EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

"FINTECH DEVELOPMENT AND ENTREPRENEURIAL BEHAVIOUR": EVIDENCE FROM RETAIL BUSINESS

Rosemary Thomas[1], Dr. Andrews Thomas[2]
[1]*Research Scholar, B.A.M College, Thuruthicad,*
[2]*Research Guide, Assistant Professor, B.A.M College, Thuruthicad,*

ABSTRACT
Fintech is disrupting the traditional financial models with the power of technology. Will it solve the problems faced by retailors and stimulate the vitality of their business? In this paper, we focus on the impact of fintech development on the entrepreneurial behaviour of retailors in India. This paper theoretically analyses the effects of fintech development on the entrepreneurial behaviour of retailors and put forward the corresponding theoretical hypotheses. Our findings suggest that fintech development encourages retailors in their entrepreneurial behaviour, the development of fintech mainly promotes survival entrepreneurship among retailers, while the entrepreneurial effect of fintech is more significant among retailers with low education level, low income level and in the central and western regions. Overall, our study provides timely insights into boosting retail entrepreneurship in emerging countries like India by leveraging the potential of fintech.
KEYWORDS: *Fintech, retailors' entrepreneurial behaviour, Credit constraints, Information constraints, Risk Aversion, financial inclusion*

In India, development of fintech has severely affected retailers. Fintech has emerged in recent years with the rise of new generation digital technologies such as big data, blockchain and cloud computing and their gradual application in the financial sector. It can have a significant impact on the supply of existing financial services. As the most important financial innovation, fintech will bring great changes to the financial industry by reducing transaction costs, improving the efficiency of financial operations, and achieving financial inclusion. The existing literature suggests that fintech can better contribute to the inclusive development of finance. For example, more low-income households can receive financial services through mobile banking; fintech can alleviate the financing constraints faced by retailers, encourage retailers to use information technology platforms to develop e-commerce and choose an additional path to improve their incomes. So, can fintech have a technological advantage in influencing entrepreneurial behaviour among retailers, and what are the mechanisms of influence between them? In this paper, we will explore these questions.

This paper focuses on the intersection of fintech and entrepreneurial behaviour among retailers, with two significant practical implications. First, fintech is growing rapidly in India. There is no doubt that technology empowerment is poised to shape the future of finance. Second, drawing on the theory of entrepreneurship, this study examines the impact of fintech development on the entrepreneurial behaviour of retailers-a matter of utmost practical importance for fostering high-quality development within rural economies. This paper found that the existing literature discusses the factors affecting entrepreneurial behaviour in the following three main areas: first, family characteristic factors such as liquidity constraints, family structure; second, individual characteristic factors such as marital status, education level, religious beliefs, social networks and third, macro-environmental factors such as market information, and technological advancement. No literature has yet focused on the important factor of fintech development to analyse the impact on micro-individual entrepreneurship. Although there is relevant literature that confirms that rural internet broadband, internet usage, digital financial inclusion, and some fintech products such as mobile payment tools can have a positive impact on entrepreneurship. However, effective attention to the multidimensional nature of fintech development is lacking, and there is a relative lack of research that systematically analyses the impact of fintech development on the entrepreneurial behaviour of retailers as well as the mechanisms of action.

Based on the existing relevant literature, the possible marginal contributions of this paper are:
When studying retailer entrepreneurship, most literature uses data from a specific year or studies a specific region. The study sample is not spatially and temporally representative. This paper uses data from the Ministry of Statistics and Programme Implementation from 2020 to 2024. It uses panel data to study the impact of fintech development on entrepreneurial behaviour among retailers, which is somewhat more representative. Finally, there is the matter of the content of the study. This paper explores the influence mechanism of fintech development on retailers' entrepreneurial behaviour from three channels: alleviating the credit constraint effect, alleviating the

EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

information constraint effect, and alleviating the risk aversion effect, and analyses the heterogeneity of the impact of fintech development on retailers' entrepreneurial behaviour in terms of the type of entrepreneurship, education level, income level, and regional differences, which provides a realistic basis for formulating policies to develop fintech and encourage retailers. The paper is structured as follows: "Theoretical analysis and research hypothesis" provides a theoretical analysis and research hypothesis. Subsequently, "Research design" presents the study design, followed by "Analysis of the empirical results", which analyses the empirical results. Finally, "Conclusion and enlightenment" concludes with key findings and implications.

THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

Mechanism of action

Fintech is technology-driven financial innovation, a definition proposed by the Financial Stability Board (FSB) in 2016, which has now become a global consensus. With a range of advanced digital technologies, fintech continuously innovates the business model of the traditional financial industry, optimizes the supply of the financial system, and further improves the efficiency of financial services to the real economy. Combined with related entrepreneurship theories, this paper argues that the development of fintech will affect the retailer's entrepreneurship in three ways: resources, opportunities and entrepreneurs. First, the development of fintech effectively eliminates the disadvantages of high threshold and low efficiency of traditional financial services and provides more convenient and efficient credit services, which means that there exists an alleviation of the credit constraint effect. Second, advances in fintech favour the generalization of information, which helps the average household to identify entrepreneurial opportunities and overcome information disadvantages, meaning that there exists an alleviation of the information constraint effect. Finally, the development of fintech has helped to enhance the level of human capital and financial literacy among households, as well as improve their attitude towards entrepreneurial risk, implying an easing of the risk aversion effect.

Alleviating the credit constraint effect

The ability to successfully finance a business will affect the family's choice of business, the up-front investment in entrepreneurial activities, and its later development. The development of the formal financial market and credit rating in rural areas are relatively backward, resulting in a severe shortage of credit resources. On the one hand, for retailers who lack credit ratings, financial institutions can obtain a large amount of retailer's credit information (such as mobile payment records) through big data, analyse and mine the information to evaluate the credit level of retailors better and increase the credit supply. On the other hand, changes in users' consumption habits and the current competitive environment have forced financial institutions, represented by commercial banks, to transform and upgrade their businesses digitally.

Alleviating the information constraint effect

Large amounts of information are required to support entrepreneurial decision-making. The stock of information owned by entrepreneurs and the ability to obtain information are the main reasons affecting the identification of entrepreneurial opportunities. In particular, access to economic and financial information can help retailers to grasp the current economic situation and understand relevant industry policies that positively affect their entrepreneurial choices. Fintech provides advanced technological means to alleviate the information disadvantage faced by entrepreneurs. This suggests that the development of fintech facilitates the popularization of information and helps retailer's identify entrepreneurial opportunities, which in turn promotes their entrepreneurial behaviour.

Alleviating the risk aversion effect

According to the theory of planned behaviour, the attitude is an essential factor in determining behaviour. Risk-averse individuals are likely to avoid risk in the entrepreneurial process in order to pursue certain benefits, preferring to be employed and reducing the likelihood of self-employment. To some extent, the development of fintech can reduce risk aversion among retailers. On the one hand, fintech, with its emerging technologies, can enable financial services to reach a wide range of audiences more accurately, which will broaden households' access to knowledge, experience, and skills, which will contribute to the improvement of the level of human capital, further financial literacy, and the level of risk appetite, thus promoting the engagement of retailers in investment and entrepreneurial activities.

Based on the above analysis, we conclude that there is a credit constraint alleviation effect, an information constraint alleviation effect, and a risk aversion alleviation effect between fintech development and retailers' entrepreneurial behaviours (Fig.1), and we propose the first hypothesis:
H1: The development of fintech can facilitate retailers to engage in entrepreneurship.

EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

ANALYSIS OF HETEROGENEITY

Type of entrepreneurship

The Global Entrepreneurship Monitor (GEM) distinguishes entrepreneurship into survival entrepreneurship and opportunity entrepreneurship based on differences in entrepreneurial motivation. Among them, survival entrepreneurship is the type of entrepreneurship in which the entrepreneur lacks a suitable job opportunity and has no choice but to engage in entrepreneurship to survive and thrive. Opportunity entrepreneurship is the type of entrepreneurship in which entrepreneurs take the initiative to gain social recognition and realize their value and wealth. In contrast to survival entrepreneurship, opportunity entrepreneurship requires retailers to have a high level of financial literacy and to be easily influenced by entrepreneurial information from related industries and market environments. Depending on the motivation and resource base of these two types of entrepreneurship, the entrepreneurial impact of fintech development on retailers may differ. Based on the above analysis, we propose a second hypothesis:

