprime mortgage sector in the US, this seismic event sent shockwaves through various financial systems, economies, as well as livelihoods worldwide. Its influence was profound and multifaceted, reshaping the economic landscape in several ways. From crippling banking firms to spurring widespread unemployment and housing market collapses, this crisis exposed vulnerabilities in the infrastructure of global financial systems. Several countries grappled with recessionary pressures, austerity measures, and the daunting task of repairing destroyed economies. Yet, the scars of this crisis remain, serving as a poignant reminder of the interconnectedness between the economies and the imperative of prudent financial stewardship in economies ever-evolving economy, [15], [16].

The complicated network of global finance intertwines economies across borders, making the ripples of the financial sector issues in developed countries reverberate even in the distant realms of developing nations such as Jordan. As the various firms in the developed economies grapple with crises or instability, the shockwaves extend far beyond their borders, casting a shadow of uncertainty over the international markets. The substantial dependency of Jordanian companies on outer investments, commerce, and entrance to the financial market may lead to various disruptions, where a reduction in shareholders' reassurance, credit flow restrictions, and decreased demand on exports all formulate tough challenges to Jordanian firms' performance. The ripple consequences can manifest in restricted growth opportunities, diminished access to needed financing for expansion, as well as heightened vulnerability to economic downturns. Steering through these stormy troubles; adaptableness, flexibility, and positive measures will become dominant at Jordanian companies to strongly face this difficulty, [10], [17].

Furthermore, the vigorous and operative government mechanisms act as a base for a dynamic business environment by motivating different enterprises to prosper and grow, and whenever government regulations and mechanisms are weakened or become insufficient, the consequences will be comprehensive and reflective. Weak governance mechanisms breed uncertainty, and inefficiency, and often pave the path to stagnation for firms. In such environments, the ability of businesses to generate sufficient profits to satisfy shareholders becomes severely compromised. Regulatory hurdles, bureaucratic red tape, and inconsistent enforcement further exacerbate the challenges, impeding innovation and stifling competitiveness. Consequently, the intention for new investors wanes, as the risks outweigh the potential rewards. With the absence of a conductive regulatory framework and transparent governance practices, the investment landscape loses its luster, deterring both domestic and foreign investors from allocating capital. The symbiotic association between effective governance and firm performance underscores the critical need for the various governments to prioritize institutional strength and regulatory clarity, fostering an environment where businesses can thrive, generate sustainable earnings, and attract the required investment in order to fuel their growth aspirations, [18], [19]. The majority of studies on factors influencing firms' performance have been performed in developed countries. There is limited evidence available in the Middle East, notably in Jordan.

The multifaceted nature of the business environment and the continued challenges in this environment lead to additional challenges within the firms context, [20], [21]. In addition, organizations' performance is affected by the digitization of the business, the serious potential of the Web, the consequences of big data, and the increasing importance accorded to information mining, [22]. The relentless march of the digital revolution, accelerated by the unprecedented challenges of the COVID-19 pandemic, has ushered in a transformative era where virtual interactions supplant physical exchanges in the field of financial services. As social distancing measures became the norm, traditional modes of face-to-face communication between customers and providers of financial services gave way to the seamless connectivity of computerized networks, [23]. Such a shift not only facilitated continuity amidst the various crises but also catalyzed a surge in the adoption of FinTech services. Empowered by technology, FinTech firms swiftly filled the void, offering innovative solutions that transcended geographical barriers and traditional banking constraints. From digital payments and robo-advisors to blockchain based transactions, the FinTech ecosystem burgeoned, providing customers with unparalleled convenience, accessibility, and efficiency. The COVID-19 pandemic served as a catalyst, accelerating the inevitable convergence between finance and technology, and reshaping the financial services landscape irreversibly, [24]. In this digital age, the nexus between customer needs and technological innovation has never been more pronounced, heralding a new era where FinTech reigns supreme as the vanguard of financial empowerment and inclusion.

