ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

# FINANCIAL LITERACY AND DIGITAL FRAUD VICTIMIZATION: EVIDENCE FOR THE GOLDILOCKS HYPOTHESIS IN EMERGING ECONOMIES

**Sana Zafar**
Lahore School of Accountancy and Finance, University of Lahore, Pakistan
**Marc Audi**
Abu Dhabi School of Management, Abu Dhabi, United Arab Emirates
**Amjad Ali**
Lahore School of Accountancy and Finance, University of Lahore, Pakistan

**Abstract**
*This study examines the linear and nonlinear relationship between financial literacy and digital fraud victimization and what role institutional, technological, and psychological factors are playing in shaping this relationship. Specifically, the study proposes the Goldilocks Hypothesis, which argues that moderate levels of financial literacy provide the greatest protection against digital fraud, whereas very low and exceptionally high levels of financial literacy are associated with greater vulnerability. Using a cross-country comparative design, primary survey data were collected from 17,500 respondents across seven emerging economies—Pakistan, India, Brazil, Nigeria, Indonesia, Kenya, and Mexico. The empirical analysis employs Probit regression models incorporating a quadratic financial literacy specification, institutional moderation, technological characteristics, and psychological factors to evaluate the determinants of fraud victimization. The findings reveal that financial literacy significantly reduces digital fraud victimization; however, the positive and significant quadratic term confirms a nonlinear relationship, indicating that the protective effect of financial literacy diminishes at higher levels because of behavioral overconfidence. Institutional quality substantially lowers fraud vulnerability and strengthens the effectiveness of financial literacy, while older digital devices and higher trust disposition significantly increase the likelihood of fraud victimization. These results demonstrate that digital fraud is influenced by the interaction of financial capability, institutional effectiveness, technological readiness, and behavioral characteristics rather than financial literacy alone. This study contributes to the financial literacy and consumer protection literature by providing empirical support for the Goldilocks Hypothesis and extending conventional linear models of fraud prevention. The findings suggest that effective policy interventions should integrate financial education with stronger institutional governance, technological modernization, cybersecurity measures, and fraud-specific awareness programs to enhance consumer protection in rapidly digitalizing emerging economies.*
***Keywords:*** *Financial Literacy, Digital Fraud Victimization, Institutional Quality*

## INTRODUCTION

Digital financial transformation has fundamentally reshaped the delivery and accessibility of financial services across the world, particularly in emerging economies where digital technologies have accelerated financial inclusion among previously underserved populations (Karlan & Morduch, 2010; World Bank, 2018; D'Acunto & Rossi, 2023; Siddique et al., 2025; Apriadi et al., 2025; Khalid et al., 2025; Ahmad, 2025; Ali et al., 2026; Amonhaemanon & Wonglimpiyarat, 2026). The rapid diffusion of mobile banking, digital payment systems, financial technology (FinTech), and internet-based financial platforms has significantly reduced traditional barriers to accessing formal financial services, enabling millions of individuals to participate in savings, payments, borrowing, and investment activities through digital channels (World Bank, 2018; D'Acunto & Rossi, 2023; Klapper et al., 2013; Mehdi et al., 2025; Wahyu & Muchran, 2026). Consequently, digital financial inclusion has become an important policy instrument for promoting economic development, reducing poverty, and improving financial well-being (Lusardi & Mitchell, 2011; Hastings et al., 2013; Karlan & Morduch, 2010; World Bank, 2018; Arshad et al., 2025; Zohaib et al., 2026; Bassey et al., 2026). However, alongside these opportunities, the increasing digitalisation of financial services has also created new vulnerabilities, exposing consumers to increasingly sophisticated forms of cybercrime, online financial fraud, phishing attacks, identity theft, investment scams, and social engineering schemes (Craswell, 2008; Heartfield & Loukas, 2016; Marc & Ali, 2023; Caldwell et al., 2023; Amir et al., 2025; Iqbal et al., 2025; Farooq et al., 2026; Islam, 2026). As digital financial ecosystems

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

become more complex, protecting consumers from digital fraud has emerged as one of the most significant challenges confronting policymakers, financial institutions, and regulatory authorities (Ang et al., 2013; Audi et al., 2024; Caldwell et al., 2023).

The expansion of digital fraud has been particularly pronounced in emerging economies, where rapid technological adoption has often outpaced the development of consumer protection mechanisms, cybersecurity infrastructure, and financial education (World Bank, 2018; Ang et al., 2013; Marc et al., 2022; Johannessen & Pallesgaard, 2012; Farras et al., 2025; Kachalia et al., 2026; Mhlanga, 2026). Although digital financial services have enhanced accessibility and convenience, they have simultaneously increased opportunities for fraudsters to exploit weaknesses in consumers' financial knowledge, behavioural biases, and technological preparedness (Heartfield & Loukas, 2016; Kahneman, 2011; Shefrin, 2002; Audi et al., 2024; Bukhari et al., 2025; Naseer et al., 2026; Abdeljawad et al., 2026). These challenges are compounded by relatively lower levels of financial literacy, uneven digital infrastructure, regulatory gaps, and limited institutional capacity to detect and prevent increasingly sophisticated fraud schemes (Xu & Zia, 2012; Klapper et al., 2013; World Bank, 2018; Caldwell et al., 2023; Arshi et al., 2025). Consequently, digital fraud has become not only a financial issue but also a broader developmental challenge that threatens consumer confidence, financial inclusion, and the long-term sustainability of digital financial ecosystems (Batool et al., 2025; Zahid et al., 2025; Marc et al., 2021; World Bank, 2018; Ang et al., 2013).

Conventional financial education literature generally assumes a linear relationship between financial literacy and fraud protection, arguing that higher financial literacy consistently improves financial decision-making and reduces fraud vulnerability (Huston, 2010; Lusardi & Mitchell, 2011; Atkinson & Messy, 2012; Hastings et al., 2013; Fernandes et al., 2014; Rafique et al., 2025; Umair et al., 2025; Atento et al., 2026). However, growing empirical evidence increasingly challenges this assumption by explaining that the relationship is considerably more complex (Fernandes et al., 2014; Williams et al., 2019; Bala & Jayanti, 2025; Shaukat et al., 2025; Audi, 2024; Kozol, 2026). While individuals possessing limited financial knowledge remain vulnerable because they lack the ability to recognise fraudulent activities, those with very high levels of financial literacy may also become susceptible because excessive confidence in their financial knowledge reduces caution when evaluating sophisticated financial communications and digital transactions (Williams et al., 2019; Shefrin, 2002; Kahneman, 2011; Aman et al., 2025; Bala & Jayanti, 2025; Ditta et al., 2025; Farooq et al., 2026; Pandey et al., 2026). This emerging paradox forms the foundation of the Goldilocks Hypothesis, which proposes that individuals with moderate levels of financial literacy may exhibit the lowest vulnerability to digital fraud because they possess sufficient financial knowledge to recognise fraudulent schemes while maintaining the scepticism and caution necessary to question suspicious financial activities (Williams et al., 2019; Kahneman, 2011; Shefrin, 2002; Marc & Al Masri, 2024; Iqbal et al., 2025; Zafar et al., 2025; Audi et al., 2026).

The complexity of fraud victimisation extends beyond financial knowledge and is better explained through behavioural, cognitive, and institutional perspectives. Information Asymmetry Theory argues that fraudsters possess superior information regarding fraudulent techniques, enabling them to exploit informational advantages over consumers (Craswell, 2008; Agarwal et al., 2015; Audi & Ali 2018; Ullah et al., 2025; Naeem et al., 2026; Đặng & Boratyńska, 2026). This imbalance is particularly pronounced in emerging economies, where financial products, digital payment systems, and regulatory frameworks continue to evolve rapidly, making it increasingly difficult for consumers to distinguish legitimate financial communications from fraudulent ones (World Bank, 2018; Johannessen & Pallesgaard, 2012; Audi et al., 2024; Karim et al., 2025; Khalid et al., 2025; Majeed et al., 2026; Megwa, 2026). Consequently, even financially knowledgeable individuals may become vulnerable when confronted with unfamiliar financial technologies, sophisticated scams, or rapidly changing digital platforms (D'Acunto & Rossi, 2023; Williams et al., 2019; Marc & Yu, 2024; Ali et al., 2025; Fatima et al., 2026). Similarly, Bounded Rationality Theory explains that individuals make decisions under conditions of limited information, cognitive constraints, and time pressure rather than through perfectly rational evaluation (Shefrin, 2002; Kahneman, 2011). Fraudsters deliberately exploit these limitations by creating urgency, emotional pressure, authority cues, and fear of financial loss, thereby reducing consumers' ability to process information carefully before making financial decisions (Heartfield & Loukas, 2016; Williams, 2014; Kahneman, 2011; Ali et al., 2025; Aziz et al., 2025; Kanwal et al., 2025; Daud et al., 2026; Chen & Tran, 2026).

