

## Trust and Digital Finance: Implications for Small Business Performance

Hafsa Aysha Shahzadi <sup>a</sup>, Abdul Ghafoor <sup>b, \*</sup>

<sup>a</sup> Department of Commerce, University of Central Punjab, Faisalabad Campus, Pakistan

<sup>b</sup> Institute of Business Management Sciences, University of Agriculture, Faisalabad, Pakistan

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### ABSTRACT

In recent year, the fast growth in the use of Digital Financial Services has transformed the financial setting, especially in developing countries where access to formal banking services remain limited. Informal and unregistered startups and businesses face significant hurdles to financial inclusion. This study examines the role of trust as a mediator between Digital Financial Services usage and small business performance; in the informal sector using a deductive approach. Primary data were collected from 365 informal small business owners in Faisalabad, Pakistan, through structured questionnaires using purposive sampling. The findings reveal that DFS extents have a positive and significant effect on trust, whereas trust demonstrates a strong and statistically significant impact on small businesses. Mediation analysis indorses that trust significantly strengthens the relationship between DFS and Small Business Performance (PRF). It concludes that trust is a critical factor in improving the effectiveness of DFS for unregistered businesses. Policymakers and financial institutions should focus on building secure, trustworthy, and accessible digital platforms to endorse financial inclusion and improve business performance.

## Introduction

The global financial landscape has experienced profound transformation due to the rapid advancement of Digital Financial Services (DFS), including mobile banking, electronic payments, and online trading platform. These technologies have become critical instruments for improving financial accessibility, efficiency, and inclusion in both developed and developing economies (Chamboko, 2024). By reducing transaction costs, enhancing financial record-keeping, and enabling secure payment systems, DFS provides businesses with emerging economies such as Pakistan, where a significant portion of the population remains excluded from formal financial systems, DFS represents a strategic pathway for promoting financial inclusion and supporting small business growth (Solomon and Lawrence, 2022).

Small and medium enterprises (SMEs), particularly those operating in the informal sector, play a vital role in economic development through employment generation and income creation (Ayyagari et al., 2007).

However, many informal businesses lack formal registration, access to credit, and standardized financial management systems, which constrains their operational capacity (Darbi et al., 2018). In this context, DFS technologies such as digital payments and online trading platforms offer opportunities to enhance transaction efficiency, improve financial transparency, and expand market reach (Shrier, 2022). Consequently, the adoption of DFS can positively influence key performance outcomes, including revenue growth, operational efficiency, and customer satisfaction (Abbasi and Weigand, 2017).

Despite these benefits, the adoption of DFS among informal businesses in Pakistan remains limited. Beyond infrastructural barriers and limited financial literacy, trust has emerged as a critical determinant influencing digital financial adoption (Zins and Weill, 2016; Zhu et al., 2023). Concerns related to cyber security risks, data privacy, and fraudulent transactions often discourage small business owners from transitioning to digital platforms. In environments where regulatory enforcement is perceived as weak, trust becomes a fundamental prerequisite for participation in digital financial ecosystems (Ozili, 2018).

\* Corresponding author. E-mail address: [abdulghafoor@uaf.edu.pk](mailto:abdulghafoor@uaf.edu.pk) (Abdul Ghafoor).

Although existing research has examined DFS adoption from technological and infrastructural perspectives. Limited attention has been given to the behavioral mechanisms that shape adoption in informal markets. In particular, the mediating role of trust in linking DFS adoption with business performance remains insufficiently explored, especially in developing economies such as Pakistan (Noreen et al., 2021). The existing research has largely overlooked the effect of DFS components on small business performance largely unexplored with the mediating role of trust. Addressing this gap, the present study investigates how key DFS components digital payments, online trading, and perceived usefulness affect small business performance through the mediating influence of trust. By doing so, the study contributes to the literature on digital financial inclusion and provides practical insights for policymakers and fintech providers seeking to enhance DFS adoption within business environments.

- i. To analyze the effect of using digital financial services on small business performance by considering the trust mediator.
- ii. To assess the influence of trust on the financial decision-making by stakeholders.
- iii. To provide recommendations for better integration of digital finance in small business operations.

## Review of Literature

The rapid advancement of digital technologies has transformed financial systems and entrepreneurial ecosystems by enabling access to mobile banking, digital payments, and online trading platforms. Digital Financial Services (DFS) have emerged as powerful instruments for enhancing financial inclusion, operational efficiency, and market connectivity for small and informal enterprises. Existing scholarship highlights several key constructs digital payments, online trading, perceived usefulness, trust, and business performance that collectively shape the adoption and effectiveness of DFS in small business environments.

### Digital Payments

Digital payments technologies are widely recognized as important drivers of financial inclusion and transactional efficiency for small businesses. Zhou (2012) emphasized that system quality, structural assurance, and institutional reputation significantly influence user trust in digital payment platforms. Similarly, Gopiani et al. (2021) observed that convenience, security, and time efficiency strongly influence the adoption of digital payment applications. Empirical evidence also demonstrates that integrating digital payment systems into business operations improves financial management, sustainability, and profitability among SMEs (Abukari et al., 2023; Gunawan et al., 2023). In addition to these technological factors, Juita et al. (2026) also highlights the behavioral mechanism of digital adoption in MSMEs in emerging economies.

### Online Trading and Perceived Usefulness

Online trading platforms and e-commerce marketplace significantly expand market access for small firms. Bahaddad et al. (2015) found that technological infrastructure and regulatory support strongly influence SME participation in electronic marketplaces. Likewise, Nguyen et al. (2024) reported that organizational readiness and competitive pressure encourage cross-border e-commerce adoption, studies further suggest that the perceived usefulness of digital finance such as improved transaction speed, cost efficiency, and enhanced customer reach plays a crucial role in shaping adoption behavior and performance outcomes (Thathsarani and Jianguo, 2022; Gunawan et al., 2023). The indirect impact of DFS is also discussed by Kangwa and Silwimba, (2026) as they claimed that people in this technological age rely on digital platforms and prefer online scrolling.

### Trust and Business Performance

Trust remains a critical behavioral mechanism linking DFS adoption with business performance. Apaua and Lallie (2022) highlighted that security, reliability, and institutional credibility significantly influence trust in mobile financial platforms. Similarly, Zhang et al. (2023) demonstrated that strong data protection and transparent system design enhance user confidence in digital financial ecosystems. For informal enterprises that operate with limited institutional safeguards, trust becomes particularly significant. When trust is established, businesses are more likely to adopt DFS and leverage digital technologies to enhance efficiency, profitability, and long-term sustainability (Abbasi and Weigand, 2017; Mushtaq et al., 2024). Consequently, trust may function as a critical mediating mechanism linking DFS adoption with small business performance.

