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Transforming Digital Finance into Sustainable Growth: The Mediating Role of R&D Investment in FinTech-Enabled MSMEs in Emerging Economies

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Abstract

Micro, small, and medium-sized enterprises (MSMEs) in emerging economies face persistent challenges in accessing finance, developing innovation capabilities, and achieving sustainable growth. Although FinTech adoption has expanded financial accessibility, limited evidence explains how digital financial resources translate into innovation-driven sustainability. This study addresses this gap by examining the mediating role of R&D investment in the relationship between FinTech adoption and sustainable MSME growth in Bangladesh. Using survey data from 312 MSMEs and regression-based mediation analysis, the findings reveal that FinTech adoption significantly enhances R&D investment and sustainable growth, with R&D investment acting as a key mechanism. The study contributes a novel integrated framework linking digital finance, innovation capability, and sustainability, offering implications for policymakers and MSME stakeholders.

Keywords: FinTech Adoption, R&D Investment, MSME Sustainability, Digital Innovation Capability

1. Introduction

1.1 FinTech Adoption, R&D Investment, and MSME Sustainability in South Asia

MSMEs play an important role in providing employment, income and economic development in emerging economies. The financial access, capacity for innovation and sustainable growth are often faced by the MSMEs in the South Asia region (Weerakoon *et al*., 2026). While the benefits of FinTech are in digital financial access, they rely on the capacity of firms to turn opportunities into productive investments. R&D investment enables innovation, efficiency and adaptation, and is crucial for sustainable MSME development (Kalathingal, & Ambrammal, 2025).

Adoption of FinTech can enhance the financing, innovation and sustainable growth of MSMEs. But there are numerous challenges for many South Asian MSMEs in realizing innovation outcomes from digital financial opportunities, owing to their limited capabilities and investment possibilities. Although there are existing works that studied the effect of FinTech on financial inclusion and performance, the influence of R&D investment still has not been studied properly (Zhu & Guo, 2024). This study aims to fill this gap by investigating R&D investment as a linkage between the use of FinTech and sustainable growth of MSMEs.

1.2 Theoretical Foundation and Research Direction

This research is based on the Resource Based View (RBV) theory, which states that companies can sustain their advantage by building up valuable and unique resources (Agrawal *et al.,* 2025). The adoption of FinTech is seen as a strategic technological resource and R&D investment is seen as an internal capability, which can convert resources into sustainable outcomes, thereby having direct and indirect impact in MSME sustainability.

1.3 Objectives and Contributions of the Study

The study is designed to explore: (1) impact of FinTech adoption on R&D investment of MSMEs in South Asian emerging markets; (2) impact of R&D investment on sustainable growth of MSMEs; and (3) direct and indirect contribution of FinTech adoption to sustainability via R&D investment. Academically, this research extends the current literature on FinTech and innovation by proposing an integrated model that connects the three elements of digital finance, R&D capability and sustainability. From the practical standpoint, the results could be helpful for policy makers, banks, and MSME owners in formulating strategies to encourage the adoption of digital technologies and innovation.

1.4 Organization of the Paper

This paper adopts the CARS model and first documents the importance of FinTech adoption and MSME sustainability, followed by the lack of understanding of the relationship between FinTech and sustainability (Campanella *et al*., 2026) which is filled with the development and testing of a conceptual model. The rest of the paper outlines the methodology, the empirical results, a discussion, implications, and conclusions.

2. Literature Review and Theoretical Development

2.1 FinTech Adoption and the Changing Landscape of MSME Development

By addressing financial constraints, boosting access to digital finance, minimizing information asymmetry, and optimizing transaction efficiency, FinTech adoption plays a pivotal role in empowering MSMEs (Omowole *et al*., 2024). However, its contribution to the provision of innovation investment has not yet been explored. This paper investigates the connection between FinTech adoption and R&D investment, along with its impact on sustainable growth of MSMEs, using the frameworks of (RBV) and (DC Theory).

