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Enhancing Livelihoods through Digital Finance: A Study on the Impact of FinTech Adoption on the Financial Performance of Hawkers

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ABSTRACT: This study examines the determinants driving FinTech adoption among hawkers in Tamil Nadu and evaluates the resulting impact on their financial performance. Using a framework based on the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT), along with service quality attributes, this study investigates the factors influencing digital payment adoption. A sample of 1,200 hawkers was surveyed across eight districts in Tamil Nadu through stratified random sampling. The relationships between constructs were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results demonstrate that ease of use (β = 0.23), security (β = 0.37), and social influence (β = 0.077) have a significant positive impact on digital payment adoption among hawkers. Conversely, responsiveness and perceived usefulness did not show a significant effect. Adoption of digital payments led to an average increase of 15% in daily sales, with variations in financial outcomes based on age and education levels. The study also confirms the model's predictive relevance in assessing the financial impacts of FinTech adoption for informal entrepreneurs. These findings offer actionable insights for FinTech companies and policymakers focused on the informal economy. To enhance FinTech adoption, emphasis should be placed on user-friendly, secure platforms and community-driven campaigns that leverage social influence, which are essential to fostering financial inclusion and economic development. This study contributes to the limited literature on FinTech adoption in the informal economy by providing empirical evidence on the factors influencing digital payment adoption among hawkers and the impact on their financial performance. Through advanced statistical analysis, the study delivers robust findings to inform policy and practice.

Keywords: FinTech adoption, financial inclusion, informal economy, technology acceptance models, digital payments, financial performance, hawkers.

I. INTRODUCTION

Hawkers, including peddlers and street vendors, play an important role in distributing indigenous and ethnic goods like vegetables, fruits, fish, meat, household products, etc., because of their ability to deliver goods at the convenience of consumers. In many developing economies, FinTech solutions have emerged as transformative tools capable of significantly enhancing the economic resilience of informal sectors, such as hawking, by addressing financial inclusion gaps and improving access to affordable, digital payment options. Hawking has become an important part of the informal economy because of its mobility and low-cost distribution, particularly in countries like India, China, Thailand, and Singapore [1]. These informal entrepreneurs mostly sell their products in high-traffic areas such as toll plazas, highways, places of worship, tourist destinations, and public spaces, where they can sell to large crowds.

Hawkers and street vendors serve as a crucial link between local producers and the low and middle-income groups [2]. The economic activities of hawkers are marked by informal market entry, dependence on indigenous resources, limited resources, labor-intensive processes, lack of capital, and a highly competitive yet unregulated

market environment. In India, and specifically in Tamil Nadu, hawkers play a significant role in the economy. Tamil Nadu is characterized by its large informal sector, with a considerable number of street vendors contributing to regional economic activity. Moreover, government initiatives focusing on financial inclusion in the state make it an ideal context for examining the impact of FinTech adoption. Hawkers in Tamil Nadu reflect regional and cultural diversity, and their presence across the state underlines their importance in providing affordable, fresh products to consumers[3]. They are often popular among consumers due to their offering of fresh and affordable products, which frequently carry an ethnic flavor [4].

The financial success of hawkers largely depends on their ability to negotiate prices and strategically choose selling locations, which often reflect local customs and culture [5]. India, characterized by rich ethnic, social, and cultural diversity, provides fertile ground for hawkers offering various indigenous goods [6]. However, despite their vital role, hawkers often lack access to the education, technology, and resources needed to reach wider markets[7].

Globally, the adoption of FinTech has shown significant potential in transforming the informal economy. In countries like Kenya, M-Pesa has empowered informal traders by providing easy access to digital financial services, while in Bangladesh, mobile financial services have similarly helped improve financial inclusion for marginalized groups. These examples highlight the broader trend of leveraging digital finance to enhance the livelihoods of informal workers.

The rapid growth of Financial Technology (FinTech) has introduced significant opportunities for enhancing revenue generation and sustainability among informal entrepreneurs like hawkers. FinTech innovations are not only potential catalysts for improving efficiency but also hold the promise of creating safer and more inclusive financial environments for underserved populations. Informal entrepreneurs can benefit from the adoption of digital payment methods through reduced cash risks, streamlined transactions, and an increased customer base by providing more convenient payment solutions. Further, FinTech offers tools to better manage financial transactions, sales, and business growth [8].

Despite the potential benefits, there is a clear gap in the existing literature on FinTech adoption among informal entrepreneurs like hawkers, particularly regarding its impact on their livelihoods and financial performance. Most studies focus on the general population's adoption behavior, without addressing specific marginalized groups facing unique challenges, such as limited digital literacy and financial access. Therefore, the present study aims to bridge this gap by examining the determinants of FinTech adoption among hawkers in Tamil Nadu and evaluating the subsequent impact on their financial performance. The study specifically aims to identify key factors—such as ease of use, security, and social influence—that influence digital payment adoption and assess how these factors contribute to financial outcomes. By focusing on a marginalized group, the research contributes to the literature by giving empirical evidence on the adoption of FinTech and the level of financial inclusion within the informal economy.