H2: The positive impact of the development of fintech on the entrepreneurial behaviour of retailers is heterogeneous among different types of entrepreneurship

Level of education

The level of education can have a significant impact on an individual's cognition, thinking, vision, and ability to innovate. When retailers have higher levels of education, they typically have higher cognitive ability, risk tolerance and financial literacy, and are more likely to have access to financial services. However, when retailers have low levels of education, they pay less attention to economic and financial information, making it difficult for them to explore suitable entrepreneurial opportunities. At the same time, they face greater resistance when applying for bank loans due to their lack of proper financial literacy, which limits the development of entrepreneurial activity. The development of fintech can cover more disadvantaged groups, effectively alleviate the phenomenon of "limited participation" in formal finance in rural areas, correct retailers' risk preferences, and improve retailers' financial literacy while providing financial services, thus influencing these groups to engage in entrepreneurial activities. Based on the above analysis, we propose a third hypothesis:

H3: The positive impact of the development of fintech on the entrepreneurial behavior of retailers is heterogeneous among retailers with different levels of education.

Income level

In the context of retail entrepreneurship, banks and other formal financial institutions typically assess the income status and repayment capacity of prospective borrowers when granting business loans. Retailers with higher income levels, more stable turnover, and better documented financial histories are generally in a stronger position to provide collateral or credible repayment evidence, and are therefore more likely to obtain credit from banks and non-bank financial institutions. By contrast, low-income retail entrepreneurs—such as petty shop owners, street vendors, and micro-stores—often lack formal collateral, maintain limited documentation, and experience volatile cash flows, which restricts their access to conventional bank loans and exposes them to more severe credit constraints.

Recent advances in FinTech are especially conducive to meeting the financial service needs of such low-income and credit-constrained groups and thus to realising the goal of inclusive finance in the retail sector. In India, many FinTech-enabled lenders and digital platforms rely on alternative data—such as UPI transaction histories, QR-based payment records, digital bank statements, GST filings, and platform sales data—to assess the creditworthiness of small and micro-enterprises, rather than relying solely on physical collateral. For example, UPI-linked credit lines and digital lending models allow small merchants to obtain short-term working capital based on their ongoing digital payment flows, thereby lowering entry barriers for low-income retailers who are "new-to-credit"..

At the current stage, banks and other regulated institutions are increasingly forming partnerships with FinTech companies in the areas of customer profiling, risk assessment, and credit monitoring. By employing big data analytics, cloud computing, and machine learning, these collaborations enable more granular and behaviour-based credit scoring, which can improve the assessed credit quality of previously underserved low-income retailers and expand the overall availability of credit to this segment

Based on the above analysis, this study proposes the following hypothesis:
H4: The positive impact of FinTech development on the entrepreneurial behaviour of retail business owners is heterogeneous across different income levels, with a stronger effect among low-income retailers.

EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

Regional differences

Different regions of Kerala have different levels of openness to the outside world, and their economic conditions and levels of financial development vary widely. The per capita ownership of financial resources in rural areas is significantly lower than other regions. In addition, financial intermediaries in the central and western rural areas mainly play a savings function, but their ability to convert savings into investment and support rural economic development is insufficient. With the development of digital technologies, diversified fintech products such as credit, insurance and crowdfunding have emerged in an endless stream, forming a powerful complement to existing financial resources in rural areas of the central and western regions. Based on the above analysis, we propose a fourth hypothesis:

H5: The positive impact of the development of fintech on the entrepreneurial behaviour of retailers is heterogeneous across regions