2.2 R&D Investment and Sustainable Growth of MSMEs

By leveraging the benefits of digital finance, such as increased access, decreased information asymmetry, and efficient transactions, FinTech adoption helps MSMEs overcome financial constraints (Rahayu *et al.,* 2023). Its effects on investment in innovation are, however, not yet known. The study investigates the relationship between the adoption of FinTech and the investment in R&D to foster sustainable growth of the MSMEs based on Resource Based View and Dynamic Capability Theory.

2.3 FinTech Adoption, R&D Investment, and the Mediating Mechanism for Sustainability

Past research has individually explored the adoption and innovation of FinTech, but not the combined effects of these on MSMEs sustainability. This study, based on the RBV and Dynamic Capability Theory, states the technological resource FinTech and the mediating capability as R&D investment. It examines if the adoption of FinTech positively affects sustainable growth of MSMEs directly and indirectly via R&D investments in emerging markets of South Asia.

2.4 Theoretical Framework, Conceptual Model Development, and Hypotheses Formulation

The Resource Based View (RBV) and Dynamic Capability Theory (DCT) underlie the relationship between FinTech adoption, R&D investment and sustainable MSME growth (Wu *et al*., 2026). Technological resources (including FinTech) have the ability to strengthen the competitive advantage by supporting greater financial access and resource efficiency (Zhou et al., 2024). DCT offers a theoretical framework for how firms convert these resources into capabilities by adapting and innovating (Sultana e*t al.*, 2024).