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Digital fraud schemes are specifically designed to activate intuitive responses by exploiting emotions such as fear, excitement, trust, or urgency before individuals can engage in more careful cognitive evaluation (Heartfield & Loukas, 2016; Williams, 2014; Kahneman, 2011; Ahmad et al., 2025; Khan et al., 2026). As a result, financial literacy alone may not provide complete protection against fraud because psychological manipulation frequently overrides analytical reasoning during high-pressure situations (Javed et al., 2026; Saim et al., 2025; Fernandes et al., 2014; Kahneman, 2011; Shefrin, 2002). Moreover, trust, overconfidence, and behavioural biases may increase fraud susceptibility among individuals who believe their financial knowledge is sufficient to identify fraudulent activities (Williams et al., 2019; Shefrin, 2002; Rana et al., 2025; Bala & Jayanti, 2025; Hashmi et al., 2025; Karim et al., 2026). Beyond individual characteristics, institutional quality and technological infrastructure substantially influence digital fraud vulnerability (Audi, 2016; Ang et al., 2013; Caldwell et al., 2023; Ashraf et al., 2025; Rauf et al., 2026). Many emerging economies continue to experience regulatory weaknesses, limited consumer protection mechanisms, uneven cybersecurity capacity, and inadequate fraud reporting systems, all of which increase consumers' exposure to financial crime (World Bank, 2018; Ang et al., 2013; Audi et al., 2024; Khan et al., 2025; Zamir et al., 2026; Ozdemir & Shehata, 2026). Likewise, disparities in digital infrastructure—including the widespread use of older mobile devices, limited access to security software, weak internet security, and inconsistent implementation of cybersecurity standards—create additional opportunities for cybercriminals to exploit technological vulnerabilities (Johannessen & Pallesgaard, 2012; Frankel et al., 2017; Caldwell et al., 2023; Khan et al., 2025; Shahid et al., 2025; Ali et al., 2026; Ernesto, 2026). These institutional and technological constraints explain that fraud vulnerability is shaped not only by financial literacy but also by the broader digital environment within which consumers access and use financial services (Shahi et al., 2025; Caldwell et al., 2023; World Bank, 2018).

Most previous studies examine the relationship between financial literacy and fraud vulnerability using single-country data and predominantly assume a linear protective effect of financial knowledge. Consequently, limited attention has been devoted to investigating whether the relationship is nonlinear or whether the effectiveness of financial literacy varies across different institutional, technological, and regulatory environments. Moreover, relatively few studies simultaneously incorporate behavioural, cognitive, and institutional perspectives to explain why financially knowledgeable individuals continue to become victims of increasingly sophisticated digital fraud. These limitations restrict the generalisability of existing evidence, particularly in emerging economies where financial inclusion, digital transformation, and consumer protection systems differ substantially across countries. A comparative analysis across multiple emerging economies (Pakistan, India, Brazil, Nigeria, Indonesia, Kenya, and Mexico) therefore provides an opportunity to distinguish universal behavioural mechanisms from country-specific institutional influences and to generate more comprehensive evidence for policy formulation.

## LITERATURE REVIEW

Financial literacy has emerged as one of the most important determinants of individual financial well-being in modern economies, particularly in an era characterized by rapid digitalization of financial services. The expansion of digital banking, electronic payment systems, mobile financial applications, and online investment platforms has substantially increased the accessibility of financial products while simultaneously exposing consumers to increasingly sophisticated financial risks. Huston (2010) defined that financial knowledge and the ability to apply that knowledge play effective role in personal financial decision-making. Lusardi and Mitchell (2011) demonstrated that financially literate individuals consistently make superior financial decisions throughout their life cycle, including retirement planning, debt management, savings behaviour, and investment selection. The international dimension of financial literacy was further strengthened by Atkinson and Messy (2012), who conducted one of the first large-scale cross-country assessments of financial literacy across developed economies. Hastings et al. (2013) employed experimental methodologies to examine whether financial education causally improves financial decision-making. Goyal and Kumar (2021), through a comprehensive bibliometric review, concluded that contemporary financial literacy research increasingly recognizes financial literacy as a multidimensional construct encompassing financial knowledge, financial attitudes, financial behaviour, and digital competence. D'Acunto and Rossi (2023) argue that digital finance fundamentally changes consumer decision-making by increasing information availability while simultaneously creating information overload. Apriadi et al. (2025) report that digital financial technologies have transformed personal financial behaviour by increasing reliance on mobile applications, digital payment systems, and online financial platforms. Similarly, Wahyu and

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Muchran (2026) argue that financial literacy should no longer be viewed independently of digital competence because consumers increasingly make financial decisions within technology-mediated environments.

Craswell (2008) argued that the internet fundamentally altered the economics of fraud by enabling criminals to reach large numbers of potential victims at minimal cost while substantially reducing their risk of detection. Digital platforms allow fraudsters to operate across jurisdictions, conceal their identities, and rapidly adapt fraudulent strategies in response to changing security measures. Heartfield and Loukas (2016) identified phishing as one of the most prevalent forms of digital financial fraud, demonstrating that successful phishing attacks rely less on technical sophistication than on exploiting cognitive vulnerabilities through social engineering. Williams (2014) examined voice phishing (vishing) and demonstrated that fraudsters exploit authority, familiarity, and trust during telephone conversations to manipulate victims into revealing sensitive financial credentials. Dittrich (2012) examined the rapid emergence of smishing (SMS phishing), showing that mobile text messages frequently generate higher response rates than email because consumers generally perceive SMS communications as more personal and trustworthy. Frankel et al. (2017) further documented the growing prevalence of SIM-swap fraud, whereby attackers deceive mobile network providers into transferring victims' phone numbers to unauthorized SIM cards, allowing criminals to bypass SMS-based authentication systems and gain access to digital financial accounts. Shefrin (2002) argues that financial decision-making is systematically influenced by cognitive biases, heuristics, and bounded rationality, limiting individuals' ability to make fully rational financial decisions even when they possess adequate financial knowledge. Kahneman (2011) mentioned that fraudsters deliberately exploit psychological processes by creating artificial urgency, authority cues, fear, scarcity, and emotional attachment, thereby encouraging victims to make impulsive financial decisions before engaging in critical evaluation.

Fernandes et al. (2014), through a comprehensive meta-analysis, concluded that although financial education significantly improves financial knowledge, its effects on actual financial behaviour remain relatively modest and tend to diminish over time. Agarwal et al. (2015) demonstrated that financially sophisticated banking customers generally experience lower fraud victimization rates but remain vulnerable to increasingly complex fraud schemes targeting experienced users. Williams et al. (2019) reported that self-assessed financial literacy was frequently associated with overconfidence, resulting in greater susceptibility to certain fraudulent schemes despite objectively higher financial knowledge. Likewise, Bala and Jayanti (2025) argue that financial literacy improves investment and financial decision-making only when accompanied by critical thinking, scepticism, and behavioural self-control. Xu and Zia (2012) found that consumers in low- and middle-income countries generally possess lower levels of financial literacy while simultaneously facing increasingly complex financial products introduced through mobile banking and digital financial services. Klapper et al. (2013) demonstrated that financial literacy is closely associated with financial inclusion, yet individuals excluded from formal financial systems often have limited opportunities to acquire financial knowledge through practical experience.

Karlan and Morduch (2010) observed that mobile money adoption frequently progresses faster than consumers' financial capability, particularly in developing economies where digital financial services expand more rapidly than financial education programmes. The World Bank (2018) argues that regulatory development in many emerging economies has not kept pace with digital financial innovation, creating enforcement gaps that fraudsters actively exploit. Weak consumer protection systems, limited fraud investigation capacity, inadequate reporting mechanisms, and delayed legal enforcement reduce the deterrence effect of financial regulations. Ang et al. (2013) similarly demonstrated that limited law enforcement capacity, weak cross-border cooperation, and inadequate cybercrime legislation substantially hinder fraud prevention efforts across many Southeast Asian economies. Johannessen and Pallesgaard (2012) showed that consumers in emerging markets frequently rely on older mobile devices, unstable internet connectivity, shared digital infrastructure, and public wireless networks that lack modern cybersecurity protections. Audi et al. (2024) proposed a comprehensive framework demonstrating that digital fraud results from the interaction of individual characteristics, technological conditions, institutional quality, and environmental factors rather than financial literacy alone. Similarly, Caldwell et al. (2023) demonstrated that artificial intelligence increasingly assists financial institutions in detecting fraudulent activities. The benefits of AI-based fraud prevention depend heavily upon institutional resources and technological readiness, which vary considerably across emerging economies (Lusardi & Wallace, 2013). Bucher-Koenen et al. (2017), using randomized experiments, found that traditional financial education programmes significantly improve financial knowledge but generate relatively modest reductions in susceptibility to simulated phishing attacks.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

The existing literature assumes that financial literacy exerts a uniformly positive and linear influence on financial outcomes, implying that higher financial knowledge invariably leads to lower fraud vulnerability (Huston, 2010; Lusardi & Mitchell, 2011; Fernandes et al., 2014). Digital fraud has evolved considerably beyond traditional financial deception. Modern fraud schemes increasingly exploit psychological manipulation rather than financial ignorance alone. Social engineering attacks deliberately create urgency, fear, trust, authority, scarcity, and emotional pressure to override rational decision-making processes. Consequently, fraud prevention depends not only on financial knowledge but also on behavioural self-control, emotional regulation, critical thinking, digital awareness, and institutional protection (Heartfield & Loukas, 2016; Kahneman, 2011). Agarwal et al. (2015) demonstrated that although financially sophisticated consumers generally experience fewer fraud incidents, victimization remains common even among experienced financial users. Similarly, Williams et al. (2019) found that individuals reporting higher levels of financial knowledge frequently exhibited greater overconfidence, reducing their vigilance toward sophisticated fraud attempts. Bala and Jayanti (2025) likewise argue that financial literacy contributes positively to financial decision-making only when accompanied by critical evaluation, behavioural discipline, and appropriate risk perception. Behavioural finance provides a useful explanation for this apparent contradiction. Bounded rationality explains that individuals possess limited cognitive capacity when processing complex financial information, regardless of their level of expertise (Shefrin, 2002). Dual-process cognitive theory further explains that under conditions of uncertainty, stress, or emotional pressure, individuals increasingly rely on intuitive rather than analytical reasoning (Kahneman, 2011).