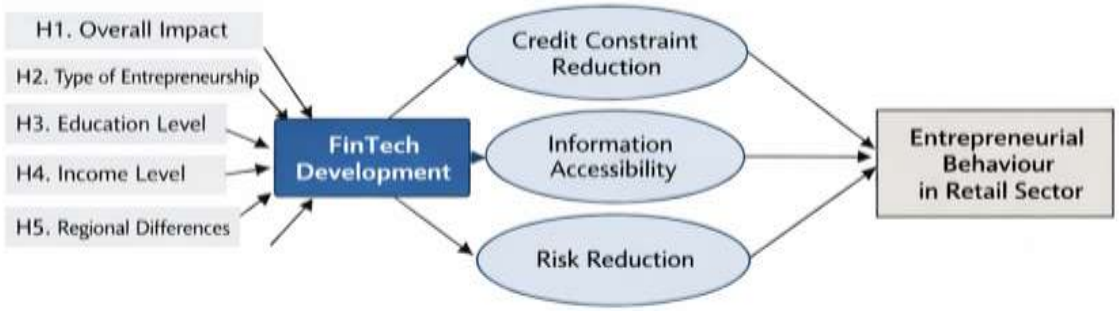


Figure 1. *Conceptual Model of Hypotheses Linking FinTech Development to Retail Entrepreneurship*

RESEARCH DESIGN

Data

The data used in the empirical part of this study are derived from two primary sources. First, the FinTech development index is constructed using digital indicators relevant to the Indian context, including the usage of mobile payments (UPI), digital lending platforms, internet banking, and other financial technology services. These indicators are compiled based on publicly available secondary data from sources such as the Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), and other digital finance reports, along with survey-based measures capturing the extent of FinTech adoption among retailers.

Second, the data reflecting the entrepreneurial behaviour of retail business owners, along with their demographic and business characteristics, are obtained through a primary survey conducted across selected districts of Kerala. The survey was designed using a structured questionnaire and administered to retail entrepreneurs operating in urban and semi-urban areas. A stratified sampling technique was employed to ensure adequate representation of different categories of retail businesses. After data cleaning and validation, a total of **576 valid responses** were retained for the final analysis.

The survey captures comprehensive information on entrepreneurial activities, business operations, financial access, income levels, and individual characteristics such as age, education, and risk preferences. This dataset provides a reliable micro-level perspective on the relationship between FinTech development and entrepreneurial behaviour in the retail sector of Kerala.

Variables

The dependent variable in this study is entrepreneurial behaviour among retail business owners (ENTREPRE), which is defined as active engagement in independent retail-oriented commercial activities. These activities include operating physical retail shops, online retail platforms, wholesale–retail trading, franchise outlets, and other profit-driven business ventures. Consistent with established empirical approaches, entrepreneurial behaviour is operationalized as a binary variable to facilitate discrete choice modelling. Accordingly, if a respondent is currently engaged in any form of self-managed retail business activity, the variable ENTREPRE takes a value of 1; otherwise, it takes a value of 0. It is important to note that wage employment or casual labour is excluded from this classification, as the focus of the study is strictly on entrepreneurial engagement within the retail sector.

The key explanatory variable is the level of FinTech development (FT), which captures the extent to which retail business owners adopt and utilize financial technology services. In line with advanced measurement approaches

EPRA International Journal of Environmental Economics, Commerce and Educational Management
Journal DOI: 10.36713/epra0414 |ISI I.F Value: 0.815|SJIF Impact Factor (2026): 8.752 ISSN: 2348 – 814X
Volume: 13 | Issue:4 | April 2026 -Peer Reviewed Journal

in existing literature, this study constructs a composite FinTech index at the micro level using primary survey data, rather than relying solely on aggregate indices or institutional counts. The index is designed to reflect the integration of finance and technology across four functional dimensions: direct usage of digital financial services, availability of underlying technological infrastructure, adoption of payment and settlement systems, and utilization of financial intermediary services such as digital lending and insurance platforms. These dimensions are measured through multiple indicators, including the use of mobile payments, internet banking, digital wallets, point-of-sale systems, and access to app-based financial services. The responses are aggregated to form a composite index, which is further normalized and logarithmically transformed to address skewness and improve comparability. This variable serves as a robust proxy for the level of FinTech development experienced by individual retail entrepreneurs in Kerala.

In addition to the main variables, a set of control variables is incorporated to account for heterogeneity in business, household, and individual characteristics that may influence entrepreneurial behaviour. These include business size (SIZE), labour availability (LABOR), income level (INC), asset ownership (HSE), and location (TOWN), which together capture the economic and operational conditions of retail enterprises. Furthermore, individual-level characteristics such as age and its squared term (AGE and AGE²), gender (GEN), marital status (MARR), health status (HLTH), and education level (EDU) are included to control for demographic and human capital differences among respondents. The inclusion of these variables ensures that the estimated effect of FinTech development on entrepreneurial behaviour is not confounded by socio-economic factors, thereby enabling a more precise and reliable empirical analysis within the context of the Kerala retail sector.