The structure of this paper is as follows. Section 2 reviews the relevant literature on FinTech adoption and its impact on informal economies. Section 3 outlines the methodology employed for empirical analysis, including sampling and data collection methods. Section 4 presents the analysis and results of the study, while Section 5 discusses the findings in the context of existing research. Finally, Section 6 concludes the study with implications and recommendations for future research.

II. REVIEW OF LITERATURE

1. *ROLE AND CHALLENGES OF INFORMAL ENTREPRENEURS*

Current literature on hawkers, street vendors, and other informal entrepreneurs has extensively examined the socio-economic aspects of their operations, their marginalized status, and the various challenges they face in urban settings. Research highlights these groups as critical economic actors, yet they often remain sidelined within formal economic frameworks. [9] demonstrated how street trading serves as a survival strategy for unemployed and low-income city inhabitants, leading to their marginalization within urban economic systems. He argued that hawking, given the developmental challenges faced by developing countries, should be regulated rather than banned. Further, the expansion of modern retail formats, such as malls, has adversely impacted the livelihoods of hawkers and street vendors in metropolitan cities like Mumbai [5].

2. *CONSUMER PERSPECTIVES AND SOCIO-CULTURAL DIMENSIONS OF INFORMAL MARKETS*

Consumer perspectives in informal markets have been studied in some papers. For example, according to [10], consumer support for street vendors and street markets is due to fresh national products that reflect cultural values and personal beliefs indicating that convenience and low prices are essential reasons for consumers to Buy in the informal market It was stated that low- and middle-income groups will be more regular customers. The uniqueness of informal markets in consumer dynamics is an issue that official economic assessments have largely neglected. Hawking's study also adopted a sociocultural perspective. Study [11] describe their experiences by trying to understand how they achieved resilience and dignity. Study [12] argue that using falcons in tourist attractions has become increasingly necessary to understand social stigma due to pressures from urban development. Study [13] found that the Hawkers Center in Singapore is a community institution. Which better reflects social change? These studies testify that Hawking had social and cultural values more than economic interests. All of this is rooted in a more integrated view of society.

3. *ECONOMIC AND FINANCIAL INCLUSION OF INFORMAL ENTREPRENEURS:*

Researchers in [14, 15] are contrasting studies on street hawkers and vendors' economic and financial inclusion in India. Integrating the two sets is paramount to achieving genuine economic development. Socio-economic barriers to street vendors have been explored in research by [16, 17]. The following is a lifestyle highly connected to social media: technology readiness, resource constraints, hour constraints, and competition from unofficial sources of legitimate merchants. All these emphasize the moment for practical strategies for financial inclusion that address the unique challenges informal entrepreneurs face.

4. *FINTECH ADOPTION AND DIGITAL FINANCIAL INCLUSION IN THE INFORMAL ECONOMY:*

Despite these insights into the social, cultural, and economic aspects of hawking, a significant gap exists in the literature on FinTech adoption among informal entrepreneurs, particularly regarding digital payment solutions. However, recent post-pandemic studies partially confirm the life-changing potential of such digital financial solutions. Works [18, 19] demonstrate the potential of using digital finance to improve transaction efficiency and expand access. The broader customer base for informal entrepreneurs, while [20] emphasize the importance of security and trust in creating value for digital finance among underserved segments of the population.

This study addresses the gap in the existing literature by empirically examining the impact of FinTech adoption on the financial performance of hawkers, peddlers, and street vendors in Tamil Nadu. By providing empirical evidence on the factors affecting digital payment adoption and its financial impacts on informal entrepreneurs, this research contributes to a broader understanding of FinTech's role in financial inclusion and economic empowerment within the informal economy.

III. MATERIAL AND METHOD

The aim of this study is to analyze the impetuses (independent variables) and challenges (intervening variables) that affect the adoption of digital payment solutions among hawkers in Tamil Nadu, as well as to assess their influence on financial performance (dependent variable). Based on this notion, a theoretical framework that includes constructs from “Unified Theory of Acceptance and Use of Technology” (UTAUT) and some attributes of “service quality” on top of “Technology Acceptance Model” (TAM) (see Figure 2). The main constructs—security, responsiveness, usefulness, ease of use, and social influence—are the exogenous constructs hypothesized to impact the financial performance of hawkers [21, 22].