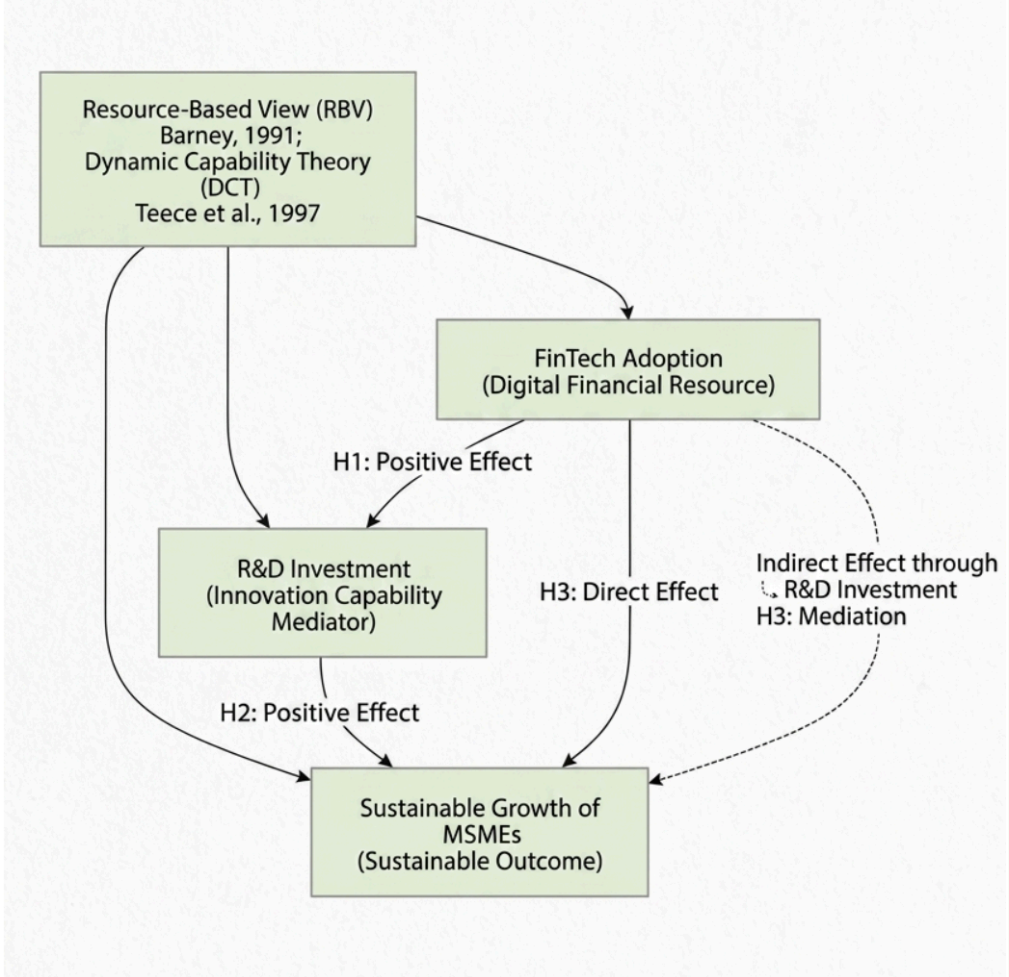

Figure 1: Theoretical & Conceptual Framework

Therefore, R&D investment is an enabler that transforms the opportunities created by FinTech into innovation, efficiency, and sustainable growth of MSMEs (David *et al*., 2025). The framework suggests two types of impacts of FinTech adoption on sustainability: direct and indirect.

FinTech Adoption and R&D Investment

By augmenting access to digital financing, decreasing information asymmetry, and enhancing financial transaction efficiency, FinTech solutions can alleviate financial barriers. These benefits could give MSMEs extra funds to invest in innovation activities (Adelaja *et al*., 2024). While prior works focus on financial inclusion and performance aspects of FinTech, its impact on firms' innovation investment decision is not fully understood (Pranajaya *et al*., 2024). Hence, the following study is proposed: This study is focusing on the relationship between three variables; FinTech Adoption (Independent Variable), R&D Investment (Mediating Variable) and Sustainable Growth of MSMEs (Dependent Variable). The framework, developed in the context of the Resource Based View and Dynamic Capability Theory, suggests that the adoption of FinTech improves the digital resources of the companies, driving R&D investments and boosting sustainable development (Wang *et al*., 2024).

Hypothesis Relationships:

H1: FinTech has a strong positive impact on R&D investments of MSMEs in South Asia (Divekar et al., 2024).

H2: There is a significant positive relationship between R&D investment and sustainable growth of MSME in South Asian countries (Fang *et al.*, 2022).

H3: Adopting FinTech has a significant positive impact on sustainable MSME growth, both directly and indirectly, via funding for research and development (Asad *et al.,* 2025).

The model highlights R&D investment as the mechanism through which FinTech-driven resources are transformed into innovation capability and long-term sustainability.

2.5 Research Gap

Previous research has investigated the adoption, innovation and sustainability of FinTech individually, and there is still a lack of understanding on how they are connected, especially in the context of emerging MSMEs in South Asia. It fills this gap by developing and testing a framework connecting FinTech adoption, R&D investment, and sustainable growth. It builds on previous studies, underscoring the importance of innovation investment as a mediator and providing implications for the development of MSMEs with digital innovation.

3. Methodology

3.1 Research Design and Study Context

The research in this study adopted a cross-sectional quantitative survey research design to analyze the relationship between FinTech adoption, R&D investment and sustainable MSME growth in Bangladesh. The data has been gathered from MSME's from January to April 2026. The research drew upon the Resource-Based View and Dynamic Capability Theory, framing FinTech as a strategic resource and R&D as an innovation capability as a means to achieve a digital transformation towards sustainable business outcomes.

3.2 Ethical Considerations

The data was collected after being approved by the Institutional Review Board (IRB) of (IRB) of Northeast Medical College and Hospital, Sylhet, Bangladesh. for ethical approval. The study was conducted in

compliance with ethical principles which include informed consent, confidentiality, and the participation of respondents. To comply with the research ethics, all the participants were told about the objectives of the research and their rights before answering the survey.

3.3 Participants and Sampling Procedure

The study focused on MSME stakeholders in Bangladesh, who were judiciously selected by purposive sampling to have the necessary knowledge of finance, technology adoption, and innovation practices. Both online and offline questionnaires were used for data collection. There were 350 surveys issued and 312 surveys were retained after screening. The sample size was large enough for regression and mediation analysis (Williams *et al*., 2022).