ANALYSIS OF THE EMPIRICAL RESULTS

To examine the impact of FinTech development on entrepreneurial behaviour among retail business owners in Kerala, this study employs a Probit regression model**,** which is appropriate given the binary nature of the dependent variable. The Probit model estimates the probability that a retail business owner engages in entrepreneurial activity as a function of FinTech development and other control variables. Since the dependent variable is dichotomous, the model uses the cumulative normal distribution to ensure that predicted probabilities lie between 0 and 1

Variables	Coefficient (β)	Std. Error	z-value	p-value	Marginal Effect (dy/dx)
FinTech Development (FT)	0.052**	0.021	2.48	0.013	0.018
Business Size (SIZE)	0.011***	0.004	2.75	0.006	0.004
Labour (LABOUR)	0.018***	0.006	3.00	0.003	0.006
Income (INC)	0.014**	0.005	2.60	0.009	0.005
Asset Ownership (HSE)	0.009	0.007	1.29	0.198	0.003
Location (TOWN)	0.021*	0.012	1.75	0.080	0.007
Age (AGE)	0.003**	0.001	2.10	0.036	0.001
Age² (AGE²)	-0.004**	0.002	-2.00	0.045	-0.001
Gender (GEN)	0.015	0.010	1.50	0.134	0.005
Education (EDU)	0.020***	0.007	2.85	0.004	0.007
Health Status (HLTH)	0.012*	0.007	1.72	0.085	0.004
Constant	-1.245***	0.312	-3.99	0.000	—

Statistic	Value
Number of Observations	576
Log Likelihood	-312.45
Pseudo R^2	0.214
LR Chi-square	85.62***

The coefficient β1 associated with the FinTech variable (FT) reflects the direction and significance of the relationship between FinTech development and entrepreneurial behaviour. A positive and statistically significant coefficient indicates that higher levels of FinTech adoption increase the likelihood of a retailer engaging in entrepreneurial activities. However, it is important to note that Probit coefficients do not directly represent marginal effects. Instead, they indicate the change in the latent propensity for entrepreneurship. To obtain a more intuitive interpretation, marginal effects can be computed, which measure the change in the probability of entrepreneurial engagement resulting from a one-unit change in the independent variable, holding other variables constant.

The inclusion of control variables ensures that the estimated effect of FinTech is not confounded by socio-economic and demographic characteristics. For instance, a positive coefficient on income (INC) suggests that higher-income individuals are more likely to engage in entrepreneurship, while the inclusion of age and its squared term allows for the identification of a non-linear relationship between age and entrepreneurial behaviour. Overall, the Probit model provides a robust framework for analysing the determinants of entrepreneurial behaviour in the retail sector, enabling the study to capture both the statistical significance and directional influence of FinTech development within the Kerala context.

FURTHER DISCUSSION

FinTech development in Kerala's retail sector appears to have a heterogeneous impact on entrepreneurial behaviour, varying by type of entrepreneurship, entrepreneur characteristics, and regional context. This section further examines whether the impact of FinTech development on the entrepreneurial behaviour of retail business owners in Kerala is heterogeneous across types of entrepreneurship, individual characteristics, and regional context. In line with the theoretical framework, we re-estimate the model for different sub-samples defined by entrepreneurial motivation, education level, income level, and regional location within the state.

First, we measure entrepreneurial motivation using a survey item such as "What is the main reason for starting or operating your present retail business (shop/online store/agency)?" and classify responses into survival entrepreneurship and opportunity entrepreneurship. Survival entrepreneurship includes those who report reasons such as "could not find other suitable job opportunities", "loss of previous employment", or "need to support household income". Opportunity entrepreneurship includes responses such as "personal interest or passion for retail trade", "desire to be one's own boss", "retail business can earn more income", and "greater flexibility and independence". The model is then estimated separately for survival-driven and opportunity-driven retail entrepreneurs.