## Material and Method

This study adopts a quantitative, theory-driven research design to investigate the mediating role of trust in the relationship between digital financial services (DFS) adoption and small business performance within Pakistan's informal sector. The study is conceptually anchored in DFS theory, which emphasizes the transformative capacity of digital technologies such as digital payments, online trading, and utility-oriented financial applications in promoting financial inclusion and improving the operational efficiency of small enterprises (Ozili, 2018). Within this theoretical perspective, trust functions as a critical behavioral catalyst that facilitates technology adoption and enhances the performance outcomes associated with digital financial innovations (Zins and Weill, 2016). A deductive and cross-sectional research approach was employed to empirically test the hypothesized relationship among the study constructs. Data were collected from 365 small business owners operating in informal markets in Faisalabad, Pakistan, a region characterized by a dense concentration of micro and small enterprises and increasing engagement with DFS platforms. A purposive sampling technique was utilized to ensure that respondents possessed practical experiences with digital financial services. The

## Trust and Digital Finance

sample size was determined using Cochran's (1977) formula, ensuring statistical adequacy and representativeness.

The structured questionnaire comprised multiple section capturing demographic characteristics, business attributes, DFS usage variables, trust, and business performance. Measurement items were adapted from previously validated scales and assessed using a five-point Likert scale, following established guideline in quantitative survey research (Zikmund et al., 2010). Prior to analysis, the dataset underwent systematic editing, coding, and data-cleaning procedures (Hair et al. 2021).

Data analysis was performed using SPSS and SmartPLS. Descriptive statistics were applied to summarize respondent characteristics, while Partial Least Squares Structural Equation Modeling (PLE-SEM) was employed to evaluate measurement reliability, construct validity, and structural relationship among variables. Reliability was assessed using Cronbach's Alpha and Composite Reliability, whereas convergent and discriminant validity were established through AVE and the Fornell-Larker criterion. Mediation analysis was conducted using bootstrapping with 5,000 resamples, enabling the assessment of trust as an intermediary mechanism linking DFS adoption with small business performance. Overall, the methodological framework ensures analytical rigor, construct validity, and empirical robustness, providing a systematic foundation for examining the behavioral and performance implications of digital financial services within informal business ecosystems.

### Conceptual Framework

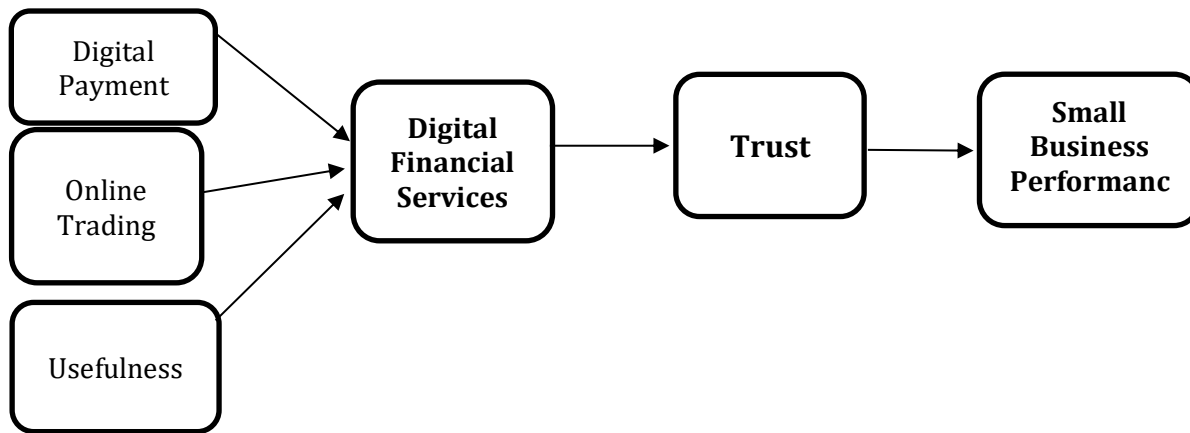


Figure 1: Conceptual model

Comprehensive conceptual model was developed, comprising three levels: (i) a DFS model identifying digital payments, online trading, and usefulness as independent variables influencing small business performance.

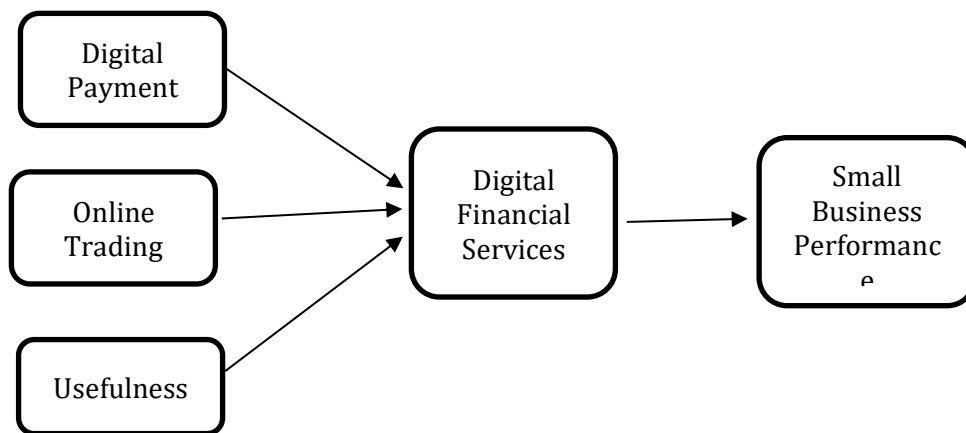
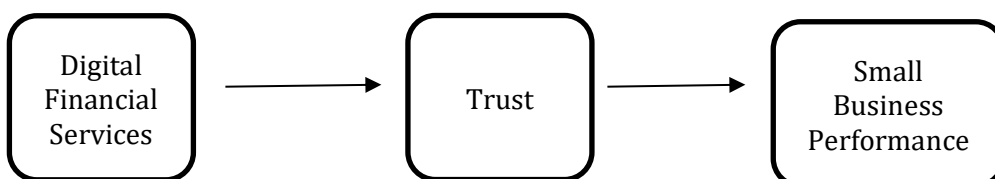


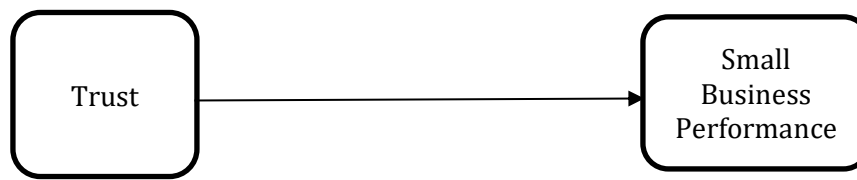
Figure 2: DFS Model

(ii) A mediation model incorporating trust as a mediating factor.