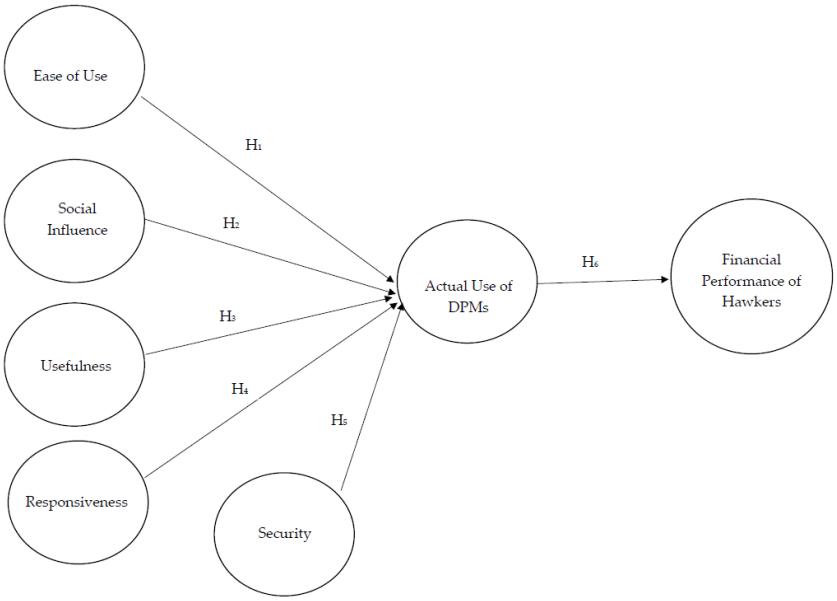

FIGURE 1. Theoretical model: fintech adoption & financial performance.

The study uses primary data gathered from a well-structured and pre-tested questionnaire. Software G* Power computed the needed sample size (Figure 2). In this case, the required sample size is about 1200. Hence, we surveyed 1,200 hawkers across eight districts in Tamil Nadu chosen for their socio-economic variety and urban-rural demography.

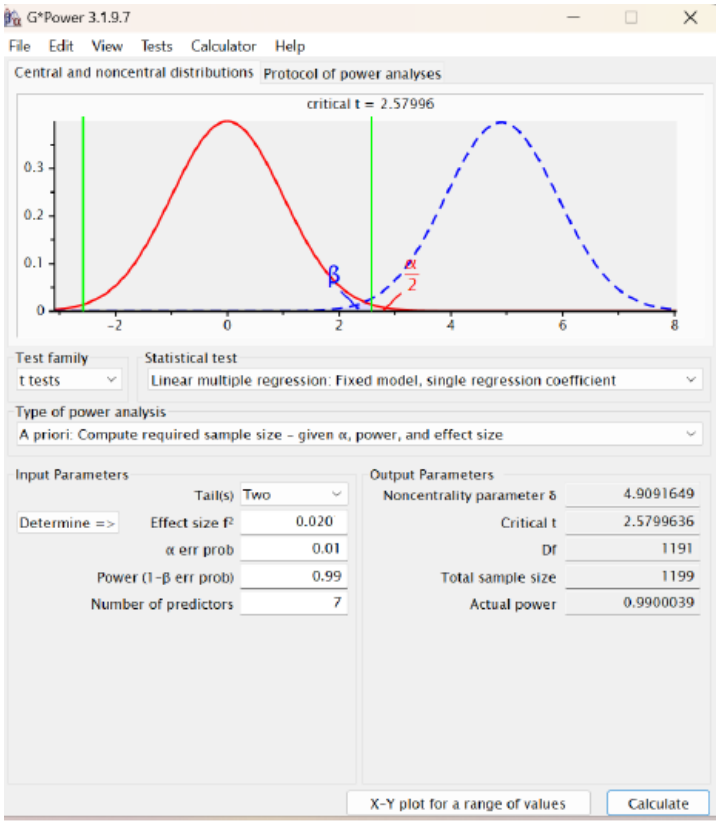

FIGURE 2. Sample size calculation.

Data will be systematically gathered in Figure 3, which suffice for a solid, well-representative sample. Step one involves the choice of districts following pre-set criteria, which may include regional diversity, density of hawkers, or levels of economic activity variation sampling. The total districts selected are provided in Figure 4: Villupuram, Tiruchirappalli, Pudukkottai, Madurai, Tirunelveli, Thoothukudi, Erode, and Coimbatore-a diverse representation of the state's hawker population. For every district, the population of hawkers was divided into subgroups by stratification based on crucial demographic and business characteristics such as age, form of business, and degree of digital literacy.