On the other hand, the winds of change blow relentlessly in the conventional banking context, heralding various and notable risks as individuals redefine the way they manage their accounts. With the advent of digitalization and the proliferation of FinTech innovations, traditional banking paradigms find themselves confronted with an unprecedented challenge. Increasingly, customers are embracing the convenience and flexibility offered by FinTech platforms, mobile apps, and digital wallets, eschewing the brick-and-mortar branches of yesteryears. This shift in consumer behavior not only poses a threat to the traditional banking model but also underscores the imperative for banks to adapt or risk irrelevance. As customers demand frictionless experiences, personalized services, and real-time insights, various banks must innovate to meet evolving expectations or risk being consigned to the annals of history. The spectre of obsolescence looms large, urging incumbents to embrace digital transformation, harness emerging technologies, and reimagine their value propositions to remain relevant in an increasingly digital world, [25]. In the current era of rapid technological advancement, survival of the conventional banking relies on its ability to evolve alongside changing customer preferences, forging a path toward a more agile, customer-centric future. Risk management in the FinTech dimensions is an attractive subject to investigate among management and finance professionals. As technology advances, the investigation into FinTech has become a prominent issue. The various organizations and governments must know what risks affect their operations, as well as how to handle them efficiently.

The prime objective of this study is to explore the link between Fintech and firms' performance and make suggestions on how to enhance the performance. Especially after the reforms taken by the various policymakers in Jordan, such as the Jordanian Central Bank, as a key player, to liberalize and reform the Jordanian sectors and develop the FinTech to improve their performance, [3], [17], [26]. In addition, given that FL is a critical method in which Fintech's services affect various indicators of the firm's performance, such as financial and operations [12], the current research seeks to provide a better understanding of how leveraging Fintech solutions can affect the firms' performance through financial literacy.

Financial services receive special emphasis due to their direct association with the Global Financial Crisis and it is important to the notion of financial technology, [27]. As technology advances, the investigation into FinTech issues has become a prominent topic. Both banks and businesses must understand the risks that affect their operations and performance, as well as how to properly manage and avoid such risks, [25]. The global investment in FinTech is now a multi-billion-dollar industry, [28]. Thus, the current study contributes to the current debate on whether financial technology can help enhance performance of the firms (financial and non-financial), due to financial technology, if used sensibly, might help improve the performance, [29]. In this way, this research contributes to the growing body of knowledge on FinTech.

According to the literature, performance measurement is a difficult concept since it reveals whether or not the firm is on the proper course, [30]. To remain competitive, the various enterprises must evaluate their performance on a regular basis. Several studies have shown several performance indicators based on their criteria, [31], [32]. Moreover, financial services rules, credit facilities, managerial regulations, as well as marketing management regulations are all important in improving corporate performance, [33], [34]. According to [35], the most widely utilized measures to analyze business performance are quality, cost, delivery, and flexibility. Furthermore, performance assessment takes into account profitability, productivity, and opinions of the owners, managers, and employees about the applicability of metrics, [36].

2.2 Financial Technology (FinTech)

In the dynamic landscape of the modern finance era, the FinTech's concept stands as a beacon of innovation, heralding a new era of financial services. With the disruptive technologies and forward-thinking methodologies of FinTech, it has swiftly carved its niche as a pivotal and essential domain, which led to reshaping the traditional finance paradigms. Through seamlessly blending cutting-edge advancements in technology with financial services, FinTech not only streamlines the various processes but also democratizes access to financial solutions, empowering individuals and businesses alike. Allure of the FinTech lies in its ability to transcend boundaries, fostering and improving inclusivity and efficiency in an increasingly interconnected world. As FinTech continues to evolve, it not only challenges traditional practices but also motivates unprecedented opportunities for growth, heralding a future where finance is not just redefined, but reinvented. A more rational viewpoint contends that in order to fully realize FinTech's enormous potential, an updated educational framework balancing knowledge with comprehension of finance and technology is required. A framework that builds effective skills with practical knowledge in such key components, [1].