**Figure 3: DFS-Trust-Performance Model**

(iii) A trust-effect model where trust independently predicts business performance.

**Figure 4: Trust Effect Model**

These interconnected frameworks guide the empirical inquiry and reflect the multidimensional role of trust within the digital financial services platforms.

## Results and Analysis

### Socio-Economic Characteristics of Respondents.

The socio-economic characteristics of respondents refer to the personal, financial, and business-related attributes that define the background and operating environment of the individuals participating in the study. These characteristics include variables such as gender, age, education level, annual income, business type, size location, age of business, and market coverage. Understanding these elements is essential to contextualize the responses and interpret the results of the study effectively. In the context of small informal businesses, these characteristics provide insight into the demographic and economic diversity of entrepreneurs and highlight factors that may influence their adoption of digital financial services. This section helps identify patterns, constraints, and opportunities within the target population, offering a comprehensive overview of the respondent's profile to support meaningful analysis and generalization of findings.

Table 1: *Demographics and Categorical Variables.*

| Variable                  | Category                      | Frequency | %    |
|---------------------------|-------------------------------|-----------|------|
| Gender                    | Male                          | 269       | 73.7 |
|                           | Female                        | 96        | 26.3 |
| Age (years)               | Young Adults (18-33)          | 162       | 44.4 |
|                           | Mid-Age (34-47)               | 180       | 49.3 |
|                           | Senior (48+)                  | 23        | 6.3  |
| Education                 | Below Matric                  | 71        | 19.5 |
|                           | Matric                        | 109       | 30.7 |
|                           | Intermediate                  | 83        | 22.7 |
|                           | Bachelor's & Above            | 94        | 25.7 |
| Net Income(p.a)           | Low (0-1,999,999)             | 161       | 44.1 |
|                           | Medium ( 2,000,000-5,000,000) | 118       | 32.3 |
|                           | High (> 5,000,000)            | 86        | 23.6 |
| Business Type             | Wholesale/Retail/ Services    | 155       | 42.5 |
|                           | Manufacturing and Processes   | 80        | 21.9 |
|                           | Transport/Logistics           | 49        | 13.4 |
|                           | Agriculture/Livestock         | 71        | 19.2 |
|                           | Others                        | 11        | 3.0  |
| Business Size (Employees) | 1-5                           | 207       | 56.7 |
|                           | 6-10                          | 97        | 26.6 |
|                           | 11-15                         | 44        | 12.1 |
|                           | > 15                          | 17        | 4.7  |
| Business Location         | Rural                         | 140       | 38.4 |
|                           | Urban                         | 225       | 61.6 |
| Business Age (years)      | <1                            | 27        | 7.4  |
|                           | 1-3                           | 100       | 27.4 |
|                           | 4-7                           | 95        | 26.0 |
|                           | ≥ 8                           | 143       | 39.2 |
| Market Coverage           | 1 city                        | 222       | 60.8 |
|                           | 2 cities                      | 91        | 24.9 |
|                           | > 2 cities                    | 52        | 14.3 |

Source: Author's calculation.

The demographic and business characteristics of the respondents reveal a predominance of male entrepreneurs (73.7%), reflecting the gendered composition of informal enterprises in emerging economies, as documented by Musyaffi et al. (2024) and Gunawan et al. (2023). Age distribution indicates that the sector is largely dominated by mid-age (34-47 years, 49.3%) and young adults (18-33 years, 44.4%), suggesting that operational decision-making and entrepreneurial activity are

## Trust and Digital Finance

concentrated within economically productive cohorts (Thathsarani and Jianguo, 2022; Phan, 2025).

Educational attainment demonstrates that a substantial proportion of business owners have completed at least matriculation (78.8%), underscoring the moderate literacy levels that facilitate the assimilation and effective utilization of digital financial services (DFS) and online trading modalities, consistent with Mushtaq et al. (2024). Annual income analysis indicates that 76.4% of respondents operate within low-to-medium revenue brackets, highlighting the pivotal role of cost-efficient DFS mechanisms in enhancing transactional efficacy, financial management, and market integration (Gunawan et al., 2023). Business typology and operational scale reveal that retail and service enterprises predominate (42.5%), with a majority functioning as micro-enterprises (1-5 employees, 56.7%) and urban-centered (61.6%). Business longevity spans both nascent and established operations, reflecting diverse experiential backgrounds that are instrumental in adopting DFS innovations to optimize performance and competitive positioning. Collectively, these attributes substantiate the contextual suitability of the sample for evaluating the adoption, perceived usefulness, trust, and performance implications of DFS within informal sector ecosystems.

Following table shows the demographic responses and their percentage results for different variables to support the research concept.

### Descriptive Statistics

Table 2: *Descriptive Statistics*

| Name | Mean  | Standard deviation | Name | Mean  | Standard deviation |
|------|-------|--------------------|------|-------|--------------------|
| DP1  | 3.77  | 1.36               | USF1 | 3.693 | 1.45               |
| DP2  | 3.668 | 1.274              | USF2 | 3.485 | 1.332              |
| DP3  | 3.556 | 1.369              | USF3 | 3.605 | 1.275              |
| OT1  | 3.677 | 1.437              | USF4 | 3.63  | 1.35               |
| OT2  | 3.682 | 1.26               | TR1  | 3.921 | 1.38               |
| OT3  | 3.567 | 1.277              | TR2  | 3.701 | 1.237              |
| OT4  | 3.614 | 1.321              | TR3  | 3.836 | 1.216              |
| PRF1 | 3.501 | 1.55               | TR4  | 3.649 | 1.317              |
| PRF2 | 3.46  | 1.321              | TR5  | 3.899 | 1.244              |
| PRF3 | 3.753 | 1.301              |      |       |                    |
| PRF4 | 3.589 | 1.397              |      |       |                    |

Source: Author's calculations

The mean value above 3.5 shows the moderate agreement of respondents regarding digital financial services. trust shows relatively higher scores, imitating stronger confidence in DFS. Business Performance (PRF) validates moderate enhancement.