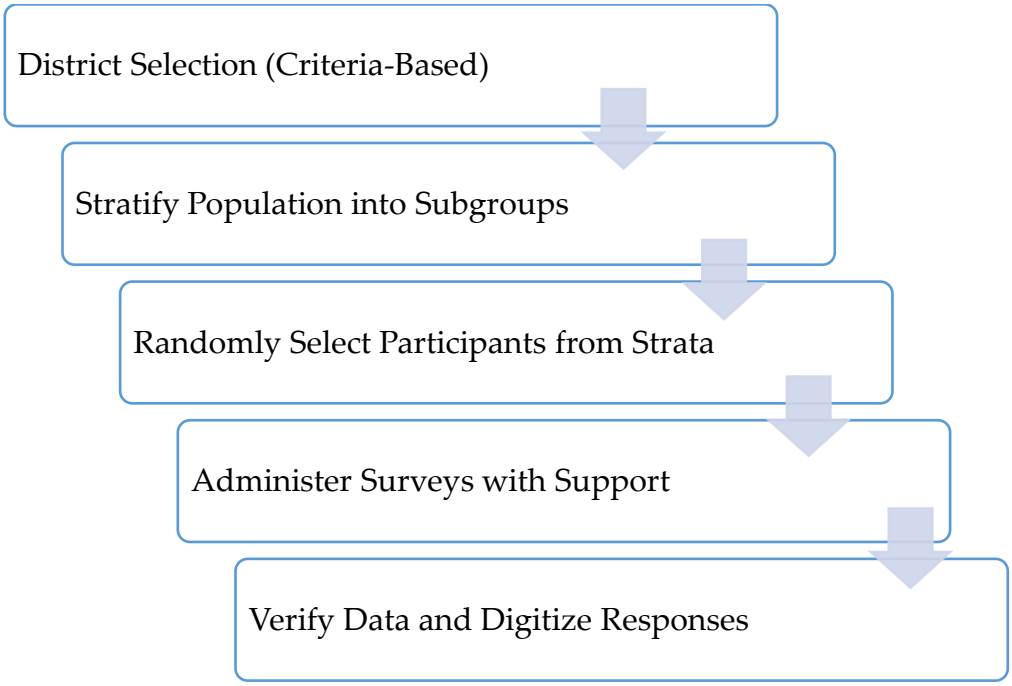

FIGURE 3. Data collection process flowchart.

A random sample of 150 hawkers per district was drawn from these strata to ensure balanced representation. Surveys were administered in person to respondents and trained field staff to help address gaps in literacy or comprehension if needed. This ensures that respondents can handle survey items correctly. Helps increase the reliability of the information received. Completed surveys are checked for consistency and completeness before scoring. Therefore, the cleaned data was used for some form of analysis and thus accurate and amenable to the study.

The constructs were thus considered to meet the specific challenges associated with digital payment adoption among hawkers. Ease of use is important because the lion's share of hawkers have low levels of digital literacy and require user-friendly systems that are easy to use [23]. Similarly, perceived usefulness reflects pragmatic advantages hawkers perceive, such as increased sales and faster transactions, which are in fact prime motivations toward technology adoption among informal sectors [23]. Social influence was also conspicuous in this study, where the decisions of hawkers are influenced more by the recommendations from their peers and the customers' expectations than by anything else. This makes it relevant here [24]. Responsiveness reflects the significance of on-time issue resolution. Since hawkers cannot afford any delay in their payment processes, this aspect is well proven to be a tool for building trust in service quality [25]. Finally, security will be required to instill confidence in hawkers to adopt digital payment systems since the apprehension of fraud or hacking may deter its acceptance [26]. These constructs have been used because of their relevant and existing literature on adopting such technology under investigation.

FIGURE 4. Sampling strategy and geographic coverage.

Note: The map is downloaded from https://www.tn.gov.in/DistrictMap

The districts selected for survey were indicated using the symbol

A 5-point Likert scale was used for all questionnaire items, where respondents indicated their level of agreement (1 = Strongly Disagree, 5 = Strongly Agree). To increase the validity of the survey, the questionnaire was pre-tested by using a pilot sample of 50 selected hawkers, thus representing the larger population in relation to demographics and business type, and digital payment usage. This pre-test process identified areas requiring simplification in question phrasing to match the literacy levels of the respondents and needed adjustment with reference to cultural and contextual appropriateness. For example, some terms-such as "financial independence"-required illustration through examples, and based on their complexity, more instructions were added for items. The pilot feedback was taken back into the design of the main survey to ensure that all the uniqueness in the identities and experiences of hawkers towards digital payment systems was captured appropriately.

Table 1. Measurement scale.