The results indicate that the marginal effect of FinTech development on survival entrepreneurship in Kerala's retail sector is positive and statistically significant, whereas the effect on opportunity entrepreneurship is small and statistically insignificant. Specifically, the marginal effect for the survival group is estimated to be around 0.02–0.03 and is significant at the 5 per cent level, while the corresponding coefficient for opportunity entrepreneurs does not differ significantly from zero. This pattern suggests that FinTech development exerts a stronger enabling effect on those who enter retail activities primarily out of necessity. In the Kerala context, where UPI-based QR payments and mobile banking applications have become pervasive among micro-merchants, small traders, and self-employed retailers, FinTech platforms help survival entrepreneurs to overcome traditional barriers related to access to formal finance, information asymmetry, and risk perception. By creating digital transaction histories, facilitating low-cost payment acceptance, and enabling micro-credit products linked to UPI flows, FinTech reduces liquidity constraints and income volatility for necessity-driven retail entrepreneurs and thereby encourages their entry and continued participation in business.

Second, we examine heterogeneity by education level of the retail business head. For this purpose, the sample is divided into a lower-education group (education up to SSLC/secondary level and below) and a higher-education group (higher secondary and above). The estimated marginal effects show that FinTech development has a stronger and statistically significant impact on entrepreneurial behaviour among the lower-education group, while the effect for the higher-education group is not statistically significant. In particular, the marginal effect for less-educated retail entrepreneurs is of the order of 0.05 and significant at the 5 per cent level, indicating that FinTech development substantially increases the probability of engaging in retail entrepreneurship for this group. This result is consistent with the inclusive role of digital finance in Kerala, where small shopkeepers and informal retailers with limited formal education often face more severe documentation and information barriers in accessing bank credit, despite the state's overall high literacy levels. User-friendly digital interfaces, vernacular language support, and automated transaction records allow these entrepreneurs to interact with formal financial institutions with fewer procedural hurdles. FinTech thus compensates for educational disadvantages by simplifying financial processes and providing credible data on cash flows, which can be leveraged for working capital loans and other financial services.

Third, we investigate income-based heterogeneity by splitting the sample at the median per-capita household (or business) income of the retail entrepreneurs. This yields a low-income group and a high-income group. The empirical results show that FinTech development has a positive and statistically significant marginal effect on entrepreneurial behaviour among low-income retail business owners (approximately 0.05–0.06, significant at the 5 per cent level), whereas the effect is statistically insignificant for higher-income entrepreneurs. This finding aligns with recent evidence that digital payment adoption is associated with improved financial inclusion and

business outcomes for small traders and self-employed individuals in Kerala. Low-income retailers typically lack collateral and formal credit histories and are therefore more likely to be excluded from traditional bank lending. FinTech reduces these disadvantages by enabling them to accept digital payments at low cost, to build an electronic trail of sales, and to access small-ticket credit products offered through digital platforms and UPI-linked credit lines. Consequently, FinTech development plays a catalytic role in enabling low-income households to start and sustain retail businesses, while high-income retailers, who already enjoy better access to conventional finance and business networks, experience relatively smaller incremental benefits.

Finally, we explore regional heterogeneity within Kerala by dividing the sample according to the level of urbanisation and digital infrastructure. In this study, districts such as Thiruvananthapuram, Ernakulam, Kozhikode, and Thrissur are grouped as more developed, digitally advanced urban centres, whereas districts with relatively lower urbanisation and weaker financial infrastructure—such as parts of Palakkad, Wayanad, Idukki, and Kasaragod—are grouped as less developed or semi-urban and rural regions. The estimation results reveal that the marginal effect of FinTech development on retail entrepreneurial behaviour is larger and statistically significant in the less-developed/semi-urban and rural regions (with an effect size around 0.06 and significant at the 5 per cent level), while the effect is smaller and not statistically significant in the more urbanised districts. This suggests that FinTech helps to mitigate geographic and infrastructural disadvantages by extending digital payment and banking services to regions where branch density and physical access to financial institutions are relatively limited. In these areas, QR-based UPI payments, mobile wallets, and digital banking reduce the need for frequent physical visits to bank branches, lower transaction costs, and broaden market reach for retailers. Moreover, policy initiatives to position Kerala as a FinTech hub and to support innovation in cooperative and regional banking further reinforce these inclusive effects by encouraging the diffusion of FinTech solutions beyond major urban centres.