In addition, FinTech emerges as the transformative force, it considered a paradigm shift of monumental proportions. With its fusion of cutting-edge technology and financial services, FinTech changes the traditional way of business, ushering in a flexible and innovative era. No longer confined by the constraints of the traditional institutions, FinTech empowers individuals and firms irrespective of geographical boundaries. Its advent not only leads to motivates efficiency but also enhances a culture of inclusivity, bridging the existing gap between the haves and the have-nots, [12]. A study by [8] in Jordan, showed that there was a reduction in levels of ownership of the accounts among the various banks, as is shown in the reduction of the engagement percentages among the population in such a financial system. Such a reduction has a various consequences on the Jordanian economy and -in particular- the financial institutions. Financial technology was identified as a key element influencing the amount of involvement in the financial relationship in the Jordanian context. Fintech and firms' performance have recently garnered considerable traction worldwide. Adopting Fintech and utilizing important organizational resources are critical to a firm's long-term viability, success, and performance of firms, [37].

Various previous studies have been conducted regarding these topics. [38] examined the association between the performance of the firms (operational and financial) and with FinTech of the firms. Findings showed that FinTech possess a significant influence on the firm's performance. In addition, [39] investigate the relationship between the FinTech with the firm's performance (through financial indicators). They revealed that FinTech is directly associated with the performance of the firms. [40] revealed that customers' satisfaction with FinTech is affected perceived usefulness and ease, various services, and trust in the provided services of the FinTech, as well as customers' innovativeness. They revealed that when Fintech is useful and trustworthy, it would be greater opportunities to achieve customers' satisfaction.

A study [37] found that Fintech and FL are important drivers of firms' performance. They showed also that access to finance had a strong mediating effect on the relationships of Fintech, FL with sustainability performance. [41] revealed that there is a significant association of Fintech with the firm's performance, financial inclusion, and self-efficacy. Similarly, financial inclusion has a mediating effect on the Fintech-firms' performance relationship. They found that FL has a significant influence on self-efficacy, while financial inclusion has no mediating role in the FL-firms' performance relationship. Similarly, [32] examined the association between digital technology's utilization and firms' performance, and the role of digital transformation. They revealed that digital technology affects digital transformation and the innovation of the company in a positive way, and in turn, affects firms' performance. In addition, [42] shows that utilizing social media (namely, information technology) has a positive and significant effect on the firm's performance.

There is a dearth of primary-data-based studies regarding the subjects of Fintech, financial literacy, and firms' performance, [37]. Thus, the current study will address the existing gaps in the financial literacy, FinTech, and firms' performance literature, and will yield critical implications for the theory and the practice. This study will provide important results and a constructive framework for focusing the FinTech and FL to the management, firms, as well as policymakers to improve firms' performance.

Regarding the theory, the current study draws upon the resource-based view (RBV) in order to examine the impact of the Fintech and the FL on the firms' performance. In this regard, the RBV indicates that the firms can employ and use Fintech and Financial Literacy as valuable and significant resources within the organizations to improve their performance [37], [43]. Moreover, consistent with the RBV of the firms, the outcomes of this research will provide evidence of the significance of financial literacy in obtaining the financial resources to improve the firm's performance. According to the above discussion, the current study developed the next hypothesis:

H1: Fintech has a significantly positive effect on firms' performance

2.3 Financial Literacy (FL)

It has been demonstrated that FL possesses a substantial influence on the firms' success. However, the actual effect of FL on firms' performance has yet to be firmly defined [44], thus the need for the current study. Several of the prior studies argued that individuals with low levels of appropriate FL, they unable to make the correct decisions in the financial issues, [4], [45], [46], [47]. Early knowledge acquired by individuals in financial issues has a significant role in enhancing financial behaviors, [4].

Research [48] investigated the association between FL and the firms' performance in Sri Lanka. Results reveal that financial knowledge, financial influence, as well as financial behavior have a positive effect on the firms' performance, whereas financial attitudes had insignificant impact on the firms' performance. A study conducted by

[49] revealed that FL has a significant influence on the performance of entrepreneurs.

A study [44] found that financial literacy possesses a significant impact on the firm performance (financial and non-financial indicators). All of the financial literacy dimensions namely; (awareness, attitude as well as knowledge) possess a significantly positive effect on firm performance (by financial and non-financial performance). [4] found that financial literacy affects financial behavior positively, and it moderates the locus of the control-financial behavior relationship. A study of [12] found that financial literacy is considered a substantial tool through which Fintech affects the firms' performance in the context of Cameroon. They showed a good understanding and explanation of how the firms can enhance their performance through using Fintech techniques depending on FL.