Construct	Item	Measurement	Adapted From	Adaption Rationale
Ease of Use	E01	Easy to learn	[21]	Hawkers often lack formal training, so ease of learning ensures accessibility for first-time users.
	E02	Easy to receive payments		Simplifies transaction processes, which is critical given hawkers' time-sensitive business operations.
	E03	Creates a positive experience		Encourages continued use by reducing frustration and enhancing satisfaction during usage.
	E04	Clear and comprehensible interaction with the platform		Ensures usability for individuals with varying literacy levels.
Security	S01	Digital payment platform is highly secure	[27, 28]	Addresses hawkers' concerns about fraud and data safety, critical for trust-building.
	S02	Platform service is dependable		Reliability of service is essential for uninterrupted business transactions.
	S03	Feeling safe to give personal information		Directly tackles hawkers' hesitancy to share sensitive data online.
	S04	Safe to complete financial transactions		Reassures hawkers about the safety of their earnings in digital formats.
	S05	Digital payment platform has a high reputation		High reputation fosters trust, especially in low-tech and high-trust business environments.
Social Influence	SI01	People I know insist I use the digital payment platform	[22]	Peers and customers often influence adoption decisions, making this item highly relevant.
	SI02	Colleagues and peers insist on using		Reflects informal networks that hawkers frequently rely on for technology recommendations.
	SI03	Spouse insists on adopting digital payment		Incorporates family influence, as household dynamics often impact hawkers' financial decisions.
Usefulness	U01	Digital payment platform is useful for day-to-day transactions	[22, 29]	Highlights practical value, which is critical for adoption in a results-oriented business environment.
	U02	Enhances financial independence		Promotes hawkers' autonomy by reducing reliance on cash transactions.
	U03	Helps in quick receipt and payment of money		Saves time during peak business hours, a key consideration for hawkers.
	U04	Increases productivity		Streamlines processes, allowing hawkers to focus more on selling and customer engagement.
Responsiveness	R01	Digital payment platform gives timely information on transactions	[25, 26]	Provides hawkers with real-time updates, essential for managing cash flow and inventory.
	R02	Digital payment platform service is prompt		Ensures quick resolution of issues, vital for continuous operations.
	R03	Helps at the time of problems or issues		Builds confidence in handling technical problems, encouraging adoption.

Actual Use	AU01	I use digital payment methods for business transactions	[21, 30]	Reflects actual behavioral adoption in the hawkers' business context.
	AU02	I use digital payment methods for receiving payments from customers		Captures the most frequent use-case scenario in hawkers' daily operations.
	AU03	I conduct a significant portion of business transactions using digital payment methods		Indicates the extent of integration of digital payments in their business model.
Financial Performance	FP01	Average weekday sales	[31, 32]	Measures financial impact, critical for assessing digital payment adoption benefits.
	FP02	Average weekend sales		Accounts for variations in sales patterns on weekends, which are typically busier for hawkers.
	FP03	Average weekday profit		Tracks profitability trends on regular business days.
	FP04	Average weekend profit		Highlights profitability during peak days, crucial for hawkers' financial assessment.

SPSS software was used to perform descriptive analysis and PLS-SEM analysis has been performed using SmartPLS software. PLS-SEM enjoys the consideration of both reflective and formative constructs in the theoretical framework. PLS-SEM is particularly well-suited for the type of exploratory study undertaken here, which often involves smaller sample sizes and no normal data distributions. For example, simultaneous analysis of many dependent and independent variables will allow for assessing the direct and indirect impact of predictors toward FinTech adoption and financial performance. PLS-SEM provides flexibility in modeling complex relationships and offers much-needed predictive insights since it aims to analyze multiple inter-relating constructs. With the capability of working under non-normally distributed data, results are robust even in heterogeneous populations such as hawkers from various socio-economic and educational backgrounds. Meanwhile, PLS-SEM helps an exploratory study by developing theoretical models and extracting close relationships between key variables; thus, it supports this kind of research study.

To test the significance of the paths in the model, a total of 10,000 bootstrap resamples was used. This non-parametric resampling technique provides robust estimates of standard errors and confidence intervals; therefore, the path coefficients were reliable. The utilization of bootstrap resampling thus enabled the correct testing of the significance and the predictive relevance of the structural model. In addition, the measurement model of the research (reflective type) of the study was checked, as suggested by [33], against the parameters mentioned above: internal consistency, reliability, and discriminant validity by making sure that the constructs are reliable and distinct. The structural model applied significant evaluation criteria such as Variance Inflation Factor (VIF) to check whether there were no multicollinearity problems and predictive relevance or Q^2 in determining the explanatory value of the model.

Other methodologies considered were regression analysis and more exploratory qualitative studies using interviews. Although regression analysis would contribute to assessing the impact of independent variables on FinTech adoption and its subsidiaries on financial performance, PLS-SEM was adopted mainly because it allows for modelling the direct and indirect effects of various constructs in a theoretical model. Qualitative approaches, such as focus groups, may indeed further explore the distinct experiences of hawkers regarding digital payment adoption, but they were found less effective for testing the hypothesized relationships in this study.