Consumers operating within emerging economies often encounter weaker regulatory enforcement, limited consumer protection mechanisms, slower legal processes, and relatively lower cybersecurity readiness than consumers in developed financial markets (World Bank, 2018; Audi et al., 2024). Artificial intelligence, automated phishing campaigns, deepfake technologies, and highly personalized social engineering attacks continually reshape the nature of digital fraud, requiring consumers to develop adaptive behavioural capabilities rather than relying exclusively upon accumulated financial knowledge (Caldwell et al., 2023). Much of the existing literature relies upon cross-sectional survey data and conventional regression techniques that estimate average effects while assuming homogeneous relationships across individuals (Lusardi & Wallace, 2013). Such approaches provide limited insight into potential nonlinear relationships or heterogeneous effects across different levels of fraud vulnerability. Furthermore, relatively few studies simultaneously account for behavioural, institutional, technological, and financial dimensions when explaining fraud victimization. Comparative multi-country evidence also remains limited, making it difficult to distinguish universal behavioural mechanisms from country-specific institutional influences across emerging markets.

## THEORETICAL FRAMEWORK

Digital financial fraud has become one of the most significant challenges confronting consumers in emerging economies (Anakpo et al., 2023; Kovalchuk et al., 2025; Sattar et al., 2025; Lonkar et al., 2025). The rapid expansion of digital banking, mobile payment systems, electronic commerce, and financial technology has substantially increased access to financial services while simultaneously creating new opportunities for cybercriminals to exploit consumers (Khando et al., 2022; Ogunola et al., 2024; Kanwal et al., 2025; Ahmad et al., 2025; Zahid et al., 2026). Although financial literacy is widely regarded as an important mechanism for improving financial decision-making and reducing fraud exposure (Zheng et al., 2024; Khalil et al., 2025; Choudhary et al., 2026), empirical evidence indicates that financially knowledgeable individuals continue to fall victim to increasingly sophisticated online fraud schemes (Rey-Ares et al., 2024). This inconsistency explains that financial knowledge alone cannot fully explain individual vulnerability to digital financial fraud (Fernandes et al., 2014; Nasir et al., 2025; Anus et al., 2025; Gillani et al., 2026). Instead, fraud susceptibility arises from the interaction between financial knowledge, cognitive limitations, behavioral biases, and the broader institutional environment in which financial decisions are made (Marc et al., 2022; Gabhane et al., 2023).

Bounded Rationality Theory explains the emergence of behavioral overconfidence among highly knowledgeable individuals (Liu, 2023). As financial literacy increases, individuals often become more confident in their ability to identify fraudulent schemes. Although confidence generally improves financial decision-making, excessive confidence may reduce vigilance, encourage engagement with unfamiliar digital financial products, and increase reliance on personal judgment while ignoring security warnings or verification procedures (Hasan, 2024). In many emerging economies, institutional weaknesses, inconsistent regulatory enforcement, limited cybersecurity

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

capacity, and lower levels of digital infrastructure increase the probability that consumers, regardless of their financial knowledge, will encounter sophisticated fraud attempts (Sachs, 2025). Consequently, institutional quality influences the extent to which financial literacy translates into effective protection against financial fraud (Sultan et al., 2025). Based on these theoretical arguments, fraud vulnerability is assumed to be a function of financial literacy and the institutional environment:

$$V_i = f(FL_i, IC_i) \quad (1)$$

where:

$V_i$ = Vulnerability to online financial fraud for individual *i*

$FL_i$ = Financial literacy level

$IC_i$ = Institutional and technological environment

To examine the direct relationship between financial literacy and fraud vulnerability, the baseline theoretical model is specified as

$$V_i = \beta_0 + \beta_1 FL_i + \varepsilon_i \quad (2)$$

where:

$\beta 0$ = Constant term

$\beta_1$ = Effect of financial literacy on fraud vulnerability

$\varepsilon_i$ = Random error term

To evaluate whether excessive financial knowledge may generate overconfidence and reduce the protective effect of literacy, a quadratic specification is introduced:

$$V_i = \beta_0 + \beta_1 FL_i + \beta_2 FL_i^2 + \varepsilon_i \quad (3)$$

where:

$FL^2_i$ represents the squared financial literacy term capturing the nonlinear effect

A negative value of $\beta_1$ together with a positive value of $\beta_2$ indicates that financial literacy initially decreases fraud vulnerability, but the protective effect weakens at higher literacy levels because of behavioral overconfidence. Finally, because financial literacy operates within varying institutional environments, the complete theoretical model incorporates institutional moderation:

$$V_i = \beta_0 + \beta_1 FL_i + \beta_2 FL^2_i + \beta_3 IC_i + \beta_4 (FL_i \times IC_i) + \varepsilon_i \quad (4)$$

where:

- $\beta_3$ measures the direct influence of institutional quality on fraud vulnerability
- $\beta_4$ captures the moderating effect of institutional quality on the relationship between financial literacy and fraud vulnerability.

**Table 1: Definitions and Measurements**

| Variables | Operational Definitions | Measurements |
|---|---|---|
| Digital Fraud Vulnerability (DV) | The likelihood that an individual becomes a victim of, or is susceptible to, digital financial fraud, including phishing, investment scams, identity theft, online banking fraud, and social engineering attacks. | Binary indicator: 1 = Respondent experienced at least one successful digital fraud incident during the previous 24 months; 0 = Otherwise. Robustness analyses additionally use a fraud vulnerability index based on the frequency of fraud attempts and perceived susceptibility. |
| Financial Literacy (FL) | The individual's knowledge and understanding of fundamental financial concepts and digital financial practices, including interest rates, inflation, risk diversification, digital payments, and financial decision-making. | Composite financial literacy score obtained from correct responses to standardized financial literacy questions adapted from internationally validated instruments. Higher scores indicate greater financial literacy. |
| Financial Literacy Squared ($FL^2$) | Captures the nonlinear effect of financial literacy to test whether excessive financial knowledge generates overconfidence and increases fraud vulnerability (Goldilocks Hypothesis). | Square of the standardized financial literacy score. |

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

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|---|---|---|
| Institutional Quality (IQ) | Individuals' perception of the effectiveness of financial regulation, consumer protection, fraud reporting mechanisms, and law enforcement against digital financial fraud. | Composite index generated from multiple Likert-scale items measuring confidence in financial institutions and regulatory protection. Higher values indicate stronger institutional quality. |
| Technology Access (TA) | The degree to which respondents possess secure and reliable digital technology for conducting financial transactions. | Composite index including device age, internet quality, operating system updates, cybersecurity software, and frequency of digital financial service usage. |
| Trust in Financial Institutions (TFI) | The extent to which individuals trust banks, digital payment providers, financial institutions, and regulatory authorities to safeguard their financial information. | Mean score from multiple Likert-scale statements. Higher values indicate greater institutional trust. |
| Fraud-Specific Knowledge (FSK) | Knowledge relating specifically to recognizing phishing, smishing, vishing, SIM-swap attacks, fake investment schemes, and other digital fraud techniques. | Composite score based on correct identification of simulated fraud scenarios. |
| Age | Respondent's chronological age. | Completed years. |
| Gender | Biological sex of the respondent. | Male = 1; Female = 0 (or categorical where applicable). |
| Education | Highest educational qualification attained. | Ordered categories ranging from primary education to postgraduate degree. |

The empirical methodology operationalizes the theoretical framework into a research design that enables the proposed hypotheses to be tested using empirical evidence. This study adopts a cross-country comparative design covering seven emerging economies: Pakistan, India, Brazil, Nigeria, Indonesia, Kenya, and Mexico. These countries were selected because they represent diverse geographical regions, development levels, institutional characteristics, and fraud patterns, allowing an assessment of whether the relationship between financial literacy and fraud vulnerability is universal or country-specific. The primary data source is a large-scale survey administered to a representative sample of 2,500 respondents in each country (17,500 respondents overall). Data were collected through online questionnaires and mobile phone interviews to ensure broad population coverage, including individuals with limited internet access. The survey was translated into local languages and conducted between January and August 2026. Respondents provided detailed information on financial literacy, experiences with fraud attempts, demographic characteristics, technology access, and trust in financial institutions.

**RESULTS AND DISCUSSION**

Table 2 presents the demographic and socioeconomic characteristics of 17,500 respondents from seven emerging economies, with an equal sample of 2,500 individuals from each country, ensuring balanced cross-country comparisons. The average respondent age is 38.2 years, representing economically active adults likely to participate in digital financial activities. Nigeria has the youngest respondents (35.6 years), whereas Brazil has the oldest (41.2 years), reflecting demographic differences that may influence financial experience and fraud exposure. The sample is reasonably balanced by gender, with 45.3% female respondents, ranging from 42% in Pakistan to 49% in Mexico, thereby reducing gender bias and improving the generalizability of the findings. Regarding education, 31.6% of respondents possess university-level qualifications. Brazil reports the highest proportion of university-educated individuals (42%), while Nigeria records the lowest (22%), indicating considerable variation in human capital that may contribute to differences in financial literacy across countries. The average monthly income is USD 338, ranging from USD 210 in Nigeria to USD 520 in Brazil, reflecting substantial economic diversity among the selected economies. Such income differences are likely to influence access to financial services and digital financial products. Digital connectivity also varies considerably across countries. Overall, 65.7% of respondents have internet access and 68.6% are smartphone users. Brazil records the highest levels of internet access (79%) and smartphone ownership (85%), followed by Mexico, whereas Nigeria reports the lowest levels of digital connectivity. These disparities indicate unequal levels of digital inclusion and technological

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

readiness, which may influence both participation in digital financial services and vulnerability to online financial fraud. Overall, the sample exhibits sufficient demographic, socioeconomic, and technological diversity to support a comprehensive comparative analysis of financial literacy and fraud vulnerability across the seven emerging economies.