Taken together, the heterogeneity analysis confirms that FinTech development exhibits pronounced inclusive features in Kerala's retail sector. The positive and statistically significant effects are concentrated among survival-oriented entrepreneurs, those with lower education and lower income levels, and those operating in relatively less developed regions of the state. By relaxing credit and information constraints and reducing perceived risk, FinTech effectively compensates for structural disadvantages and expands the opportunity set for marginalised groups to participate in retail entrepreneurship. These findings support the view that FinTech can function as an important policy lever for promoting inclusive entrepreneurial growth and reducing spatial and socio-economic disparities in Kerala's emerging digital economy.

CONCLUSION AND ENLIGHTENMENT

Research Findings

Entrepreneurial activities in the retail sector play a critical role in fostering local innovation, generating employment, and diversifying income sources for households in Kerala. Against the backdrop of a rapidly expanding digital economy, FinTech—emerging from the integration of traditional finance with digital technologies such as UPI, mobile banking, QR-based payments, and digital lending platforms—has begun to reshape how small and micro-retail enterprises are created, financed, and managed. Drawing on primary survey data from retail businesses in Kerala and a composite index of FinTech development constructed at the regional level, this study empirically examines the impact of FinTech development on the entrepreneurial behaviour of retail business owners and the underlying mechanisms through which this impact operates.

First, the empirical results show that FinTech development significantly promotes retail entrepreneurship in Kerala. Regions and business environments characterised by higher levels of digital payment adoption, digital banking usage, and access to FinTech platforms exhibit a higher probability of individuals engaging in retail business activities. This positive relationship remains robust to a series of checks, including the use of alternative measures of FinTech development and changes in model specification, supporting the reliability of the core findings.

Second, the mechanism analysis indicates that the effect of FinTech on retail entrepreneurial behaviour operates primarily through three channels: alleviation of credit constraints, reduction of information constraints, and mitigation of risk-averse behaviour. By enabling QR-based UPI payments and digital transaction records, FinTech improves the visibility of cash flows and reduces reliance on informal credit, thereby easing access to working capital and small-ticket loans for retailers who previously lacked collateral or formal credit histories. At the same time, digital platforms, banking apps, and online marketplaces enhance the flow of market information, allowing potential and existing entrepreneurs to identify new retail opportunities and adapt to changing demand patterns more effectively. Furthermore, the availability of flexible and low-cost financial products—such as UPI-linked

credit lines and app-based micro-loans—helps to reduce perceived business and financial risks, thereby increasing the willingness of risk-averse individuals to initiate and continue retail ventures.

Third, the heterogeneity analysis reveals that the entrepreneurial effect of FinTech is not uniform across all groups. The findings suggest that FinTech development has a more pronounced impact on survival-oriented retail entrepreneurship than on opportunity driven entrepreneurship, and that its effect is stronger among entrepreneurs with lower education levels, lower income levels, and those located in relatively less developed or semi-urban and rural regions of Kerala. The positive and statistically significant marginal effects observed for these groups indicate that FinTech can effectively compensate for structural disadvantages in access to finance and information, thereby highlighting the inclusive nature of technology-enabled financial services. In this sense, FinTech in Kerala's retail sector is not merely a tool for efficiency enhancement in well-established urban markets; it also functions as an instrument for inclusive entrepreneurial growth among more vulnerable and peripheral segments.

Research Enlightenment

The empirical findings of this study yield several policy insights for promoting FinTech development and supporting entrepreneurial activity in Kerala's retail sector. First, policymakers should actively leverage the momentum of the digital economy to ensure the steady and inclusive development of FinTech in the state. This includes encouraging innovation in digital payment systems, digital banking, and data-driven credit assessment, as well as fostering collaboration between banks, FinTech firms, and cooperative institutions. Public initiatives should support R&D and innovation in technologies such as artificial intelligence, cloud computing, and secure data analytics for credit scoring, while also nurturing professionals who possess both financial expertise and digital skills. At the same time, attention must be paid to reducing regional disparities in digital infrastructure by strengthening internet connectivity, digital payment acceptance, and FinTech outreach in less developed districts and smaller towns.