3.4 Measurement Instruments and Data Collection Procedure

The questionnaire was developed through adaptation of known empirical studies which were customized to the context of MSME in Bangladesh. It covered areas of demographics, adoption of FinTech, investment in R&D, and sustainable growth. Constructs were rated on a 5-point Likert Scale (1 = strongly disagree, 5 = strongly agree). Prior to data collection, clarity, reliability and contextual relevance were ensured by expert reviews of the instrument and by pilot testing it with 30 MSME respondents.

3.5 Statistical Analysis

IBM SPSS Statistics 29.0 was used to analyse the data. Data were analyzed by descriptive statistics, reliability analysis and exploratory factor analysis to evaluate the characteristics, consistency and validity of data. Pearson correlation and multiple regression analyses were used to examine relationship and direct effects. Hayes' PROCESS Macro (Model 4) was used to investigate the mediating effect of R&D investment (Liu *et al*., 2025), and 5,000 bootstrap samples were performed. The significance was tested by $p < .05$ and the Harman's test and the procedural control were used to assess the common method bias.

4. Results and Data Analysis

4.1 Respondent Profile and Descriptive Statistics

A total of 312 valid responses from MSME owners, managers and decision-makers were analyzed in this study from Bangladesh. The sample included a variety of sectors and firm attributes and made it possible to understand the link between FinTech adoption, R&D investment and sustainable growth. The characteristics of the respondents are summarized in Table 1.

Table 1

Summary of Respondent Characteristics (N = 312)

Characteristics	Main categories (%)
Gender	Male (69.9), Female (30.1)
Position	Owner (40.4), Manager (34.6), Decision-maker (25.0)
Business sector	Trading (40.4), Manufacturing (35.9), Service (23.7)
Firm age	5–10 years (41.0), <5 years (30.8), >10 years (28.2)
Enterprise size	Micro (46.8), Small (35.9), Medium (17.3)

Note. Values are percentages of respondents.

4.2 Measurement Reliability Assessment

Cronbach's alpha was used to check the reliability of the measurement scales before testing the suggested hypotheses. As seen in Table 2, the internal consistency of all constructs was good, with an alpha coefficient greater than .70 (Maruf & Mannan, 2026). Thus, the measure items exhibited good reliability and went on for further statistical analysis.

Table 2

Reliability Analysis of Study Constructs

Construct	Number of Items	Cronbach's Alpha
FinTech Adoption	6	.874
R&D Investment	5	.846
Sustainable Growth	6	.891

Note. Cronbach's alpha values above .70 indicate acceptable internal consistency.

4.3 Summary of Measurement Validation, Correlation, and Hypothesis Testing Results

Exploratory factor analysis (EFA), Pearson correlation analysis, and regression analysis were used to measure and analyze the relationships. The results of the EFA confirmed that the measurement model was good, where the sampling adequacy and construct representation were satisfactory. The results showed that there was a significant positive correlation between R&D investment and sustainable growth, as well as between the adoption of FinTech and sustainable growth. In addition, the proposed direct relationships were confirmed by regression analysis, which supports H1 and H2.