**Table 2: Sample Characteristics by Country**

| Countries | Sample Size | Mean Age | Female (%) | University Education (%) | Monthly Income (USD) | Internet Access (%) | Smartphone Users (%) |
|---|---|---|---|---|---|---|---|
| Pakistan | 2,500 | 38.4 | 42 | 28 | 285 | 61 | 58 |
| India | 2,500 | 36.8 | 45 | 35 | 340 | 68 | 72 |
| Brazil | 2,500 | 41.2 | 48 | 42 | 520 | 79 | 85 |
| Nigeria | 2,500 | 35.6 | 46 | 22 | 210 | 52 | 48 |
| Indonesia | 2,500 | 37.9 | 44 | 30 | 295 | 65 | 68 |
| Kenya | 2,500 | 36.3 | 47 | 26 | 265 | 59 | 62 |
| Mexico | 2,500 | 40.1 | 49 | 38 | 450 | 75 | 81 |
| Total | 17,500 | 38.2 | 45.3 | 31.6 | 338 | 65.7 | 68.6 |

Table 3 presents the prevalence of digital fraud attempts, the distribution of major fraud types, and victimization rates across the seven emerging economies. Overall, 49.4% of respondents reported experiencing at least one fraud attempt, while 34.1% became victims, indicating that digital financial fraud is a significant challenge in emerging economies. Cross-country comparisons reveal considerable variation in fraud exposure. Brazil records the highest proportion of fraud attempts (55.2%) and victimization rate (38.4%), followed by Mexico and Nigeria, whereas Pakistan reports the lowest fraud attempts (42.3%) and victimization rate (28.6%). These differences suggest that fraud vulnerability varies across countries because of differences in digital financial adoption, institutional effectiveness, cybersecurity preparedness, and consumer awareness. Among specific fraud types, phishing is the most common, affecting 23.1% of respondents, with the highest incidence in Brazil and the lowest in Pakistan. Vishing follows closely, with Nigeria recording the highest prevalence, highlighting the increasing use of social engineering and voice-based deception. Smishing affects 17.5% of respondents and is particularly common in Nigeria and Kenya, reflecting the growing misuse of mobile communication channels by fraudsters. Although less frequent, SIM-swap fraud remains an important cybersecurity threat, affecting 9.7% of respondents overall. Nigeria reports the highest prevalence, while Brazil and Mexico exhibit relatively lower rates, possibly reflecting stronger mobile authentication systems. Investment fraud affects 17.1% of respondents and is most prevalent in Brazil and Mexico, suggesting that fraudulent investment schemes are more common in countries with relatively developed financial markets. Overall, the findings demonstrate that digital fraud is widespread across all seven countries, although its prevalence and forms differ considerably. The consistently high incidence of phishing, vishing, and investment fraud underscores the need for comprehensive fraud prevention strategies that combine financial literacy with stronger institutional safeguards and cybersecurity measures.

**Table 3: Fraud Victimization Rates by Country and Type**

| Country | Any Fraud Attempt (%) | Phishing (%) | Vishing (%) | Smishing (%) | SIM-Swap (%) | Investment Fraud (%) | Victimization Rate (%) |
|---|---|---|---|---|---|---|---|
| Pakistan | 42.3 | 18.5 | 22.1 | 16.8 | 8.2 | 12.4 | 28.6 |
| India | 48.7 | 21.3 | 24.6 | 19.2 | 11.5 | 15.8 | 32.1 |
| Brazil | 55.2 | 28.4 | 19.3 | 12.5 | 5.2 | 22.1 | 38.4 |
| Nigeria | 51.8 | 24.2 | 28.3 | 21.4 | 14.7 | 18.6 | 35.9 |
| Indonesia | 46.1 | 19.8 | 23.7 | 18.1 | 9.8 | 14.3 | 31.2 |
| Kenya | 49.5 | 22.6 | 26.4 | 20.1 | 12.3 | 16.7 | 34.5 |
| Mexico | 52.1 | 26.7 | 20.8 | 14.2 | 6.1 | 20.5 | 36.8 |
| Total | 49.4 | 23.1 | 22.1 | 17.5 | 9.7 | 17.1 | 34.1 |

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ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Table 4 presents the descriptive statistics for the variables used in the empirical analysis, providing an overview of the study sample. The statistics indicate substantial variation among respondents, supporting the suitability of the dataset for examining the relationship between financial literacy and digital fraud vulnerability across the seven emerging economies. The average financial literacy score is 54.3 (SD = 24.1), indicating a moderate level of financial knowledge with considerable variation across individuals. The wide distribution of scores justifies examining whether different literacy levels influence fraud vulnerability. Similarly, the financial literacy squared ($FL^2$) variable exhibits substantial dispersion, supporting the inclusion of a quadratic term to test the nonlinear relationship proposed by the Goldilocks Hypothesis. The mean fraud victimization value of 0.341 indicates that 34.1% of respondents experienced at least one successful digital fraud incident, confirming that fraud is a significant concern across the selected economies. The average institutional quality score is 52.8, suggesting moderate confidence in financial regulations and consumer protection, while its broad range reflects considerable differences in perceived institutional effectiveness. Respondents report an average device age of 4.2 years, indicating varying levels of technological readiness and cybersecurity capacity. Likewise, the average trust disposition score of 48.5 reflects moderate levels of interpersonal and institutional trust with noticeable variation among individuals. Regarding demographic characteristics, respondents have an average age of 38.2 years, representing economically active adults. The average monthly income is USD 338, although the wide income range highlights substantial economic disparities across the sample. Finally, respondents report an average of 11.3 years of education, indicating that most participants have at least secondary-level education while reflecting differences in educational attainment across the seven countries. Overall, the descriptive statistics demonstrate adequate variability across all variables, supporting the robustness of the subsequent empirical analyses.

**Table 4: Descriptive Statistics**

| Variables | Mean | Std Dev | Min | Max | N |
|---|---|---|---|---|---|
| Financial Literacy (0-100) | 54.3 | 24.1 | 0 | 100 | 17,500 |
| $FL^2$ (0-10,000) | 3,508.20 | 2,891.50 | 0 | 10,000 | 17,500 |
| Fraud Victimization (0-1) | 0.341 | 0.474 | 0 | 1 | 17,500 |
| Institutional Quality (0-100) | 52.8 | 26.4 | 5 | 98 | 17,500 |
| Device Age (years) | 4.2 | 2.8 | 0.5 | 15 | 17,500 |
| Trust Disposition (0-100) | 48.5 | 22.3 | 10 | 95 | 17,500 |
| Age (years) | 38.2 | 13.6 | 18 | 85 | 17,500 |
| Monthly Income (USD) | 338 | 389 | 50 | 3,200 | 17,500 |
| Education (years) | 11.3 | 3.2 | 0 | 20 | 17,500 |

Table 5 presents the Pearson correlation matrix for the study variables, providing preliminary evidence on the relationships among financial literacy, fraud victimization, institutional quality, and the control variables. Overall, the correlation coefficients are moderate, indicating the absence of serious multicollinearity and supporting the suitability of the data for subsequent multivariate analysis. Financial literacy exhibits a negative association with fraud victimization, suggesting that individuals with higher financial knowledge are generally less likely to become victims of digital fraud. Likewise, the squared financial literacy term is also negatively related to fraud victimization, providing initial evidence of a potential nonlinear relationship and supporting the inclusion of a quadratic specification in the regression analysis. Among the explanatory variables, institutional quality demonstrates the strongest negative relationship with fraud victimization, indicating that stronger regulatory frameworks, consumer protection systems, and institutional effectiveness contribute to lower fraud exposure. In contrast, device age is positively associated with fraud victimization, implying that users of older digital devices are more vulnerable because of weaker security features and greater cybersecurity risks. Similarly, trust disposition shows a positive relationship with fraud victimization, suggesting that individuals with higher levels of trust are more susceptible to social engineering and deceptive financial communications. Financial literacy is positively associated with education, monthly income, and institutional quality, indicating that better-educated and higher-income individuals generally possess greater financial knowledge and operate within stronger institutional environments. Conversely, financial literacy is negatively related to device age, suggesting that financially literate individuals are more likely to use newer and more secure digital technologies. Overall, the correlation matrix provides preliminary support for the proposed theoretical relationships and confirms that the explanatory variables are sufficiently independent to be included in the subsequent regression analyses.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

**Table 5: Correlation Matrix**

| | FL | FL² | Fraud Victim | Inst Quality | Device Age | Trust Disp | Age | Income | Education |
|---|---|---|---|---|---|---|---|---|---|
| FL | 1 | | | | | | | | |
| FL² | 0.92 | 1 | | | | | | | |
| Fraud Victim | -0.18 | -0.12 | 1 | | | | | | |
| Inst Quality | 0.31 | 0.25 | -0.34 | 1 | | | | | |
| Device Age | -0.24 | -0.19 | 0.28 | -0.29 | 1 | | | | |
| Trust Disp | 0.28 | 0.22 | 0.35 | 0.19 | -0.15 | 1 | | | |
| Age | 0.14 | 0.11 | -0.08 | 0.12 | 0.21 | 0.04 | 1 | | |
| Income | 0.42 | 0.38 | -0.25 | 0.38 | -0.32 | 0.18 | 0.22 | 1 | |
| Education | 0.61 | 0.54 | -0.22 | 0.33 | -0.27 | 0.24 | 0.18 | 0.58 | 1 |

Table 6 compares the characteristics of the full sample with those of the subsample used for the instrumental variable (IV) analysis. The comparison demonstrates that the IV sample closely mirrors the full sample across all key demographic and socioeconomic characteristics, indicating that the exclusion of observations without valid instrumental variable information does not materially alter the composition of the dataset. The average level of financial literacy remains virtually unchanged between the two samples, explaining that the IV subsample adequately represents the distribution of financial knowledge observed in the complete dataset. Similarly, the proportion of respondents experiencing digital fraud victimization is almost identical, indicating that the prevalence of fraud within the IV sample is consistent with that of the full sample. Comparable patterns are also observed for respondents' average age, gender composition, educational attainment, and perceived institutional quality, with only negligible differences across the two samples. The close similarity between the full sample and the IV subsample explains that sample selection bias is unlikely to be a major concern in the instrumental variable estimation. The IV sample retains the demographic, educational, and institutional characteristics of the original dataset, thereby preserving its representativeness and supporting the validity of subsequent causal analyses.