Second, it is crucial to enhance retail entrepreneurs' ability to access financial resources and to identify viable business opportunities in a digital environment. This calls for accelerating the development of more comprehensive and accessible credit information systems for small and micro-retailers, enabling banks and FinTech providers to use digital transaction data to assess creditworthiness and expand lending to new and smaller enterprises. Financial institutions should improve their information technology systems to support targeted dissemination of business and market information, for example by using digital platforms to provide customised alerts on new schemes, credit products, and local demand trends.

Third, enhancing financial literacy and digital capacity among retail entrepreneurs—especially those with lower education and income levels and those in semi-urban and rural regions—should be prioritised. Building on initiatives such as Akshaya centres and state-level digital literacy programmes, tailored training modules on safe use of digital payments, basic accounting through mobile apps, and understanding of digital credit products can equip potential and existing retailers to use FinTech tools more effectively. Special efforts should be made to address concerns related to cybersecurity and fraud, which remain important barriers to the adoption of digital payments among small traders and self-employed individuals in Kerala.

Overall, by integrating technological innovation with targeted support for disadvantaged groups, Kerala can harness FinTech not only to modernise the retail ecosystem but also to broaden entrepreneurial participation and reinforce its long-standing commitment to inclusive and regionally balanced economic growth

Overall, compared with the individual family characteristics and external environmental factors that most of the previous literature focuses on, this paper focuses on the key factor of financial development, and comprehensively analyses the impact of fintech development on the entrepreneurial behaviour of retailers from both theoretical and empirical perspectives, which broadens the scope of the research on the issue of factors influencing the entrepreneurship of retailers. While the previous literature on the relationship between the two has mainly been presented from the perspective of fintech-related internet usage, internet finance, mobile payment tools, online crowdfunding etc., and the research has been one-sided, this paper can remedy this shortcoming precisely. In addition, the paper discusses the mechanisms at play in terms of alleviating credit constraints, alleviating information constraints, and mitigating risk aversion, as well as the heterogeneity of the effects in terms of entrepreneurial type, education level, income level, and regional differences, which greatly enriches the existing research. This paper finds that the development of fintech does promote retailers to engage in entrepreneurship. In fact, however, there is a possibility that after small loans are granted to retailers by fintech platforms, their businesses go bankrupt and shut down due to mismanagement, leaving the retailers unable to repay the loans and

return to poverty. This point can be explored in detail in future research to take a more scientific view of the entrepreneurial impact of fintech development.

REFERENCES

1. *Ray, S., & Ramachandran, K. (1996). Towards a framework for a comprehensive theory of entrepreneurship.* Journal of Entrepreneurship, 5*(1), 1–22. New Delhi: Sage Publications.*
2. *Singh, A. P. (1989). Small scale entrepreneur: Problems and prospects. In S. Uddin (Ed.),* Entrepreneurship development in India *(pp. 73–80). New Delhi: Mittal Publications.*
3. *Baty, G. B. (2000).* Entrepreneurship for the nineties. *Englewood Cliffs, NJ: Prentice Hall.*
4. *Kolli, R. (2011).* Measuring the informal economy: Case study of India. *[Report].*
5. *Adhikari, D. B. (2011). Income generation in informal sector: A case study of the street vendors of Kathmandu Metropolitan City.* Economic Journal of Development Issues, 13–14*(1–2), 1–14.*
6. *Sekar, H. R. (n.d.).* Insecurities and vulnerabilities of informal sector vendors with special focus on street vending children of NOIDA. *[Unpublished report].*
7. *Widiyastuti, D. (2013).* Transformation of public space: Social and spatial changes *(Doctoral dissertation). [University name not specified].*
8. *Bhowmik, S. K. (2000).* Hawkers in the urban informal sector: A study of street vendors in six cities. *New Delhi: National Alliance of Street Vendors of India.*
9. *Crowley, S. L., & Fan, X. (1997). Structural equation modelling: Basic concepts and applications in personality assessment research. Journal of Personality Assessment, 68(3), 508–531.*
10. *Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340. https://doi.org/10.2307/249008*
11. *Fan, X., Thompson, B., & Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. Structural Equation Modeling, 6(1), 56–83.*
12. *Ha, J. F., & Longnecker, N. (2010). Doctor–patient communication: A review. The Ochsner Journal, 10(1), 38–43.*
13. *Hu, L. T., & Bentler, P. M. (1999). Cut-off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6(1), 1–55.*