### Cross Tabulation

Table 3: *Cross Tabulation*

| Business Types             | Digital Payments(%) | Online Trading (%) | Usefulness (%) | Trust (%) | Business Performance (%) |
|----------------------------|---------------------|--------------------|----------------|-----------|--------------------------|
| Wholesale/Retail/Services  | 59.8                | 63.3               | 63.2           | 68.3      | 65.0                     |
| Manufacturing & Processing | 58.6                | 59.1               | 61.9           | 66.0      | 59.4                     |
| Transportation & Logistics | 56.0                | 53.5               | 57.0           | 61.2      | 53.5                     |
| Agriculture & Livestock    | 59.4                | 62.6               | 62.1           | 63.1      | 57.2                     |
| Others                     | 63.6                | 61.3               | 70.4           | 69.8      | 61.3                     |

Source: Author's calculations

Note: the table represents the agreement level of respondents.

Results indicate that retail and service businesses exhibited the highest engagement with digital payments, particularly regarding transaction speed, cost savings, and customer retention, consistent with Damavandi (2023) and Gunawan et al.(2023). Manufacturing and processing enterprises highlighted the usefulness of DFS in real-time transaction monitoring and decision-making aligning with Mushtaq et al.(2024) and Ekawaty and Rizky (2025).

Online trading adoption was substantial across all sectors, with retail and services benefiting most in market reach and marketing ease, corroborating Rey and Limos-Galay (2023), and Salah and Ayyash (2024). Trust emerged as a critical enabler; high confidence in system reliability and data protection across sectors supports Phan (2025), Aldboush and Ferdous (2023), and Rufaidah et al. (2023), confirming that perceived security is essential for DFS adoption in informal markets.

Perceived business performance gains including increased sales, customer base, and sustainability were reported across all sectors with retail and services businesses leading. Overall, findings confirm that DFS tools serve as strategic enablers, enhancing operational efficiency, market engagement, and sustainability in informal businesses. The results support the DFS theoretical framework, highlighting the interplay of accessibility, usefulness, trust, and impact in fostering inclusive business growth.

### Measurement Model

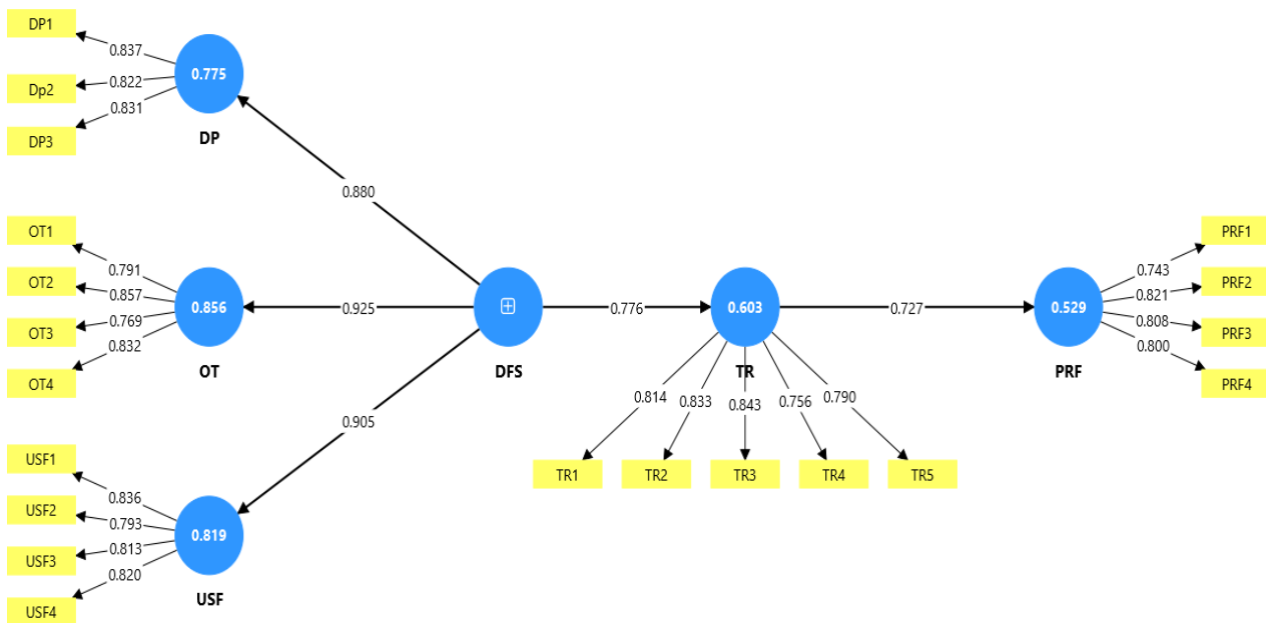


Figure 5: CFA Model

### CFA and Data Reliability and Validity

The measurement model was evaluated using factor loadings, Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE). All indicators demonstrated satisfactory loadings ranging from 0.705 to 0.843, exceeding the recommended threshold of 0.70, which confirms strong indicator reliability. The Digital Financial Services (DFS) construct, encompassing digital payments online trading, and perceived usefulness, exhibited high internal consistency validity. Similarly, the business performance construct showed strong reliability (CA=0.806; CR= 0.931, while the AVE value of 0.549 confirmed acceptable convergent validity. Similarly, the business performance construct showed strong reliability (CA= 0.806; CR = 0.872) and adequate convergent validity (AVE=0.631), indicating that the items consistently capture improvements in operational outcomes associated with DFS usage. The trust construct also demonstrated robust psychometric properties with factor loadings between 0.756 and 0.842, CA= 0.804, CR = 0.893, and AVE = 0.677, confirming the trust is reliably measured within the model. Collectively, these findings validate the measurement model and support prior studies suggesting that trust and perceived usefulness are critical mechanism through which digital financial services enhance the performance of informal small businesses.