IV. RESULTS

1. *DEMOGRAPHICS*

Table 2 presents the demographic profile of the hawkers surveyed. Nearly 60% of the hawkers are above 45 years of age, indicating that hawking is less appealing to the younger generation, with only 16% of hawkers falling between the ages of 15 and 30. This age distribution suggests that hawking is a stable, albeit traditional, occupation for older individuals. With respect to gender, nearly 75% of the hawkers are male, which may reflect the security concerns and physical demands associated with the job. The high male representation in this sector highlights gender-related safety issues and labor-intensive work characteristics. Education-wise, 90% of hawkers have either no formal education or only primary education, suggesting that hawking remains a key economic opportunity for the less educated and unskilled population in Tamil Nadu.

Table 2. Demographic profile of hawkers

Particulars		Frequency	Percentage
District	Trichy	150	12.5%
	Villupuram	150	12.5%
	Tirunelveli	150	12.5%
	Tuticorin	150	12.5%
	Madurai	150	12.5%
	Pudukkottai	150	12.5%
	Coimbatore	150	12.5%
	Erode	150	12.5%
Age	Less than 15 years	45	3.8%
	15 to 30 years	195	16.3%
	30 to 45 years	273	22.8%
	45 to 60 years	567	47.3%
	Above 60 years	120	10%
Gender	Male	893	74.4%
	Female	307	25.6%
Education	Uneducated	225	21.3%
	Primary School	826	68.8%
	High School	119	9.9%
n = 1200			

Source: Primary Data

2. *MEASUREMENT MODEL ASSESSMENT*

The measurement model was assessed following [33] guidelines. Table 3 shows that all indicator loadings exceed the critical threshold of 0.708, ensuring item reliability for each construct. This strong loading validates the selected measurement items for ease of use, security, social influence, responsiveness, and usefulness. Table 4 reports both ϱA and composite reliability values above the threshold of 0.70 and below the upper limit of 0.95, affirming the internal consistency reliability of the constructs. Additionally, the Average Variance Extracted (AVE) values surpass the critical value of 0.50, establishing convergent validity. Table 5 further confirms discriminant validity by showing that the HTMT values for all constructs are below the threshold value of 0.85.

Table 3. Indicator loadings.

Ease of Use		Social Influence		Usefulness		Responsiveness		Security		Use of DPMs		Financial Performance	
E01	0.785	SI01	0.833	U01	0.826	R01	0.936	S01	0.840	AU01	0.939	FP01	0.858
E02	0.907	SI02	0.908	U02	0.837	R02	0.929	S02	0.795	AU02	0.945	FP02	0.789
E03	0.833	SI03	0.898	U03	0.850	R03	0.866	S03	0.873	AU03	0.898	FP03	0.892
E04	0.832			U04	0.846			S04	0.870			FP04	0.876
								S05	0.825				

Table 4. Reliability and validity.

Constructs	ϱA	Composite Reliability	AVE
Ease of Use	**0.868**	**0.906**	**0.706**
Responsiveness	**0.913**	**0.936**	**0.830**
Security	**0.898**	**0.924**	**0.708**
Social Influence	**0.855**	**0.912**	**0.775**
Use of DPMs	**0.919**	**0.949**	**0.861**
Usefulness	**0.870**	**0.905**	**0.705**
Financial Performance	**0.879**	**0.916**	**0.731**

Table 5. HTMT ratio.

	Ease of Use	Financial Performance	Responsiveness	Security	Social Influence	Use of DPMs
Financial Performance	**0.552**					
Responsiveness	**0.500**	**0.213**				
Security	**0.490**	**0.289**	**0.562**			
Social Influence	**0.467**	**0.197**	**0.522**	**0.523**		
Use of DPMs	**0.494**	**0.302**	**0.397**	**0.589**	**0.411**	
Usefulness	**0.390**	**0.207**	**0.532**	**0.475**	**0.460**	**0.360**

3. *STRUCTURAL MODEL ASSESSMENT*

Structural model results to be analyzed in three steps: "evaluating collinearity issues, determining the significance and relevance of path coefficients, and examining the explanatory and predictive power of the model" [33].

Table 6. Structural model results.

Outcome	R Sq.	Predictor	Direct Paths & Hypotheses	β	CI	Sig.?	f2	VIF
Use of DPMs	0.352	EU	Ease of Use -> Use of DPMs	0.23	[0.157; 0.303]	Yes	0.058	1.4
		RES	Responsiveness -> Use of DPMs	0.011	[-0.067; 0.092]	No	0	1.658
		SEC	Security -> Use of DPMs	0.373	[0.303; 0.442]	Yes	0.136	1.583
		SI	Social Influence -> Use of DPMs	0.077	[0.011; 0.143]	Yes	0.006	1.474
		USE	Usefulness -> Use of DPMs	0.055	[-0.011; 0.122]	No	0.003	1.405
Financial Performance	0.094	AU	Use of DPMs -> Financial Performance	0.306	[0.249; 0.365]	Yes	0.103	1

Note: CI = 95% bootstrap two-tailed confidence interval, EU = Ease of Use, RES = Responsiveness, SEC = Security, SI = Social Influence, USE = Usefulness, AU = Use of DPMs

To evaluate collinearity within the structural model, we utilized VIF values. Table 6 shows that the highest inner VIF value in the model is 1.658, which is well below the critical threshold of 3, as per the guidelines of [33]. This indicates that "collinearity is not a concern within the inner model, and the regression results are not compromised by multicollinearity issues" [33].