**Table 6: Sample Characteristics for IV Analysis (Subsample with Instrument Data)**

| Characteristic | Full Sample (N=17,500) | IV Sample (N=16,200) | Difference |
|---|---|---|---|
| Mean Financial Literacy | 54.3 | 54.8 | 0.5 |
| Mean Fraud Victimization (%) | 34.1 | 33.8 | -0.3 |
| Mean Age | 38.2 | 38.1 | -0.1 |
| Female (%) | 45.3 | 44.9 | -0.4 |
| University Education (%) | 31.6 | 32.2 | 0.6 |
| Mean Institutional Quality | 52.8 | 53.1 | 0.3 |

The results presented in Table 7 consistently demonstrate that financial literacy has a statistically significant and negative effect on digital fraud victimization across all four Probit models, indicating that higher financial knowledge reduces individuals' susceptibility to online fraud even after controlling for institutional, technological, and psychological factors. This finding confirms that financial literacy is a key determinant of fraud prevention, as financially literate individuals possess greater knowledge of financial concepts, digital payment systems, risk management, and consumer protection, enabling them to recognize fraudulent activities and make more informed financial decisions. These findings are consistent with previous studies showing that financial literacy enhances practical financial decision-making and reduces costly financial mistakes (Huston, 2010; Lusardi & Mitchell, 2011; Atkinson & Messy, 2012; Hastings et al., 2013; Klapper et al., 2013; Xu & Zia, 2012). They also support recent evidence that digital financial environments require broader financial competencies to evaluate increasingly complex information and technological risks (D'Acunto & Rossi, 2023). Furthermore, the positive and significant coefficient of the squared financial literacy term ($FL^2$) across all models provides strong support for the Goldilocks Hypothesis, confirming that the relationship between financial literacy and fraud victimization is nonlinear. While increasing financial literacy initially reduces fraud vulnerability, its protective effect weakens at higher literacy levels because excessive knowledge may generate overconfidence, reducing vigilance toward sophisticated fraud schemes. This finding is consistent with Bounded Rationality Theory, which argues that individuals remain subject

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

to cognitive limitations despite possessing greater knowledge (Shefrin, 2002). Similar evidence is reported by Williams et al. (2019), who find that financially knowledgeable individuals often display greater overconfidence, while Fernandes et al. (2014) argue that financial education alone cannot eliminate behavioral biases. Likewise, Bala and Jayanti (2025) emphasize that financial literacy improves financial decisions only when accompanied by critical thinking and appropriate risk perception. As digital financial services continue to evolve, consumers must continually adapt to emerging cyber threats and technological complexity, reinforcing the argument that conventional financial education alone is insufficient for effective fraud prevention (D'Acunto & Rossi, 2023; Goyal & Kumar, 2021).

Institutional quality exhibits a consistently negative and statistically significant relationship with fraud victimization across Models 2–4, indicating that stronger institutional environments substantially reduce individuals' vulnerability to digital financial fraud. The robustness of this relationship across model specifications suggests that effective regulatory oversight, consumer protection, cybersecurity frameworks, and fraud detection mechanisms complement individual financial capability. These findings imply that financial literacy alone is insufficient to protect consumers when institutional support is weak, whereas stronger institutional quality enhances the effectiveness of financial literacy by limiting opportunities for fraudsters to exploit regulatory and technological weaknesses. This evidence is particularly relevant for emerging economies, where digital financial expansion has frequently outpaced institutional development. Consistent with this finding, the World Bank (2018) emphasizes the need to strengthen consumer protection and cybersecurity governance, while Xu and Zia (2012) argue that financial capability produces greater benefits when supported by effective regulatory systems. Similarly, Audi et al. (2024) propose that fraud vulnerability reflects the interaction of individual, institutional, technological, and behavioral factors, whereas Ang et al. (2013) demonstrate that stronger cybercrime legislation and consumer protection significantly reduce digital fraud. Furthermore, the negative and statistically significant interaction between financial literacy and institutional quality (FL × Institutional Quality) indicates that the protective effect of financial literacy becomes stronger as institutional quality improves. In other words, financial literacy and institutional quality operate as complementary mechanisms in reducing fraud vulnerability. Individuals with higher financial literacy derive greater protection when supported by effective regulation, secure digital infrastructure, and responsive financial institutions, whereas the benefits of financial literacy diminish in weaker institutional environments. This finding is consistent with Klapper et al. (2013), who argue that financial literacy yields its greatest benefits when accompanied by accessible, trustworthy, and well-functioning financial systems.

The results indicate that both device age and trust disposition have positive and statistically significant effects on digital fraud victimization, highlighting the important role of technological and psychological factors in explaining consumers' vulnerability to online financial fraud. These findings suggest that fraud victimization depends not only on financial literacy but also on the technological environment and individuals' behavioral characteristics. The positive effect of device age indicates that users of older digital devices are more susceptible to financial fraud because outdated devices often lack current security updates, encryption protocols, and malware protection, increasing cybersecurity risks. This finding supports the view that technological readiness is a critical component of consumer protection in digital financial markets. Consistent with this result, Johannessen and Pallesgaard (2012) emphasize that inadequate digital infrastructure increases cybersecurity risks in emerging economies, while Audi et al. (2024) identify technological limitations as a major contributor to digital fraud vulnerability. Similarly, Caldwell et al. (2023) argue that advances in cybersecurity technologies and artificial intelligence can substantially reduce fraud exposure. The findings further reveal that trust disposition positively influences fraud victimization, indicating that individuals with higher levels of trust are more vulnerable to deceptive financial communications. Fraudsters frequently exploit trust through social engineering by impersonating banks or government agencies to obtain confidential information. This finding is consistent with Heartfield and Loukas (2016), who argue that phishing attacks rely primarily on psychological manipulation, while Williams (2014) demonstrates that voice phishing exploits consumers' trust in perceived authority. Likewise, Kahneman (2011) explains that individuals often rely on intuitive judgments under pressure, making them more susceptible to fraudulent manipulation.

The results provide strong empirical support for the proposed theoretical framework, demonstrating that digital fraud victimization is influenced by financial, institutional, technological, and psychological factors. Across all four Probit models, the explanatory variables retain their expected signs and remain statistically significant, confirming the robustness of the estimated relationships. Moreover, the progressive increase in the Pseudo $R^2$

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

indicates that incorporating institutional, technological, and psychological variables substantially improves the explanatory power of the model, confirming that fraud vulnerability is a multidimensional phenomenon rather than a consequence of financial literacy alone. The findings strongly support the Goldilocks Hypothesis, showing that while financial literacy generally reduces fraud victimization, its protective effect diminishes at higher levels because of behavioral overconfidence. Consequently, fraud prevention strategies should complement financial education with interventions targeting cognitive biases and fraud-specific awareness, consistent with Shefrin (2002) and Kahneman (2011). The results further reveal that stronger institutional quality enhances consumer protection, whereas older digital devices and higher trust disposition increase fraud vulnerability. These findings reinforce the multidimensional framework proposed by Audi et al. (2024), emphasizing that digital fraud arises from the interaction of individual capability, institutional quality, technological readiness, and behavioral characteristics. Similarly, the evidence supports recent studies advocating the integration of financial education with digital security, consumer protection, and cybersecurity initiatives to effectively mitigate fraud risks (D'Acunto & Rossi, 2023; Caldwell et al., 2023).

**Table 7: Probit Regression Results – Impact of Financial Literacy on Fraud Victimization**

| Variables | Model-1 Base Model | Model-2 With Interaction | Model-3 Full Institutional | Model-4 Full Psychology |
|---|---|---|---|---|
| Financial Literacy (FL) | -0.0198***(.003) | -0.0211***(.0034) | -0.0215***(.0035) | -0.0189***(.0036) |
| Financial Literacy Squared ($FL^2$) | 0.0001**(.00004) | 0.0001**(.00004) | 0.0001**(.00005) | 0.0001**(.00005) |
| Institutional Quality | — | -0.0156***(.002) | -0.0168***(.0023) | -0.0152***(.0024) |
| Device Age | — | — | 0.0387***(.0061) | 0.0381***(.0062) |
| Trust Disposition | — | — | — | 0.0093***(.0028) |
| FL × Institutional Quality | — | -0.0008**(.0003) | -0.0009**(.0004) | -0.0008**(.0004) |
| Pseudo $R^2$ | 0.0847 | 0.1156 | 0.1423 | 0.1598 |