Financial literacy plays a crucial role as a moderating variable in the FinTech-firm performance relationship, especially in developing countries. In these contexts, many businesses may lack access to traditional financial education and resources, making FL a vital skill for navigating the complexities of FinTech innovations. Firstly, higher FL equips entrepreneurs and management with the knowledge to effectively use FinTech tools, enabling them to leverage technology for financial planning, investment decisions, and risk management. This ability directly influences how well companies can adopt and integrate FinTech solutions into their operations. Secondly, FL helps mitigate potential risks associated with adopting new technologies. In developing economies, where financial systems may be less stable, informed users are better positioned to identify and avoid pitfalls, ensuring that FinTech investments translate into tangible improvements in performance.
Moreover, in environments where trust in financial systems can be low (such as developing economies), financially literate individuals are more likely to engage with FinTech services, thereby driving greater adoption and utilization. This increased engagement can lead to improved performance of the firms, fostering economic growth within the broader community. In general, FL serves as a crucial buffer that improves the positive influences of FinTech on the performance of the firms in developing economies, empowering companies to thrive in an evolving financial landscape.

According to RBV theory, a firm's resources such as financial literacy can be a source of sustained performance and competitive advantage if it is heterogeneous, immovable, and meets the requirements of value rareness, faulty imitability, and non-substitutability, [49].

H2: Financial literacy moderates the Fintech-firm's performance relationship.

As mentioned before, Fintech (PU, PE, TFS, and PR) serve as the independent variables (IVs), and firms' performance is the dependent variable (measured by both operational and financial performance), while the moderating variable is the FL (financial literacy), as shown in Figure 1 (Appendix).

3 Research Design

3.1 Population, Sample and Data Collection

The target population is limited to the listed Jordanian industrial firms in 2024. The study sample consists of respondents in this investigation namely; senior, middle, and junior managers and their equivalent (any employee familiar with Fintech, operational, and financial performance) through random sampling. Furthermore, the current study utilized the five-point scale (which ranges between 1 (strongly agree), and 5 (strongly disagree) to measure the questionnaire items (Fintech, financial literacy, and firms' performance). In terms of the data collection, it was through a developed questionnaire. 245 questionnaires were distributed, 217 were returned, and 9 were dropped, thus, 208 questionnaires were valid for analysis. The questionnaire's items involve the firm's performance dimensions, namely; operational performance (4 items), and financial performance (4 items). Fintech variables, namely; PU (includes 4 items), PE (includes 4 items), TFS (includes 3 items), and PR (includes 3 items). In addition, financial literacy items (includes 4 items). Items of the Fintech variables, operational and financial performance have been adapted from [12], [40], [50], while items of the financial literacy adapted from [4].

3.2 HTMT Correlation

Following studies of [51] and [52], the current study employed the correlation between the study's variables utilizing the Heterotrait-Monotrait (HTMT) test to examine the reliability and validity of the construct. Thus, as shown in Table 1 (Appendix), the constructs under investigation in this research are less than threshold 0.80 [53], [54], which reflects that the model is acceptable and reliable.

3.3 Significance of Model Paths

In any model, it's very important to assess the predictive accuracy of a study's model(s), [55]. This study has two models, namely; the first model represents the impact of Fintech on firm performance (FP). While the second model represents the moderating effect of FL on the Fintech-firm's performance relationship. Thus, the current study utilized R-square to assess the predictive accuracy of the research's models. The results of the R-square are presented in Table 2 (Appendix). R-Squared value in the first model is 0.382, indicating that all of the independent variables (Fintech variables) explained 38% of the variance in the FP (firm performance). While value of R-Squared in the second model is 0.417, reflecting that the moderating (FL) and independent variables together explained 42% of the variance in the FP in the Jordanian industrial sector.