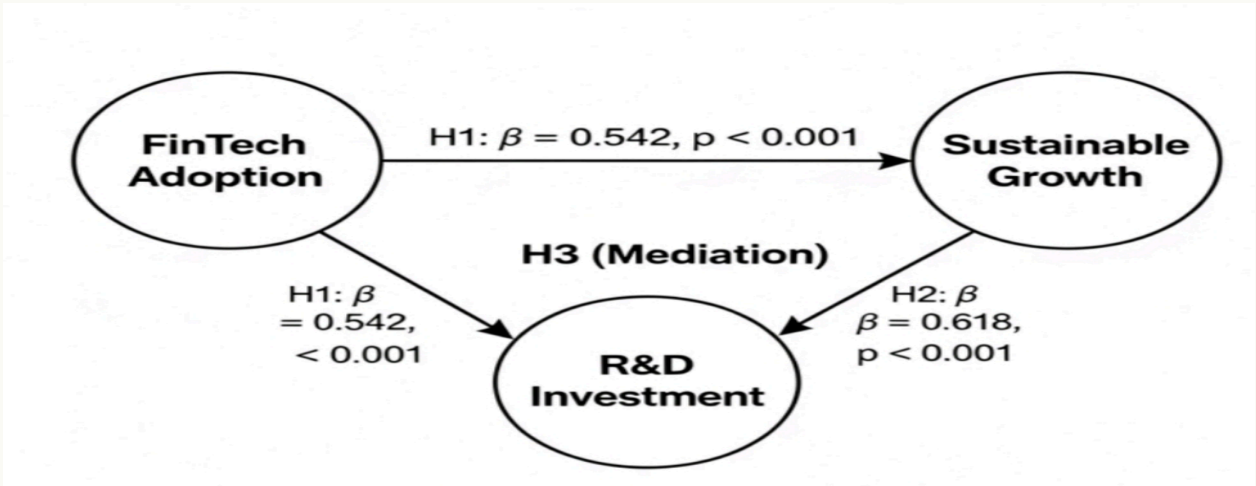

Figure 2: The measurement Model

The measurement model showed good construct validity, which was determined by the KMO value of 0.842, the factorability of the Bartlett's test ($p < .001$) and the explained variance of 68.47%. The significant positive correlations between FinTech adoption and R&D investment, and sustainable growth,

were validated by correlation analysis. The same two hypotheses were further supported by structural path analysis, which revealed that the adoption of FinTech has a significant positive impact on R&D investment, and R&D investment positively contributes to sustainable growth.

4.6 Mediation Analysis

Hayes' PROCESS Macro (Model 4) was used to test the mediating role and 5,000 bootstrap samples were performed (Ahmed *et al.*, 2025). The results showed that the indirect effect of the relationship between FinTech adoption and sustainable growth was significant given the bootstrap confidence interval of the indirect effect did not contain zero.

Table 3

Mediation Effect of R&D Investment Between FinTech Adoption and Sustainable Growth

Effect	β	Boot SE	BootLLCI	BootULCI	Decision
Direct Effect	.214	.061	.094	.334	Significant
Indirect Effect	.335	.048	.245	.437	Significant

The findings of mediation upheld the H3 hypothesis, which stated that the adoption of FinTech helped MSMEs grow sustainably, both by itself and by increasing their ability to invest in R&D.

5. Findings and Discussion

The results suggest that the growing adoption of FinTech can substantially improve R&D investments among MSMEs which support H1. This indicates that digital financial technologies support firms to address their resource limitation and enhance their innovation capability which is in line with Resource Based View (RBV). In addition, firms' investments in R&D affect sustainable growth, positively so in improving firms' competitiveness and long-term adaptability, which supports H2. The mediation analysis also demonstrates the significant mediation effects of R&D investment on the link between FinTech adoption and sustainable growth, in support of H3. The results are consistent with Dynamic Capability Theory which argues that MSMEs' sustainability is the result of converting digital resources by making innovation capability.

6. Conclusion

The study shows that adoption of FinTech helps MSMEs grow sustainably by making it easier for them to invest in R&D. It brings digital finance and innovation perspectives together (RBV and Dynamic Capability Theory) and offers theoretical and practical contributions. Findings inform policymakers and stakeholders on how to facilitate access to and the promotion of FinTech innovation support. The design is based on a cross-sectional approach, however, the cross-sectional study is based in Bangladesh which restricts generalisability. Longitudinal, cross-country, and moderating factors to the sustainability of MSMEs must be studied in the future.

References

Adelaja, A. O., Umeorah, S. C., Abikoye, B. E., & Nezianya, M. C. (2024). Advancing financial inclusion through fintech: Solutions for unbanked and underbanked populations. *World Journal of Advanced Research and Reviews*, *23*(01), 427-438.

Agrawal, R., Samadhiya, A., Banaitis, A., & Kumar, A. (2025). Entrepreneurial barriers in achieving sustainable business and cultivation of innovation: a resource-based view theory perspective. *Management Decision*, *63*(4), 1207-1228.

Ahmed, S., Farooq, S., Abid, G., & Abudaqa, A. (2025). Understanding the Sequential Pathways of Punitive Supervision and Employee Outcomes: Applying Hayes' PROCESS Macro With Supervised Machine Learning. *Human Behavior and Emerging Technologies*, *2025*(1), 7807392.