Table 4: *CFA and Data Reliability and Validity*

| Items | DFS   | CA    | CR    | AVE   |
|-------|-------|-------|-------|-------|
| DFS   |       | 0.918 | 0.931 | 0.549 |
| DP1   | 0.748 |       |       |       |
| DP3   | 0.73  |       |       |       |
| Dp2   | 0.705 |       |       |       |
| OT1   | 0.726 |       |       |       |
| OT2   | 0.8   |       |       |       |
| OT3   | 0.712 |       |       |       |
| OT4   | 0.767 |       |       |       |
| USF1  | 0.75  |       |       |       |
| USF2  | 0.73  |       |       |       |
| USF3  | 0.726 |       |       |       |
| USF4  | 0.754 |       |       |       |
| PRF   |       | 0.806 | 0.872 | 0.631 |
| PRF1  | 0.743 |       |       |       |
| PRF2  | 0.821 |       |       |       |
| PRF3  | 0.808 |       |       |       |
| PRF4  | 0.8   |       |       |       |
| TR    |       | 0.84  | 0.893 | 0.677 |
| TR1   | 0.814 |       |       |       |
| TR2   | 0.833 |       |       |       |
| TR3   | 0.843 |       |       |       |
| TR4   | 0.756 |       |       |       |
| TR5   | 0.79  |       |       |       |

Source: Author's calculation.

**Discriminant Validity**Table 5: *Discriminant Validity*

|            | DFS   | PRF   | TR    |
|------------|-------|-------|-------|
| <b>DFS</b> | 0.741 |       |       |
| <b>PRF</b> | 0.777 | 0.794 |       |
| <b>TR</b>  | 0.78  | 0.734 | 0.823 |

Source: Author's calculation.

The Fornell-Larcker criterion was applied to examine the discriminant validity of the constructs. The square root of AVE value for Digital Financial Services (DFS= 0.741), Trust (TR = 0.823), and Business Performance (PRF = 0.794) are higher than their corresponding inter-construct correlations, confirming that each construct explains greater variance in its own indicators than in other constructs. This establishes satisfactory discriminant validity and demonstrates that DFS, Trust, and PRF

represent conceptually and empirically distinct dimensions. As emphasized by Claes Fornell and David F. Larcker (1981), establishing discriminant validity is essential to ensure that measurement constructs capture unique theoretical concepts before testing structural relationships.

The results indicate that although digital financial services and trust are strongly associated, they function as independent constructs within the model. This distinction reinforces the theoretical premise that trust act as a critical enabling mechanism that strengthens the effectiveness of DFS rather than replacing it. Prior studies similarly reports that trust significantly enhances the adoption and utilization of digital financial tools among small and informal enterprises (Zins and Weill, 2016; Zhu *et al.*, 2023). Therefore, the validated measurement model confirms that trusted and well-utilized digital financial services can translate into improved performance outcomes for informal businesses.

#### Multicollinearity/Variance Inflation Factor

Table 6: *Multicollinearity/Variance Inflation Factor*

| ITEMS | VIF   | ITEMS | VIF   |
|-------|-------|-------|-------|
| DP1   | 1.963 | TR1   | 2.069 |
| Dp2   | 1.829 | TR2   | 2.165 |
| DP3   | 1.943 | TR3   | 2.395 |
| OT1   | 2.088 | TR4   | 1.634 |
| OT2   | 2.421 | TR5   | 2.004 |
| OT3   | 1.834 | USF1  | 2.329 |
| OT4   | 2.340 | USF2  | 1.925 |
| PRF1  | 1.868 | USF3  | 2.119 |
| PRF2  | 2.190 | USF4  | 2.111 |
| PRF3  | 1.614 |       |       |
| PRF4  | 1.752 |       |       |

Source: Author's calculation.

Variance Inflation Factor (VIF) values were examined to assess potential multicollinearity among the measurement indicators. As shown in the table, VIF values range from 1.614 to 2.421, which are substantially below the commonly recommended threshold of 5.0 indicating the absence of multicollinearity among the items. According to Hair *et al.* (2021) guidelines for PLS-SEM analysis, VIF values below this threshold confirm that indicators measure their respective constructs independently without excessive overlap. The relatively moderate VIF values across Digital Payments (DP), Online Trading (OT), Usefulness (USF), Trust (TR), and Business Performance (PRF) suggest that each indicator contributes unique explanatory information to the model. This finding indicate that respondents perceived these dimensions of digital financial services as related yet conceptually distinct aspects of business operations. Conceptually, the absence of multicollinearity enhances the robustness of the measurement model and strengthens the reliability of subsequent structural path analysis examining the influence of digital services and trust on small business performance in the informal sector.

#### Structural Model

## Trust and Digital Finance

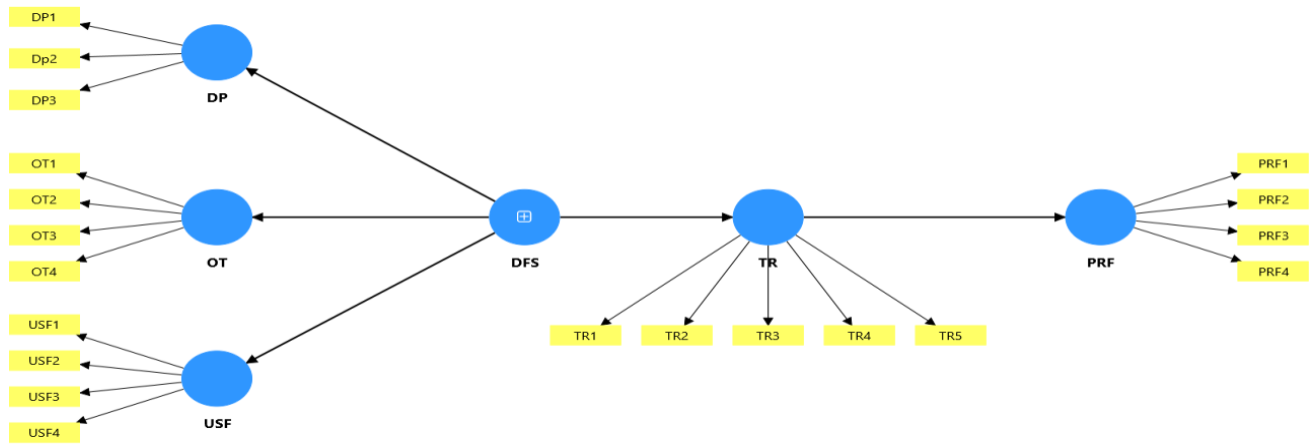


Figure 6: Structural model

## Model Fit Values

Table 7: Model Fit Values

|            | Saturated model | Estimated model |
|------------|-----------------|-----------------|
| SRMR       | 0.063           | 0.085           |
| d_ ULS     | 0.837           | 1.505           |
| d_ G       | 0.359           | 0.412           |
| Chi-square | 766.930         | 842.490         |
| NFI        | 0.829           | 0.812           |

Source: Author's calculation.