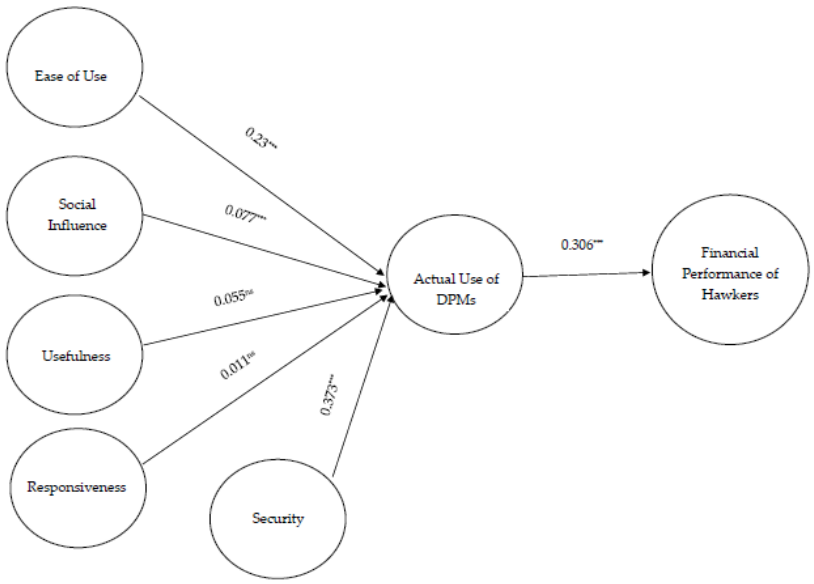

FIGURE 5.Structural model results.

Note: *** = p<0.01; ns = Not Significant.

Figure 5 and Table 6 reveal that ease of use (β = 0.23), security (β = 0.373), and social influence (β = 0.077) significantly and positively impact FinTech adoption among hawkers, supporting Hypotheses 1, 2, and 3. These findings align with previous empirical studies [34], which highlight the importance of ease of use and security in promoting technology adoption in informal sectors. On the other hand, responsiveness and perceived usefulness do not significantly impact FinTech adoption, leading to the rejection of Hypotheses 4 and 5. This result contrasts with studies that emphasize responsiveness in technology adoption, suggesting that for hawkers, usability and security concerns outweigh other considerations.

Furthermore, FinTech adoption has a positive and significant impact on hawkers' financial performance (β = 0.306), supporting Hypothesis 6. This is consistent with [23], who found that digital payment solutions enhance financial outcomes by increasing transaction efficiency and reducing risks associated with cash handling.

The structural model's explanatory power is further demonstrated by the R^2 values provided in Table 6. The combined effect of "ease of use, security, and social influence" accounts for a substantial portion of the variance in fintech adoption among hawkers ($R^2 = 0.352$). Additionally, the adoption of digital payment methods has significant impact on the economic performance of hawkers, as reflected in an R^2 value of 0.094. These findings underscore the importance of these predictor constructs in explaining both the adoption of digital payment technologies and their subsequent impact on the economic outcomes for hawkers.

The study's results reveal statistically significant relationships between key predictors and FinTech adoption, particularly the unexpected lack of influence from responsiveness and perceived usefulness. This finding suggests that, for hawkers, simplicity and security take precedence over other factors. It aligns with the views of [35], who emphasis on ease of use as a crucial driver in low-tech populations, where users are more likely to adopt technology when it minimizes complexity. These insights support the theoretical framework's applicability to the informal economy, while also indicating that traditional factors such as responsiveness may be less relevant for informal entrepreneurs focused on immediate, secure benefits.

The results validate the importance of ease of use, security, and social influence as primary drivers of FinTech adoption. This provides practical insights for FinTech developers and policymakers aiming to increase adoption among hawkers by focusing on these high-impact areas.

4. *PREDICTIVE RELEVANCE OF THE MODEL*

[36] states that "R^2 statistics primarily explain the in-sample explanatory power of the model". Hence, we extended our analysis to evaluate the "out-of-sample predictive relevance of the model", particularly in assessing the impact of the adoption of FinTech on the financial performance of hawkers. To this end, blindfolding and PLSpredict analyses were conducted, with the results presented in Table 7.

Table 7. Predictive relevance of the model.