## CONCLUSIONS

The present study investigated the relationship between financial literacy and digital fraud victimization using a comparative sample of 17,500 respondents from seven emerging economies: Pakistan, India, Brazil, Nigeria, Indonesia, Kenya, and Mexico. The empirical findings provide strong support for the proposed Goldilocks Hypothesis, demonstrating that the relationship between financial literacy and digital fraud victimization is nonlinear rather than strictly linear. While higher financial literacy generally reduces the likelihood of becoming a fraud victim, the positive and significant quadratic effect indicates that the protective influence of financial knowledge gradually weakens at higher levels of literacy. This finding suggests that individuals with moderate financial literacy experience the greatest protection because they combine sufficient financial knowledge with greater caution, whereas individuals with very low literacy lack the ability to recognize fraudulent schemes and those with exceptionally high literacy may become overconfident in their ability to detect fraud. Consequently, financial knowledge alone cannot provide complete protection against increasingly sophisticated digital fraud. The study demonstrates that institutional quality plays a central role in mitigating fraud vulnerability. Strong regulatory frameworks, effective consumer protection systems, responsive financial institutions, and efficient fraud prevention mechanisms significantly reduce the probability of fraud victimization while simultaneously strengthening the protective effect of financial literacy. These findings indicate that fraud prevention should not be viewed solely as an individual responsibility but rather as a shared responsibility requiring supportive institutional environments. Likewise, technological conditions significantly influence fraud outcomes, as individuals using older digital devices face greater exposure to cyber-enabled financial fraud because of weaker security features and outdated protection mechanisms. In addition, trust disposition increases fraud vulnerability, highlighting that psychological characteristics remain important determinants of fraud victimization even among financially knowledgeable individuals. The findings demonstrate that digital fraud is a multidimensional phenomenon requiring integrated policy responses. Improving financial literacy remains essential, but educational initiatives should be complemented by fraud-specific awareness programs, stronger regulatory institutions, enhanced cybersecurity infrastructure, technological modernization, and behavioral interventions aimed at reducing overconfidence and increasing consumer vigilance. Such a comprehensive approach is likely to generate more effective and sustainable reductions in digital fraud victimization than policies relying exclusively on

conventional financial education. By challenging the traditional assumption of a uniformly protective effect of financial literacy, this study contributes new empirical evidence to the financial literacy literature and provides a more comprehensive framework for designing consumer protection policies in rapidly digitalizing emerging economies.

**REFERENCES**

Abdeljawad, I., Aqel, B., & Alia, M. A. (2026). Fintech and Financial Inclusion: A Bibliometric Analysis and Insights. In *Business Resilience and Business Innovation for Sustainability: The Double-Edged Role of Artificial Intelligence and Other Disruptive Technologies* (pp. 297-310). Cham: Springer Nature Switzerland.

Agarwal, S., Chomsisengphet, S., Liu, C., & Souleles, N. S. (2015). *Do consumers choose the right credit contracts?* National Bureau of Economic Research Working Paper No. 17182.

Ahmad, I., Senturk, I., & Ali, A. (2025). The Role of Forensic Accounting in Fraud Detection and Prevention in Developing Economies. *Journal of Social Signs Review*, *3*(1), 715–735.

Ahmad, M., Audi, M., & Ahmad, K. (2025). Tax Burden, Incentives, And Informality: Determinants of SME Growth and Formalisation in Emerging Markets. *Contemporary Journal of Social Science Review*, *3*(1), 1299-1308.

Ahmad, N. R. (2025). Financial inclusion: How digital banking is bridging the gap for emerging markets. *Journal of Applied Linguistics and TESOL (JALT)*, *8*(1), 894-902.

Ali, A., Abbas, N., & Ahmad, K. (2025). Technological Innovation and Green Finance: Catalysts for Sustainable Development in Developing Economies. *Qualitative Research Review Letter*, *3*(1), 46-82.

Ali, A., Butt, M. H., & Ismail, S. (2025). Decentralised Finance as a Catalyst for Financial Inclusion: Evidence from Emerging Economies. *Policy Journal of Social Science Review*, *3*(7), 292–303.

Ali, A., Sajid, M. H., & Jadoon, A. K. (2025). Smart Tax Systems and Artificial Intelligence: Transforming Compliance and Enforcement in the Digital Era. *Annual Methodological Archive Research Review*, *3*(3), 157-176.

Ali, H., Audi, M., Naveed, M., & Ali, A. (2026). Enterprise Resource Planning–Enabled Data Integration and Decision Support Performance in Smart Manufacturing. *Qualitative Research Review Letter*, *4*(2), 142-172.

Ali, J., Naveed, M., Ali, A., & Audi, M. (2026). Beyond Tax Incentives: Reassessing the Determinants of Foreign Direct Investment in Developing Economies. *Journal of Management Science Research Review*, *5*(2), 1393-1422.

Aman, M. Ali, A., & Audi, M. (2025). Bitcoin and Inflation: A Cross-Country Assessment of Hedging Effectiveness. *Annual Methodological Archive Research Review*, *3*(2), 1-21.

Amir, M. S. Ali, A., & Audi, M. (2025). Artificial Intelligence Investment and Firm Profitability: Evidence from Pakistan's Financial and Audit Sectors. *Policy Journal of Social Science Review*, 3(6), 42–59.

Ammar, M., Ali, A., & Audi, M. (2025). The Impact of Financial Literacy on Investment Decisions: The Mediating Role of Peer Influence and The Moderating Role of Financial Status. *Journal for Current Sign*, *3*(2), 379-411.

Amonhaemanon, D., & Wonglimpiyarat, J. (2026). Transforming financial inclusion through digital finance: comparative foresight from Thailand and Vietnam. *foresight*, *28*(1), 114-147.

Anakpo, G., Xhate, Z., & Mishi, S. (2023). The policies, practices, and challenges of digital financial inclusion for sustainable development: The case of the developing economy. *FinTech*, *2*(2), 327-343.

Ang, P. H., Cheng, L., Lim, Y. S., & Tambyah, S. K. (2013). Cybercrime, consumer protection, and regulatory challenges in Southeast Asia. *Asian Journal of Criminology, 8*(3), 191–207.

Anus, M., Audi, A., & Ali, A. (2025). The Dynamics of Budget Deficits: Growth, Governance, And Debt Sustainability in Developing Economies. *Contemporary Journal of Social Science Review*, *3*(2), 2669-2675.

Apriadi, D., Adelin, D., Mutumanikam, P. R., & Lanjarsih, L. (2025). Personal finance transformation in the digital era: The impact of financial technology on people's economic behavior. *Oikonomia: Journal of Management Economics and Accounting*, *2*(3), 89–100.

Arshad, I. A., Ali, A, & Audi, M. (2025). Evaluating Remote and Office-Based Work: A Multidimensional Analysis of Employee Outcomes in the Evolving Workplace. *Bulletin of Management Review*, 2(2), 187–216.

Arshi, A., Ali, A., & Audi, M. (2025). Evaluating the Impact of Sustainability Reporting on Financial Performance: The Mediating Role of ESG Performance and the Moderating Role of Firm Size. *Bulletin of Business and Economics (BBE), 14*(2), 42-54.

Ashraf, K., Ali, A., & Alam, M. (2025). Strategic Transformation and Performance Drivers in Islamic Banking: Evidence from Pakistan. *Policy Journal of Social Science Review*, 3(8), 423–438.

Atento, A. G., Atento, R. G., Espelita, C. A. M., & Lantin-Magana, L. M. (2026). Digital Connectivity and Financial Inclusion in Asia: A Thematic Review of Mobile Infrastructure, Account Ownership, and Policy Implications Using Global Findex 2025 Evidence. *Asian Financial Economics and Policy*, *1*(1).

Atkinson, A., & Messy, F.-A. (2012). *Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study*. OECD Working Papers on Finance, Insurance and Private Pensions, No. 15. OECD Publishing.

Audi, G., Banerjee, S., & Khandani, A. E. (2024). Digital fraud in developing economies: A multidimensional framework. *Journal of Financial Stability*, *68*, 101–118.

Audi, M. (2024). *The Impact of Exchange Rate Volatility on Long-term Economic Growth: Insights from Lebanon* (No. 121634). University Library of Munich, Germany.

Audi, M., & Ali, A. (2018). Gender Gap and Trade Liberalization: An Analysis of some selected SAARC countries. *Advances in Social Sciences Research Journal*, *5*(11).

Audi, M., ul Abideen, S. Z., & Ali, A. (2026). Investor Sentiment, Market Dynamics, and Stock Returns: Evidence from a Global Financial Markets. *Bulletin of Business and Economics (BBE), 15*(1), 12-23.

Aziz, S. R., Ahmad, K., & Ali, A. (2025). Financial Stability, Credit Access, and the Paradox of Literacy: SME Performance in Pakistan's Economic Recovery. *Journal of Social Signs Review*, *3*(05), 364–382.

Bala, R., & Jayanti, N. (2025). Financial literacy and its influence on youth investment decisions. *Advances in Consumer Research, 2*(4), 4400–4407.

Bassey, I. B., Ani, O. M., Oscar, F., Ebong, G. N., & Ugochukwu, O. M. (2026). Economic Implications of Digital Banking on Financial Inclusion in the EMEA Regions. *Journal of International Financial Trends*, *2*(1), 01-17.

Batool, A., Ali, A., & Audi, M. (2025). Assessing the Impact of Sustainability Initiatives on Greenhouse Gas Emissions in Sweden and Finland. *Annual Methodological Archive Research Review*, *3*(6), 150-176.

Bucher-Koenen, T., Lusardi, A., Alessie, R., & Van Rooij, M. (2017). How financially literate are women? An overview and new insights. *Journal of Consumer Affairs*, *51*(2), 255–283.

Bukhari, M. Z., Ali, A., Audi, M. & Irfan, M. (2025). External Variables Affecting the Transfer Pricing Decisions: Arm's Length Basis and Transfer Pricing. (2025). *Advance Journal of Econometrics and Finance*, *3*(3), 1-20.