The model fit indices indicates that the proposed structural framework demonstrates an acceptable level of fit with the observed data. The Standardized Root Mean Square Residual (SRMR = 0.085) is below the recommended threshold of 0.10, suggesting that the difference between observed data and predicted correlations is minimal. Although the Normed Fit Index (NFI = 0.812) is slightly below the ideal benchmark, it still reflects a moderate and acceptable model fit for complex behavioral research. The d\_ ULS and d\_ G values are also within tolerable limits, further supporting the adequacy of the structural model.

These findings strengthens the theoretical framework by demonstrating that the relationship among digital financial services, trust, and business performance are empirically supported within the informal business environment, prior methodological studies emphasizes that PLS-SEM models applied to emerging economic contexts often report moderate fit levels due to the multidimensional nature of behavioral constructs and technological adoption factors (Henseler et al., 2009; Hair et al., 2019). Furthermore, research on digital finance adoption also highlights that model validation is essential when examining technology-driven performance outcomes in small enterprises (Damavandi, 2023; Musyaffi *et al.*, 2024). Therefore, the acceptable model fit confirms that the proposed framework reliably captures the influence of digital financial services and trust on the performance of informal businesses, reinforcing the applicability of DFS theory in developing economies.

## R-Square Values

Table 8: R-Square Values

|     | R-square | R-square adjusted |
|-----|----------|-------------------|
| PRF | 0.529    | 0.528             |
| TR  | 0.606    | 0.605             |

Source: Author's own calculation.

The R-square values for Trust (0.606) and Business Performance (0.529) indicate that the structural model explains a substantial portion of variance in both constructs, providing strong empirical support for the theoretical framework grounded in Digital Financial Services (DFS) theory. According to Hair et al. (2019), R<sup>2</sup> values of

0.50 or above are considered moderate to substantial in behavioral and social science research, suggesting that the independent variables Digital Payments, Online Trading, and Usefulness along with the mediating role of Trust, significantly contribute to explaining business performance in informal enterprises. The high R-square for Trust further emphasizes its central mediating role in DFS adoption, as supported by studies like Zins and Weill (2016) and Verma and Shome (2025), who argue that building trust is essential for the effectiveness of digital financial platforms in low-trust, informal economies. These findings confirm the theoretical assumption that access to DFS alone is insufficient its real impact depends on how effectively users trust and integrate these tools into their business operations.

### PLS Bootstrapping and Justification of hypotheses

Hypothesis 1: Digital financial services significantly effect on small business performance

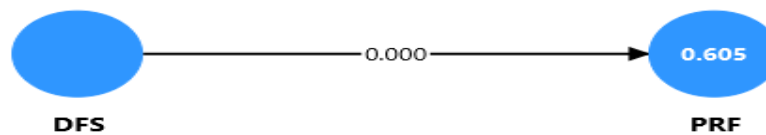


Figure 7: DFS Model

Table 9: Impact of DFS on Business Performance

|            | Original sample (O) | Sample mean (M) | Standard deviation<br>(STDEV) | T-statistics ( O/STDEV ) | P values |
|------------|---------------------|-----------------|-------------------------------|--------------------------|----------|
| DFS -> PRF | 0.778               | 0.778           | 0.028                         | 28.235                   | 0.000    |

Source: Author's own calculation.

The structural results reveal a strong and statistically significant relationship between Digital Financial Services (DFS) and Business Performance (PRF) among informal small businesses. the path coefficient ( $\beta = 0.778$ ) indicates a substantial positive effect of DFS usage on business outcomes. The T-statistic (28.235) is far above the critical value of 1.96, while the p-value (0.000) confirms significance at the 5% level. The low standard deviation (0.028) across bootstrap samples further demonstrates the stability and robustness of the estimated relationship, indicating that the positive impact of DFS on performance is consistent across the sampled businesses.

These findings highlight the transformative role of digital financial technologies in improving operational efficiency and market accessibility for informal enterprises. The results support prior research showing that digital payments systems and online platforms, enhance business activities and customer engagement in small-scale enterprises (Rey and Limos-Galay, 2023). Similarly Johri et al.(2024) emphasize that DFS simplifies financial transactions and improves business processes for micro-entrepreneurs. The strong path coefficient suggests that DFS acts as a strategic enabler of growth rather than merely a supplementary financial tool. These findings also respond to the research gap identified by Rojas et al. (2024), which called for empirical evidence on the role of digital finance in strengthening informal business performance in developing economies.

Hypothesis 2: Trust plays a strong positive mediation between digital financial services and small business performance

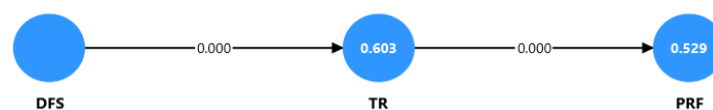


Figure 8: DFS-Trust-Performance Model

Table 10: DFS trust Performance Relationship

|           | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ( O/STDEV ) | P values |
|-----------|---------------------|-----------------|----------------------------|--------------------------|----------|
| DFS -> TR | 0.776               | 0.776           | 0.026                      | 29.441                   | 0.000    |
| TR -> PRF | 0.727               | 0.727           | 0.031                      | 23.146                   | 0.000    |

Source: Author's own calculation.

The results demonstrate significant positive relationship among the study constructs. The path from Digital Financial Services (DFS) to Trust (TR) shows a strong effect ( $\beta = 0.776$ ), with a high T-statistic (29.441) and  $p = 0.000$ , confirming statistical significance and stability across bootstrap samples. This indicates that increased utilization of digital financial tools enhances user confidence in financial platforms. Similarly, the path from Trust to Business Performance (PRF) is also strong ( $\beta = 0.727$ ,  $T = 23.146$ ,  $p = 0.000$ ), suggesting that higher levels of trust significantly contribute to improved business outcomes.