3.4 Structural Equation Modelling (SEM)

This study analyzed the collected data through SEM in order to test the developed hypotheses. As mentioned, this study contains two models. Table 3 (Appendix) shows the outcomes of the SEM to test the hypotheses. Outcomes of the first model show that Fintech possesses a significant and positive impact on FP (b value = 0.064, t-value = 3.441, and p = 0.001). This result is on the same line with several of the previous studies, for instance; [41], [37], and [12]. Moreover, regarding the second model, findings show that financial literacy significantly moderates the Fintech-firms performance relationship in the Jordanian industrial firms (b value = 0.210, t-value = 2.518, and p = 0.017). Such a result is consistent with [4], [56], [12], [57]. Therefore, according to the above results, the developed hypotheses are accepted.

4 Discussion

FL plays a significant role in moderating the FinTech firms' performance relationship for several reasons. Here are some of the rational explanations for this. First; understanding and decision-making: financial literacy improves the understanding of FinTech tools and platforms. A financially literate individual within a company is more likely to comprehend the benefits and risks related to the various FinTech solutions. Improved financial literacy enables businesses to make more informed decisions about adoption of the particular technologies, ensuring that the instruments they select support both their financial stability and strategic objectives.

Second; management of numerous risks: the utilization of FinTech commonly puts companies at higher risks, such as functional risks, cyber security alarms, and regulatory compliance complications. Individuals who possess a great understanding of financial topics will be more capable of evaluating and dealing with these types of apparent threats. Accurate responsiveness to potential disadvantages and other complications related to FinTech will be likely made by FL, which assist companies in executing risk modification plans and ensure that technology enhances operations as a whole. Third; strategies' integration and planning: persons who are financially knowledgeable own the capability to align the implementation of FinTech with the businesses' strategic goals, whereby integrating these technologies into additional wide-ranging business plans, individuals can ensure that FinTech increases operational proficiencies and enhance long-standing performance. The strategic planning becomes increasingly successful with FL by permitting a comprehensive assessment of FinTech's potential effect on numerous business components. Lastly; cost-benefit analysis: a more accurate analysis of FinTech implementation will be possible by FL. The knowledgeable financial people will be more likely to measure financial sound effects of particular technologies adaptation by paying great attention to things; such as opening costs, permanent expenditures, and potential earnings. The ability to perform this in-depth analysis assures that companies make more successful decisions about FinTech adoption and select the best investments for their money.

To recap, FL plays an adequate role in increasing intellectual capacity, decision-making expertise, and risk alleviation, as well as the measurable amalgamation of FinTech into enterprises. As a result, this will lead to a more advantageous and substantial relationship between FinTech adoption and the company's performance.

5 Conclusions

A concrete understanding of financial problems makes it simpler to benefit from various FinTech tools, where businesses will be sure to maximize their investments by implementing and utilizing FinTech's capabilities correctly. The superior levels of FL permit companies to simply integrate FinTech solutions into their present workflows,

which leads to an increase in performance as a whole, cost reductions, and proficiency.
The relationship between companies' performance and FinTech is considered a strong concentration area for both industry people and scholars in the vibrant market of the Jordanian economy. The utilization of FinTech is a critical step toward influencing financial transactions, decision-making processes, and general business strategies as technology continues to change traditional business structures. It's impossible to overestimate the importance of FL in such a financial revolutionary age, where understanding financial principles and instruments, and financial knowledge serve as a link between technology breakthroughs and their real-world financial applications. In the Jordanian context, understanding the potential moderating influence of FL offers a nuanced view of the complex association between FinTech and enterprises' performance. Thus, the main purpose of the current research is to investigate the moderating role of the FL on the FinTech firms' performance association in the context of Jordan as a representative economy for the Middle East. Through analyzing 208 questionnaires obtained from the study's sample among the listed Jordanian companies in the industrial sector, findings showed that Fintech has a significant and positive relationship with the performance of the firms. In addition, results showed that financial literacy will significantly moderate the FinTech connection performance in Jordanian industrial firms.