Variable	Q^2predict	PLS-SEM_MAE	LM_MAE	Difference
FP01	0.081	0.226	0.272	-0.046
FP02	0.082	0.259	0.273	-0.014
FP03	0.083	0.226	0.267	-0.041
FP04	0.068	0.308	0.322	-0.014
AU01	0.279	0.846	0.833	0.013
AU02	0.310	0.867	0.847	0.020
AU03	0.298	0.801	0.739	0.062

The findings indicate that the Q^2predict values are greater than zero, and for most indicators, the MAEPLS values are lower than the MAELM values at the indicator level. These results suggest that the model possesses high

predictive power, thereby sufficiently establishing its relevance in predicting the financial outcomes associated with FinTech adoption among hawkers [36].

V. DISCUSSION

The study proves that the constructs “ease of use, security and social influence” have significant and positive influence on the adoption of digital payment solution by hawkers, which in turn influence their financial outcomes positively. The above results are in alignment with the study of [23] on technology adoption, who found that “perceived ease of use and security” are critical determinants of FinTech adoption.

Ease of use will therefore strongly and positively contribute to the adoption of digital payment solutions by hawkers, underlining a very important role of simple interfaces in FinTech platforms meant for informal entrepreneurs. Similar perspective was also reflected in the study conducted by [37], which focuses on underlining the importance of accessibility and simplicity in adopting technology among unskilled and less educated populations. In addition, it set out to highlight the role of security in embracing FinTech-an indication that there ought to be adequate security features designed for FinTech platforms to win over hawkers who will probably be afraid of adopting technology due to the fear of fraud or losing data [38].

Social environment and peer pressure are quite significant features in the Hawkers community, which can be reflected in the outcome that social influence came out as one of the prime predictors of FinTech adoption. [20] also present similar views in their work on technology adoption: " Where formal education and financial literacy is constrained, social influence is likely to play an important role." This means that word of mouth and community intervention would be adequate approaches in promoting FinTech adoption among informal entrepreneurs such as Hawkers.

More interestingly, the analysis showed that "perceived usefulness and responsiveness" were not instrumental drivers of adoption. The findings contradict the widely held belief since responsiveness is touted to be a major impetus in technology adoption. Perhaps an explanation for these findings could be that the hawking community is more concerned about the safety and immediate function of FinTech solutions than their broader benefits.

The main finding is that the adoption of fintech has an impact on the financial outcomes of hawkers. and confirms the potential of fintech as a tool for improving economic outcomes and financial inclusion among less privileged populations. The same sentiments were echoed in the study by [31], who further posited that Fintech adoption helps entrepreneurs increase efficiency in transactions, reduce cash-related risks, and to have the opportunity to cater to a bigger customer base.

Q2 is greater than zero by Blindfolding and PLSpredict results. More relevantly, the comparison of values of MAE calculated both for linear as well as SEM models assures that the model is actually capable of predicting the impact of FinTech adoption on financial and economic outcomes [36].

VI. CONCLUSION

The research assesses the impetuses and challenges in Fintech adoption in the informal economy and adds theoretical contribution by explaining the mysteries of expansion of digital payments in particular verticals, where populations are underserved. The results evidence that in order for hawkers to embrace FinTech, more emphasis must be given to the issues of trust and security showing just how important them is for advancing technological acceptance in the informal sector.

The results of this study make an important theoretical contribution to understanding the phenomenon of technology adoption and diffusion among people living in the informal economy. Especially those who are excluded from the mainstream financial service providers. Tamhane argues that policy sectors with such policy constructs, all those from Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) concepts used in this research are proved validated in this other context, thus increasing their relevance. Because this study treats trust and security as central tenets in the determinants of three demographics

in FinTech, it posits that such criteria are critical when developing technology acceptance models for informal sectors.

The research also provides good guidelines for bringing about economic growth that is not only sustainable but also inclusive from the point of view of the researchers or the developers of FinTech. It was revealed that security and ease of use are key factors that affect adoption behaviour among hawkers, indicating that there is a need for the designing of hi-tech but yet easy to use platforms that are fully secured. Social influence also emerged as one of the predictors, which means that the ability to promote the use of FinTech will depend on how much the users are encouraged to go through the process of word-of-mouth and being members of the society. There were also community attachment focused strategies such as training sessions and peer- to- peer support programs

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Author Contribution

Prof. Kishore Kunal led the conceptualization and design of the study, aligning it with objectives focused on FinTech adoption within the informal economy and contributing to data interpretation and key implications for policymakers and FinTech developers. Dr. K. R. Ramprakash managed data collection and analysis, overseeing the sampling process and PLS-SEM analysis, and ensuring rigor in the methodology and results sections. Dr. Arun Prasad R enriched the literature review with recent FinTech research, co-authoring the discussion and conclusion to emphasize practical applications and future research directions. Each author's contributions were essential to the study's comprehensive exploration of FinTech adoption among informal entrepreneurs.

Conflict of Interest

Article is not published or presented anywhere.

Data Availability

Data is available with the authors. Can be shared on request.

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