These findings highlights that technological availability alone does not guarantee business improvement; rather, trust functions as a critical mechanism that converts digital financial services (Apau and Lallie, 2022; Zhang *et al.*, 2023). Moreover, Tariq *et al.* (2024) and Phan (2025) argue that trust strengthens users' willingness to engage with fintech platforms, particularly in environments with limited regulation. Therefore, the results confirm that trust operates as a strategic intermediary linking digital financial adoption with enhanced performance, especially for informal small businesses.

Hypothesis 3: Trust positively affects the financial decision-making of stakeholders.

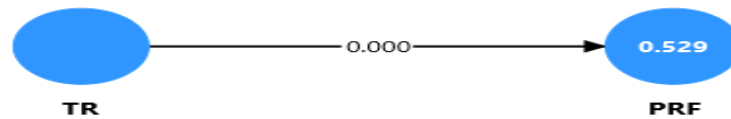


Figure 9: Trust Effect Model

Table 11: Effect of trust on Financial performance

|           | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ( O/STDEV ) | P values |
|-----------|---------------------|-----------------|----------------------------|--------------------------|----------|
| TR -> PRF | 0.727               | 0.727           | 0.031                      | 23.146                   | 0.000    |

Source: Author's own calculation.

The results reveal a strong and statistically significant relationship between trust (TR) and Business Performance (PRF) among informal small businesses. the path coefficient ( $\beta = 0.727$ ) indicates a considerable positive influence of trust on performance outcomes. The T-statistic (23.146) greatly exceeds the critical value of 1.96 and the p-value (0.000) confirms significance at the level of 5% level. The low standard deviation (0.031) across bootstrap samples further demonstrates the stability of the estimate, suggesting that higher level of trust consistently correspond with improved business outcomes.

These verdicts highlight that trust functions as a crucial behavioral mechanism linking digital financial engagement with real economic benefits. Prior research has emphasized that perceived security, transparency, and system reliability significantly shape user confidence in financial technologies (Zhou, 2012; Zhang *et al.*, 2023). In informal business environments, where institutional protection and regulatory oversight are often limited, trust becomes even more critical for encouraging the effective use of digital financial services. Studies such as Gunawan *et al.* (2023) and Damiyana *et al.* (2024) also report that trusted digital platforms improves financial decision-making, operational efficiency, and market participation for small enterprises. Therefore, strengthening trust through secure systems, transparent

policies, and digital literacy initiatives can significantly enhance the performance potential of informal small businesses.

### Mediating Path Analysis

Table 12: *Mediating Path Analysis*

|                  | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics ((O/STDEV)) | P values |
|------------------|---------------------|-----------------|----------------------------|--------------------------|----------|
| DFS -> TR -> PRF | 0.566               | 0.569           | 0.037                      | 15.346                   | 0.000    |

Source: Author's own calculation.

The analysis illustrates that Trust (TR) significantly mediates the relationship between Digital Financial Services(DFS) and Performance (PRF) among informal small businesses. The indirect path coefficient is 0.566, with a closely aligned sample mean of 0.569, indicating consistency across bootstrap samples. The standard deviation of 0.037 is relatively low, suggesting stability in the estimates. A T- statistic of 15.346, which greatly exceeds the standard threshold of 1.96, indicates a highly significant indirect effect. Furthermore, p-value of 0.000 confirms that this mediating relationship is statistically significant. These findings provide strong evidence that trust serves as a crucial mechanism through which digital financial services enhance small business performance. In essence, the impact of DFS on performance is not only direct but also significantly channeled through the development of trust.

### Conclusions and Implications

The findings confirm that trust meaningfully improves the effectiveness of DFS adoption in the informal sector. Informal business owners who perceived DFS as secure, user-friendly, and reliable were more likely to assimilate digital payments, online trading, and other financial applications into their daily operations. This trust-driven adoption was strongly connected with improved business outcomes, including increased sales, customer retention, and greater operational sustainability. The study also revealed that without sufficient trust either due to fear of fraud, data misuse, or technological intricacy many informal businesses remain excluded from the benefits of digital finance. These results extend DFS theory by highlighting trust as a mediating variable that transforms digital access into meaningful economic impact. The evidence suggests that informal and unregistered businesses can thrive in digital environments when trust is established, sustained, and institutionalized. Although this study reveals many aspects of the relationship between digital financial services (DFS) and small business performance, it has several limitations. Data were collected from informal businesses in Faisalabad using purposive sampling, which may limit the generalizability of the findings. The study focuses only on selected DFS components, while many other components and key factors are still underexplored such as financial literacy and regulatory support etc. Additionally, the study was conducted in a single region (Faisalabad) and covers a limited business area, leaving much of the context unexplored.

### Recommendations

To improve DFS uptake and trust among informal businesses, service providers and policymakers must adopt a multifaceted approach. First, enhancing transparency through clear communication about system features, privacy protocols, and customer support mechanisms can strengthen platform credibility. Second, targeted digital literacy programs tailored to the needs and contexts of micro and street businesses should be developed to demystify technology and build user confidence. Third, improving cybersecurity measures and making them visible to users such as showing encryption, verification, and fraud alerts can reinforce perceptions of safety. Fourth, DFS products must be inclusive and flexible, designed to accommodate the irregular cash flows and limited financial capacity typical of unregistered businesses. Finally, policy frameworks should support these businesses by simplifying digital onboarding processes, ensuring consumer protection, and incentivizing trust-building initiatives. These strategies collectively address both the behavioral and infrastructural aspects of trust in DFS.

### Future Research Directions

Several avenues for future research emerge from this study. First, the social dimensions of trust, such as peer influence, community endorsement, and word-of-mouth credibility, warrant deeper exploration to understand how informal networks shape DFS adoption. Second, gender-specific studies could uncover unique challenges and facilitators experienced by women-led informal businesses, particularly in male-dominated market environments. Third, longitudinal research is needed to assess how trust in DFS evolves over time and how sustained usage affects long-term business resilience. Additionally, the integration of emerging technologies like blockchain, biometrics, and AI-based fraud detection could be studied to evaluate their potential in enhancing security and trustworthiness in low-literacy environments. Lastly, cross-country comparisons between different regulatory and infrastructural contexts could provide broader insights into the scalability of trust-building strategies in digital finance, especially in developing economies.