Asad, M., Ghazalat, A., Mansour, A. A. Z., Asif, M. U., & Campbell, A. C. (2025). Fintech adoption and sustainable performance of SMEs: moderated mediated analysis of technological turbulence and competitive advantage. *Management & Sustainability: An Arab Review*, 1-22.

Campanella, F., Ferri, L., Serino, L., & Zampella, A. (2026). Driving sustainability: how FinTech transforms SDG performance in SMEs. *Journal of Global Responsibility*, *17*(2), 322-342.

Divekar, P., Bhatia, A., Divekar, R., & Chandani, A. (2024, December). Empowering Rural Women in South Asia Through Fintech: Contribution to Sustainable Development Goals and Entrepreneurial Growth. In *International Conference on Information and Communication Technology for Competitive Strategies* (pp. 1-12). Singapore: Springer Nature Singapore.

Fang, W., Liu, Z., & Putra, A. R. S. (2022). Role of research and development in green economic growth through renewable energy development: empirical evidence from South Asia. *Renewable Energy*, *194*, 1142-1152.

Kalathingal, S., & Ambrammal, S. K. (2025). Innovation capabilities and sustainability in MSMEs. An analysis of empirical studies. *The International Journal of Entrepreneurship and Innovation*, 14657503241307141.

Liu, Q., Chou, J., & Feng, H. (2025). Effect of teachers' self-efficacy with generative AI and reflection on students' second language achievement. *Computer Assisted Language Learning*, 1-22.

Maruf, T. I., & Mannan, M. (2026). Educational Reforms and Economic Growth in Bangladesh: Insights for OIC Nations. *Muslim Business and Economics Review*, *5*(1), 1-29.

Omowole, B. M., Urefe, O., Mokogwu, C., & Ewim, S. E. (2024). Integrating fintech and innovation in microfinance: Transforming credit accessibility for small businesses. *International Journal of Frontline Research and Reviews*, *3*(1), 090-100.

Pranajaya, E., Alexandri, M. B., Chan, A., & Hermanto, B. (2024). Examining the influence of financial inclusion on investment decisions: A bibliometric review. *Heliyon*, *10*(3).

Rahayu, S. K., Budiarti, I., Firdauas, D. W., & Onegina, V. (2023). Digitalization and informal MSME: Digital financial inclusion for MSME development in the formal economy. *Journal of Eastern European and Central Asian Research (JEECAR)*, *10*(1), 9-19.

Sultana, S., Akter, S., & Kyriazis, E. (2024). Theorising data-driven innovation capabilities to survive and thrive in the digital economy. *Journal of Strategic Marketing*, *32*(7), 864-890.

Wang, J. H., Dai, X., Wu, Y. H., & Chen, H. L. (2024). Innovation strategies and financial performance: a resource dependence perspective for Fintech management decision-making. *Journal of Organizational Change Management*, *37*(7), 1510-1534.

Weerakoon, C., Athukorala, W., & Ekanayake, A. (2026). Introduction to MSMEs in South and Southeast Asia: Framework and Importance. In *MSME Development in South and Southeast Asia* (pp. 3-12). Routledge.

Williams, N. J., Preacher, K. J., Allison, P. D., Mandell, D. S., & Marcus, S. C. (2022). Required sample size to detect mediation in 3-level implementation studies. *Implementation Science*, *17*(1), 66.

Wu, Y., Mehmood, K., Mangla, S. K., & Jabeen, F. (2026). A dynamic capability view to evaluate the role of FinTech in green supply chain performance: moderating role of data‐driven lean and green practices. *Business Strategy and the Environment*, *35*(4), 5841-5858.

Zhou, Z., Chau, K. Y., Sibghatullah, A., Moslehpour, M., Tien, N. H., & Shukurullaevich, K. N. (2024). The role of green finance, environmental benefits, fintech development, and natural resource management in advancing sustainability. *Resources Policy*, *92*, 105013.

Zhu, K., & Guo, L. (2024). Financial technology, inclusive finance and bank performance. *Finance Research Letters*, *60*, 104872.