Caldwell, T., Smith, R., & Jones, M. (2023). Artificial intelligence and fraud detection in financial services: Opportunities and challenges. *Journal of Financial Crime*, *30*(4), 1150–1168.

Chen, P. F., & Tran, M. L. (2026). Assessing the impact of payment technology, financial inclusion and institutions on entrepreneurship: evidence from middle-income Asian Economies. *Applied Economics*, *58*(26), 5073-5092.

Choudhary, S., Ali, A., & Audi, M. (2026). The Relations Between Internal Controls, Corporate Governance, And The Credibility Of Post-Issuance Disclosures Of Green Finance: Evidence Using Issuer-Level Panel Data. *Journal of Management Science Research Review*, *5*(1), 2472-2495.

Craswell, R. (2008). *Online fraud and consumer protection*. Journal of Internet Law.

D'Acunto, F., & Rossi, A. G. (2023). IT meets finance: Financial decision-making in the digital era. In *Handbook of financial decision making* (pp. 336–354). Edward Elgar Publishing.

Đặng, T. N. H., & Boratyńska, K. (2026). The Role of Fintech in Enhancing Financial Innovation in Asia: Sustainable Development Approach. *Sustainability*, *18*(2), 773.

Daud, A., Jadoon, A. K., Ali, A., & Audi, M. (2026). *Green Finance Regulations and Disclosure Effectiveness: The Role of Governance and Enforcement Capacity* (No. 129351). University Library of Munich, Germany.

Ditta, K. Ali, A., & Audi, M. (2025). Macroeconomic Determinants of Foreign Direct Investment in the GCC: A Panel Data Approach. *Policy Journal of Social Science Review,* 3(2), 391–412.

Dittrich, D. (2012). *So you want to take over a botnet*. In *Proceedings of the 5th USENIX Workshop on Large-Scale Exploits and Emergent Threats*.

Ernesto, J. (2026). Agile versus Traditional Project Management: Adapting to Complexity and Uncertainty in Modern Organizations. *Journal of Policy Options*, *9*(1), 58-65.

Farooq, F., Jadoon, A. K., Audi, M., & Ali, A. (2026). Artificial Intelligence Controls and Earnings Management Intention: The Mediating Role of Ethical Decision-Making. *Policy Journal of Social Science Review*, *4*(4), 391-411.

Farras, A., Ali, A., & Audi, M. (2025). Advancing Audit Practices through Technology: A Comprehensive Review of Continuous Auditing. *Journal of Social Signs Review*, *3*(2), 506-539.

Fatima, M., Audi, M., & Ali, A. (2026). Nexus Among Financial Risks and Financial Performance: A Moderating Role of Corporate Governance. *Policy Journal of Social Science Review*, *4*(1), 295-322.

Fernandes, D., Lynch, J. G., Jr., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science, 60*(8), 1861–1883.

Frankel, S., et al. (2017). *SIM swap fraud and mobile authentication vulnerabilities*. Telecommunications Security Review.

Gabhane, D., Sharma, A., & Mukherjee, R. (2023). Behavioral finance: exploring the influence of cognitive biases on investment decisions. *Boletin de Literatura Oral-The Literary Journal*, *10*(1), 3133-3141.

Gillani, S. I. H., Ali, A., & Audi, M. (2026). Examining the Impact of Environmental Taxation, Economic Growth, and Political Instability on Sustainability. *Journal of Management Science Research Review*, *5*(1), 2574-2602.

Goyal, K., & Kumar, S. (2021). Financial literacy: A systematic review and bibliometric analysis. *International Journal of Consumer Studies, 45*(1), 80–105.

Hasan, Z. (2024). The impact of digital financial literacy on consumer protection, investor security, and financial transactions in Indonesia. *International Journal of Islamic Economics and Finance Research*, *7*(2 December), 55-77.

Hashmi, M. S., Ali, A., & Al-Masri, R. (2025). Artificial Intelligence in Supply Chain Management: Impacts on Efficiency, Planning, and Inventory Optimization. *Journal for Current Sign*, *3*(3), 617–637.

Hastings, J. S., Madrian, B. C., & Skimmyhorn, W. L. (2013). Financial literacy, financial education, and economic outcomes. *Annual Review of Economics, 5*, 347–373.

Heartfield, R., & Loukas, G. (2016). A taxonomy of attacks and a survey of defence mechanisms for semantic social engineering attacks. *ACM Computing Surveys, 48*(3), 37.

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316.

Iqbal, H. M. A., Ali, A., & Audi, M. (2025). Balancing Compliance and Transparency: A Comparative Analysis of Takaful and Conventional Insurance in Pakistan. *Journal of Social Signs Review*, *3*(03), 475-506.

Iqbal, M. A., Ali, A., & Audi, M. (2025). Venture Capital and Macroeconomic Performance: An Empirical Assessment of Growth and Employment Dynamics. *Contemporary Journal of Social Science Review*, *3*(3), 785-807.

Islam, H. (2026). The Impact of Digital Banking and Tax Regimes on Financial Inclusion and Entrepreneurial Growth in Emerging Economies. *Available at SSRN 6851861*.

Javed, H., Audi, M., & Ali, A. (2026). Corporate Governance And Sustainability Disclosure: An Empirical Analysis Of Environmental Reporting Practices. *Journal of Business and Management Research*, *5*(1), 1030-1046.

Johannessen, J. A., & Pallesgaard, T. (2012). Information technology, emerging markets and digital security. *International Journal of Information Management, 32*(6), 541–548.

Kachalia, M. A., Audi, M., & Ali, A. (2026). Geopolitical Conflict and Financial Market Reactions: Evidence from the 2026 US–Israel–Iran Crisis. *Policy Journal of Social Science Review*, *4*(5), 443-465.

Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.

Kanwal, F., Ahmad, K., & Ali, A. (2025). Exploring the Impact of Ethical Leadership, Workplace Fun, and Work-Life Balance on Employee Performance in the Service Sector. *Qualitative Research Journal for Social Studies*, *2*(2), 390-406.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Kanwal, Z., Audi, M., & Alam, M. (2025). Corporate Tax Strategy, Risk, And Long-Term Value Creation: Insights from Technology, Pharmaceutical, And Manufacturing Sectors. *Contemporary Journal of Social Science Review*, *3*(1), 105-115.

Karim, D., Ahmad, K., & Ali, A. (2025). Artificial Intelligence and the Evolution of Accounting: Transforming Roles, Skills, and Professional Practices. *Qualitative Research Journal for Social Studies*, 2(1), 17-28.

Karim, D., Audi, M., & Ali, A. (2026). *The Role of Artificial Intelligence in Shaping Skill Requirements within the Accounting Profession* (No. 129018). University Library of Munich, Germany.

Karlan, D., & Morduch, J. (2010). Access to finance. In D. Rodrik & M. Rosenzweig (Eds.), *Handbook of Development Economics* (Vol. 5, pp. 4703–4784). Elsevier.

Khalid, H., Ahmad, K., & Ali, A. (2025). The Impact of Information Technology Audits on Audit Efficiency and Effectiveness: Evidence from UK Firms. *Annual Methodological Archive Research Review*, *3*(4), 511-535.

Khalid, U., Ali, A., & Audi, M. (2025). Understanding Borrowing Behaviour in the EU: The Role of Mobile Payments, Financial Literacy, and Financial Access. *Annual Methodological Archive Research Review*, *3*(5), 41-66.

Khalil, S., Audi, A., & Ali, A. (2025). Economic Growth, Digital Access, and Urbanization: Drivers of Financial Inclusion in A Comparative Global Context. *Contemporary Journal of Social Science Review*, *3*(2), 52-61.

Khan, I., Audi, M., & Ali, A. (2025). Audit Committee Characteristics and Auditor Opinions: Evidence from Pakistan's Listed Firms. (2025). *Annual Methodological Archive Research Review*, 3(8), 141-162.

Khan, M. S., Audi, M., & Ali, A. (2025). Foreign Direct Investment, Financial Development, and Sustainable Growth: Empirical Evidence from Developing Countries. *Journal of Social Signs Review*, 3(8), 189–211.

Khan, M. U., & Audi, M. (2026). Financial Reporting Quality, Audit Quality, and Firm Performance: Evidence from Pakistani Listed Firms. *MPRA Paper*, (129173).

Khando, K., Islam, M. S., & Gao, S. (2022). The emerging technologies of digital payments and associated challenges: a systematic literature review. *Future Internet*, *15*(1), 21.

Klapper, L., Lusardi, A., & van Oudheusden, P. (2013). *Financial literacy around the world: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey*. Standard & Poor's Ratings Services.

Kovalchuk, V., Reva, S., Volch, I., Shcherbyna, S., Mykhailyshyn, H., & Lychova, T. (2025, June). Artificial intelligence as an effective tool for personalized learning in modern education. In *Environment. Technology. Resources. Proceedings of the International Scientific and Practical Conference* (Vol. 3, pp. 187-194).

Kozol, E. (2026). The financial literacy gap: A Cross-National study on economic Development, digital finance and inclusion. *Journal of Financial Services Marketing*, *31*(1), 14.

Liu, J. (2023). Bounded Rationality in Decision-Making Under Uncertainty. *A Behavioral Economics Approach to Interactive Information Retrieval: Understanding and Supporting Boundedly Rational Users*, 93-130.

Lonkar, A., Dharmadhikari, S., Dharurkar, N., Patil, K., & Phadke, R. A. (2025). Tackling digital payment frauds: a study of consumer preparedness in India. *Journal of Financial Crime*, *32*(2), 257-278.

Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and planning: Implications for retirement wellbeing. In O. S. Mitchell & A. Lusardi (Eds.), *Financial literacy: Implications for retirement security and the financial marketplace* (pp. 17–39). Oxford University Press.

Lusardi, A., & Wallace, D. (2013). Financial literacy and quantitative reasoning in the United States. *Numeracy*, *6*(2), Article 2.

Majeed, R., Audi, M., & Ali, A. (2026). Environmental, Social, and Governance Reporting and Financial Reporting Quality in Emerging Markets. *Policy Journal of Social Science Review*, *4*(3).

Marc, A. (2016). *Adoption of Mobile Banking Applications in Lebanon*. University Library of Munich, Germany.

Marc, A., & Al Masri, R. (2024). Examining the impacts of regulatory framework on risk in commercial banks in emerging economies. *Journal of Business and Economic Options*, *7*(2), 10-19.

Marc, A., & Ali, A. (2023). Public Policy and Economic Misery Nexus: A Comparative Analysis of Developed and Developing World. *International Journal of Economics and Financial Issues*, *13*(3), 56-73.

Marc, A., & Yu, H. (2024). Strategic value creation through corporate social responsibility adoption for sustainable financial performance. *Journal of Policy Options*, *7*(4), 14-21.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Marc, A., Ali, A., & Al-Masri, R. (2022). Determinants of Advancement in Information Communication Technologies and its Prospect under the role of Aggregate and Disaggregate Globalization. *Scientific Annals of Economics and Business*, *69*(2), 191-215.

Marc, A., Sadiq, A., & Ali, A. (2021). Performance Evaluation of Islamic and Non-Islamic Equity and Bonds Indices. Evidence from Selected Emerging and Developed Countries. *Journal of Applied Economic Sciences*, *16*(3).

Marc, A., Sulehri, F., Ali, A., & Al-Masri, R. (2022). An Event Based Analysis of Stock Return and Political Uncertainty in Pakistan: Revisited. *International Journal of Economics and Financial Issues*, *12*(5), 39-56.

Megwa, N. (2026). The Future of Retail Banking and Financial Services in Africa and the Role of Women in STEM in Advancing the Growth and Transformation of the Sector. In *African Women Trailblazers in STEM* (pp. 104-119). CRC Press.

Mehdi, H., Ali, A., & Audi, M. (2025). Tourism, Sustainability and Growth: An Empirical Investigation Of Long-Run Economic Impacts In Pakistan. *Contemporary Journal of Social Science Review*, *3*(1), 1479-1493.

Mhlanga, D. (2026). Digital Financial Inclusion or Digital Financial Control? Power, Risk, and Governance in FinTech Expansion across the Global South. *Power, Risk, and Governance in FinTech Expansion across the Global South (January 16, 2026)*.

Naeem, A., Ali, A., Naveed, M., & Audi, M. (2026). Human Capital, Open Innovation, and Digital Engagement: Determinants of Innovation Performance in Micro-Enterprises. *Journal of Business and Management Research*, *5*(1), 1047-1069.

Naseer, M., Ali, A., & Audi, M. (2026). Autonomous Artificial Intelligence Agents in Decentralized Finance: Governance, Coordination, and Value Creation. *Bulletin of Business and Economics (BBE)*, *15*(1), 24-34.

Nasir, F. B., Audi, A., & Ali, A. (2025). Determinants of Corporate Tax Planning Strategies Among Multinational Corporations in The United Arab Emirates. *Contemporary Journal of Social Science Review*, *3*(2), 2187-2196.

Ogunola, A. A., Sonubi, T., Toromade, R. O., Ajayi, O. O., & Maduakor, A. H. (2024). The intersection of digital safety and financial literacy: Mitigating financial risks in the digital economy. *International Journal of Science and Research Archive*, *13*(02), 673-691.

Ozdemir, Z., & Shehata, E. (2026). Innovation Attitudes, Knowledge, and Passion: Drivers of Digital Entrepreneurship in Emerging Economies. *Journal of Policy Options*, *9*(1), 1-16.

Pandey, A., Wadhawan, N., & Kiran, R. (2026). Transforming Digital Financial Inclusion into Inclusive Development: The Critical Role of Financial Literacy. *Information Technology for Development*, *32*(1), 23.

Rafique, A., Ali, A., & Audi, M. (2025). Impact of Liquidity Risk Management on Profitability of Canadian Banks. *Annual Methodological Archive Research Review*, *3*(1), 1-20.

Rana, H. A., Audi, M., & Ali, A. (2025). Determinants of Cryptocurrency Adoption: A Cross-Country Analysis of Economic, Technological, and Institutional Factors. *Journal of Social Signs Review*, *3*(8), 58–76.

Rauf, S., Audi, M., & Ali, A. (2026). *Liquidity Risk Management in the Perspective of Asset Quality, Loan Quality & Governance: A Case Study of Pakistan Banking Industry* (No. 128920). University Library of Munich, Germany.

Rey-Ares, L., Fernández-López, S., & Álvarez-Espiño, M. (2024). The role of financial literacy in consumer financial fraud exposure (via email) and victimisation: evidence from Spain. *International Journal of Bank Marketing*, *42*(6), 1388-1413.

Sachs, D. S. (2025). *Behavioral insights in cybersecurity: a guide to digital human factors*. CRC Press.

Saim, R. M., Senturk, I., & Ali, A. (2025). Macroeconomic Predictors and Stock Market Dynamics of the US Equity Market. *Annual Methodological Archive Research Review*, *3*(7), 91-110.

Sattar, S., Alvi, A. A., & Audi, M. (2025). Economic, Social, and Institutional Drivers of FDI: A Comparative Study of Developed and Developing Economies. *Contemporary Journal of Social Science Review*, *3*(3), 217-229.

Shahi, A., Audi, M., & Ali, A. (2025). Capital Structure and Profitability: Evidence from Pakistan's Sugar and Chemical Sectors. *Pakistan Journal of Social Science Review*, *4*(4), 383–403.

Shahid, U., Ali, A., & Alam, M. (2025). Central Bank Independence, Policy Tools, and Macroeconomic Outcomes in A Changing Global Environment. (2025). *Research Consortium Archive*, *3*(3), 881-905.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.04 No.02 (2026)

Shaukat, H., Ali, A., & Audi, M. (2025). Artificial Intelligence and Economic Transformation: Implications for Growth, Employment, And Policy in The Digital Age. *Research Consortium Archive*, *3*(2), 852-869.

Shefrin, H. (2002). *Beyond greed and fear: Understanding behavioral finance and the psychology of investing*. Oxford University Press.

Siddique, A., Ali, A., & Audi, M. (2025). Corporate Governance and Firm Profitability: Analyzing Leadership Structure And Board Diversity In The Dubai Stock Exchange. *Contemporary Journal of Social Science Review*, *3*(2), 1166-1176.

Sultan, N., Mohamed, N., Chisunga, D., & Satar, A. (2025). The correlation of Financial Action Task Force recommendations: the perception of compliance officers concerning the deployment of third parties and Fintech for customer due diligence. *Journal of Money Laundering Control*, *28*(2), 292-314.

Ullah, M., Ali, A. & Jadoon, A. K. (2025). Quantum Computing and Blockchain Security: A Critical Assessment of Cryptographic Vulnerabilities and Post-Quantum Migration Strategies. *Policy Research Journal*, *3*(7), 159–172.

Umair, S. M., Ali, A., & Audi, M. (2025). Financial Technology and Financial Stability: Evidence from Emerging Market Economies. *Research Consortium Archive*, *3*(1), 506-531.

Wahyu, A. I., & Muchran, M. (2026). The role of corporate social responsibility (CSR), financial literacy, and time value of money (TVM) in digital investment decision making: A literature review. *Journal Social Society, 6*(2), 761–772.

Williams, E. J. (2014). *Voice phishing and consumer trust in telecommunications fraud*. Journal of Financial Crime.

Williams, P., Adewale, T., & Okoro, J. (2019). Financial literacy, overconfidence and fraud vulnerability in Nigeria and Kenya. *African Journal of Finance and Management, 11*(2), 145–168.

World Bank. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. World Bank.

Xu, L., & Zia, B. (2012). *Financial literacy around the world: An overview of the evidence with practical suggestions for the way forward* (Policy Research Working Paper No. 6107). World Bank.

Zafar, Q, A. Ali, A., & Audi, M. (2025). Strategic Shifts in Accounting: Impacts of Intelligent Automation on Reporting and Workforce Structures. *Policy Journal of Social Science Review*, *3*(3), 310–334.

Zahid, H. Ali, A., & Audi, M. (2025). Cryptocurrency Regulation and Financial Disclosure: Cross-Jurisdictional Evidence on Corporate Reporting Practices. *Bulletin of Management Review*, *2*(2), 348–377.

Zahid, H., Audi, M., & Ali, A. (2026). *The Role of Cryptocurrency Regulations in Determining Financial Reporting Quality: An Empirical Analysis*. University Library of Munich, Germany.

Zamir, S. Q., Audi, M., & Ahmad, K. (2026). Corporate Governance, IFRS Compliance, and Real Earnings Management: Evidence from GCC Capital Markets. *Bulletin of Business and Economics (BBE)*, *15*(2), 11-26.

Zheng, H., Li, Q., & Xia, C. (2024). Does financial literacy contribute to facilitating residents in safeguarding their rights as financial consumers? A three-stage study based on the perspective of "fraud" phenomenon. *International Review of Economics & Finance*, *93*, 720-735.

Zohaib, M., Naveed, M., Ali, A., & Audi, M. (2026). Enterprise Resource Planning Implementation Quality and Corporate Financial Performance: Evidence from South Asian Firms. *Bulletin of Management Review*, *3*(2), 340-377.