## Reference

- Abbasi, T., & Weigand, H. (2017). The impact of digital financial services on firm's performance: a literature review. *arXiv preprint arXiv:1705.10294*.
- Abukari, K., Musah, A., & Assaidi, A. (2023). The role of corporate sustainability and its consistency on firm financial performance: Canadian evidence. *Accounting Perspectives*, 22(1), 55–86.
- Aldboush, H. H. H., & Ferdous, M. (2023). Building trust in fintech: An analysis of ethical and privacy considerations in the intersection of big data, AI, and customer trust. *International Journal of Financial Studies*, 11(1), 1–20.
- Apaua, R., & Lallie, H. S. (2022). Measuring user perceived security of mobile banking applications. *arXiv preprint arXiv:2201.03052*.
- Ayyagari, M., Beck, T., & Demirguc-Kunt, A. (2007). Small and medium enterprises across the globe. *Small Business Economics*, 29(4), 415–434.
- Bahaddad, A. A., AlGhamdi, R., & Alkhalaf, S. (2015). Adoption factors for e-mails in the SME sector in Saudi Arabia. *arXiv preprint arXiv:1504.01112*.
- Chamboko, R. (2024). Digital financial services adoption: A retrospective time-to-event analysis approach. *Financial Innovation*, 10, 1–27.
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). John Wiley & Sons.
- Damavandi, M. H. A. Modifying the financial results of SMEs via the use of digital marketing, digital finance, and digital payment.
- Damiyana, D., Maulina, E., Muftiadi, A., Auliana, L., & Kurniadi, K. (2024). The influence of innovation, knowledge management, and e-commerce adoption on MSME performance and its impact on MSME sustainability. *Journal of Infrastructure, Policy and Development*, 8(1), 1–30.
- Darbi, W. P. K., Hall, C. M., & Knott, P. (2018). The informal sector: A review and agenda for management research. *International Journal of Management Reviews*, 20(2), 301–324.
- Ekawaty, A., Rizky, A., Ramadan, A., & Ndlovu, Z. (2025). Digital transformation strategies for effective business management in SMEs: a SmartPLS approach. *APTISI Trans. Manag. ATM*, 9(1), 60–71.
- Goplani, M., Sabhani, J., & Gupta, A. (2021). A study on use of digital payment applications for e-commerce among youth. *International Bilingual Peer Reviewed Refereed Research Journal*, 11(41), 48–56.
- Gunawan, A., Jufrizen, & Pulungan, D. R. (2023). Improving MSME performance through financial literacy, financial technology, and financial inclusion. *International Journal of Applied Economics, Finance and Accounting*, 15(1), 39–52.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021a). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021b). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing.
- Johri, A., Asif, M., Tarkar, P., Khan, W., Rahisha, & Wasiq, M. (2024). Digital financial inclusion in micro enterprises: Understanding the determinants and impact on ease of doing business from World Bank survey. *Humanities and Social Sciences Communications*, 11, 1–10.
- Juita, R., Inan, D. I., & Santoso, B. (2026). Digital market adoption by underserved MSMEs in developing countries: Mediation and moderation by self-efficacy and trust. *International Journal of Information Management Data Insights*, 6, 100384.
- Mushtaq, N., Hussain, F., Dad, A., Rehman, S. U., & Waseem, M. (2024). Digital transformation and its impact on business performance in SMEs of Pakistan: An empirical study. *Asian Bulletin of Big Data Management*, 3, 103–114.
- Musyaffi, A. M., Baxtishodovich, B. S., Johari, R. J., Wolor, C. W., Afriadi, B., & Muna, A. (2024). Can financial advantages and digital payments adoption provide effective solutions to improve SMEs' performance? *Montenegrin Journal of Economics*, 20(1), 75–89.
- Nguyen, C. Q., Nguyen, A. M. T., & Tran, P. (2024). Assessing the critical determinants of cross-border e-commerce adoption intention in Vietnamese SMEs: PLS-SEM approach. *Journal of Open Innovation: Technology, Market, and Complexity*, 10, 100257.
- Noreen, M., Ghazali, Z., & Mia, M. S. (2021). The impact of perceived risk and trust on adoption of mobile money services: An empirical study in Pakistan. *Journal of Asian Finance, Economics and Business*, 8(3), 347–355.
- Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340.
- Phan, H. H. (2025). How does trust impact e-commerce adoption among Vietnamese vendors: A PLS-SEM approach. *Journal of Business Research*, 12, 81–92.
- Rey, J. M. A. H., & Limos-Galay, J. A. (2023). Analyzing the impact of online payments on business performance. *International Journal of Research Studies in Management*, 11, 38–46.
- Rojas Cama, F., Emara, N., & Trabelsi, M. (2024). Financial inclusion and the informal sector. *Research in International Business and Finance*, 70, 102379.
- Rufaidah, F., Karyani, T., Wulandari, E., & Setiawan, I. (2023). Implementation of fintech in the agricultural sector: Issues, access, and challenges. *International Journal of Financial Studies*, 11(1), 9–22.
- Salah, O. H., & Ayyash, M. M. (2024). E-commerce adoption by SMEs and its effect on marketing performance. *Journal of Open Innovation: Technology, Market, and Complexity*, 10, 100183.
- Shrier, D. L. (2022). Digital financial services. In *Global fintech* (pp. 73–90).

- Solomon, L. M., & Lawrence, A. (2022). Digital finance ecosystem. *Amity Journal of Professional Practice*, 2, 1–10.
- Tariq, M., Maryam, S. Z., & Shaheen, W. A. (2024). Cognitive factors and actual usage of fintech innovation: Exploring the UTAUT framework. *Heliyon*, 10, e35582.
- Thathsarani, U. S., & Jianguo, W. (2022). Do digital finance and TAM strengthen financial inclusion and SME performance? *Information*, 13(1), 1–15.
- Verma, S., & Shome, S. (2025). Relationship between digital finance adoption and financial inclusion of micro businesses. *Journal of Small Business Strategy*, 35(1), 58–73.
- Zhang, W., Siyal, S., Riaz, S., Ahmad, R., Hilmi, M. F., & Li, Z. (2023). Data security, customer trust and intention for adoption of fintech services. *SAGE Open*, 13(1), 1–17.
- Zhou, T. (2012). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. *Computers in Human Behavior*, 28(4), 1518–1525.
- Zhu, Z. Y., Xie, H. M., & Chen, L. (2023). ICT industry innovation: Knowledge structure and research agenda. *Technological Forecasting and Social Change*, 189, 122361.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). South-Western Cengage Learning.
- Zins, A., & Weill, L. (2016). The determinants of financial inclusion in Africa. *Review of Development Finance*, 6(1), 46–57.