Limitations and Insights for Future Research: This study primarily focused on the industrial industry, potentially limiting the generalizability of findings to other sectors with distinct characteristics and financial dynamics. Future research could explore the moderating influence of financial literacy in diverse industries to provide a more comprehensive understanding of the nuanced association of FinTech, FL, with firm performance. In addition, this study has a fixed time frame, making it challenging to capture the dynamic nature of both FinTech evolution and changes in financial literacy over time. Thus, future researchers can conduct longitudinal studies to track the evolving impact of FinTech and changing levels of financial literacy on the performance of the firms, offering a more nuanced perspective on the temporal dynamics. Future studies could also expand the scope to multinational contexts, considering the cultural and regulatory differences in financial literacy and adoption of FinTech.

Implications: Companies could invest in targeted training programs regarding financial literacy for the employees, executives, and decision-makers to enhance their understanding of FinTech and optimize its effect on performance. A one-size-fits-all solution may also be difficult to implement because financial literacy levels and company needs vary widely. FinTech companies should thus think about creating user-friendly solutions that are adjusted to different financial literacy levels in order to guarantee wider uptake and improved performance. Legislators should think about adding financial literacy standards to regulatory frameworks to encourage the responsible and knowledgeable adoption of FinTech in a variety of businesses.

Future investigation can help create an additional important understanding of the significant role FL plays in the relationship of FinTech with the performance of the various firms in the business environment and their competitors by recognizing these limitations and investigating the consequences that have been proposed. This paves the way for additional investigation and improvement of these processes in subsequent research.

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Declaration of Generative AI and AI-assisted Technologies in the Writing Process
During the preparation of this work the authors used Scite Assistant Service in order to understanding how the publications can be cited, and finding relevant literature on the topic in question, given that there scarcity in the literature. After using this service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the publication.

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The authors declare no conflicts of interest.

APPENDIX

Table 1. HTMT correlation

Variable	Fintech	Financial literacy	Firm's performance
Fintech	1		
Financial literacy	0.746	1	
Firm's performance	0.683	0.728	1

Table 2. R-Squared of the models

Construct	R-Squared
First model	
Fintech > FP	0.382
Second model	
Fintech > FL > FP	0.417

Table 3. Models paths

Model	beta value	S.D.	T Statistics	*p* Value	Decision
First model					
Fintech > FP	0.064	0.019	3.441	0.001	*Supported*
Second model					
Fintech > FL > FP	0.210	0.083	2.518	0.017	*Supported*

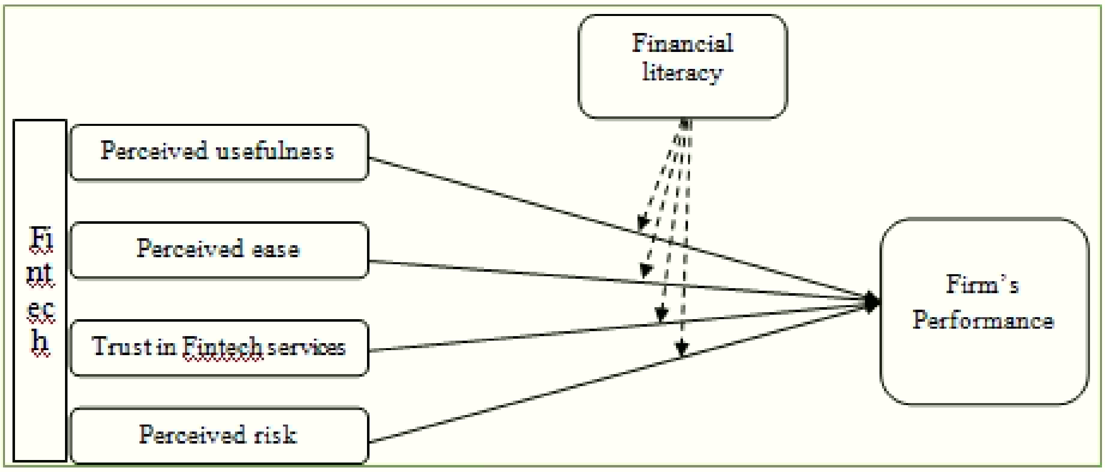

Fig. 1: Research Framework