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Fintech Adoption and Regulatory Barriers in Promoting Financial Inclusion among MSMEs: Evidence from India

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Abstract

This study investigates the regulatory and behavioural challenges that Micro, Small, and Medium Enterprises (MSMEs) face in adopting financial technology (Fintech) solutions within the Guindy Thiru Vi Ka Industrial Estate of Chennai, Tamil Nadu. The research emphasizes the role of Fintech in promoting financial inclusion and explores how social media marketing influences MSME outreach and engagement. Using a structured questionnaire based on prior studies and validated through a pilot test (Cronbach's alpha = 0.891), data were collected from 128 MSMEs through snowball sampling. The analysis was conducted using SPSS Version 21, employing both descriptive and non-parametric inferential statistical techniques, including the Kruskal-Wallis H test and the Mann-Whitney U test. Findings reveal that while MSMEs demonstrate a positive attitude, trust, and behavioural intention towards Fintech adoption, significant barriers persist—particularly in areas of awareness, digital literacy, infrastructure, and trust in technology. Regulatory complexity and high implementation costs further impede broader adoption. The study highlights that demographic factors such as age, education, and business assets significantly influence Fintech adoption, whereas gender and business type do not. The research recommends targeted interventions, policy support, and infrastructure development to enhance digital financial integration among MSMEs.

Keywords: *MSMEs, Fintech Adoption, Financial Inclusion, Regulatory challenges, Behavioural intention.*

JEL Codes: G21, L26, O33.

1. Introduction

Micro, small, and medium enterprises (MSMEs) are the backbone of every economy. The financial inclusion of micro, small, and medium enterprises (MSMEs) is essential for any nation pursuing economic progress. Fintech companies offer innovative solutions that help enhance the financial inclusion of MSMEs. FinTech has emerged as a substantial disruptor in the financial services industry, altering the methods by which individuals and corporations manage, access, and spend their resources. FinTech solutions often provide lower fees and costs compared to traditional financial institutions. Fintech companies have challenges in worldwide operations due to the disparate regulatory frameworks across various governments and regions. The fragmentation of legal frameworks presents difficulties for smaller Fintech firms, which may lack the necessary resources to manage varying compliance

Economic Sciences
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obligations. A further obstacle is the substantial expense associated with regulatory compliance. Adhering to these rules may result in significant costs. Substantial costs may impede startups and smaller Fintech companies, constraining their capacity to develop and enhance services for MSMEs. Furthermore, the absence of definitive regulations concerning the implementation of new technology may exacerbate these problems. Financial inclusion, characterized by the accessibility of affordable and advantageous financial products and services, is essential for economic development, particularly for micro, small, and medium enterprises (MSMEs). Nevertheless, they frequently face significant barriers in accessing traditional financial services, mostly due to their limited size, lack of credit history, and overall risk evaluation. Government initiatives as well as digital solutions have progressively enhanced financial acceptance among MSMEs in India. Access to finance continues to be a challenge; nevertheless, initiatives such as Mudra Yojana seek to offer assistance. Heightened knowledge of fintech alternatives is assisting MSMEs in optimizing operations and improving financial literacy. There is an increasing acknowledgment of the necessity of financial inclusion for sustainable development. Government incentives and the proliferation of digital payment options are driving the swift rise of financial technology adoption among MSMEs in Tamil Nadu. An advantageous regulatory environment is fostering a thriving fintech ecosystem within the state. The Covid-19 pandemic has expedited the digital transformation in the financial industry, compelling MSMEs to embrace digital payments and fintech solutions. This study distinctly examines the convergence of MSMEs and fintech, emphasizing the increasing demand for digital lending services amongst entrepreneurs. The main aim of the proposed study is to clarify the behavior of MSMEs about the use of financial technology and to illustrate how various demographic factors of owners/managers influence this adoption within MSMEs in Chennai, Tamil Nadu.

2. Previous Studies

Numerous foreign studies have examined the relationship between financial inclusion and the development of Micro, Small, and Medium Enterprises (MSMEs), emphasizing how access to finance is pivotal for entrepreneurial growth, especially in emerging and developing economies. Chen et al. (2024) found that fintech advancements significantly enhanced financial inclusion among village and township banks in China by facilitating digital financial services. Broekhoff et al. (2024) and Heyert & Weill (2024) emphasized the importance of trust in banks as a key determinant of financial inclusion, particularly for vulnerable and marginalized groups. In Sub-Saharan Africa, Mengistu and Saiz (2018) and Marín and Schwabe (2019) highlighted the role of competition in increasing the adoption of financial services. Fielding and Regasa (2024) extended this evidence to Ethiopia, showing that financial market competition drives financial access. Markose et al. (2022) warned that while financial inclusion schemes like PMJDY may be expansive, their sustainability depends on the economic viability for banks, particularly public sector ones. Mobile money adoption emerged as a critical enabler of financial resilience and entrepreneurship in African contexts, as demonstrated by Koomson et al. (2021, 2023), who found that mobile money usage supports business development and household resilience. Studies by Lagna & Ravishankar (2022) and Lai & Samers (2021) examined fintech's broader role in fostering inclusive finance, proposing that digital innovation can bridge access gaps. Langley & Leyshon (2022) raised concerns about fintech's neo-colonial tendencies in Africa but acknowledged its potential to reshape financial ecosystems. Liu et al. (2020) offered a scient metric perspective on the evolution of fintech, while Lorenz & Pommet (2021) illustrated the positive link between mobile financial tools and innovation in East African MSMEs. Lastly, Lee et al. (2022) explored how mobile banking contributes to narrowing the gender gap in financial inclusion, revealing the transformative potential of

Economic Sciences
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digital platforms for underserved populations. Together, these studies underscore the multidimensional nature of financial inclusion and its critical role in MSME development across global contexts. A high level of financial literacy is crucial to avoid financial distress, which is not solely the result of low income but often stems from poor financial management, including misuse of credit, lack of planning, and inadequate savings (Akmal & Saputra, 2016). Financial literacy acts as a foundational element for individual and business prosperity. In the context of MSMEs, financial literacy encompasses the ability to record financial statements, manage debt efficiently, and undertake sound budget planning. Proper financial documentation is vital for assessing business performance and securing external funding, particularly from commercial banks that are often hesitant to lend due to a lack of reliable financial records. Debt management and capital budgeting are also pivotal for MSMEs to plan future investments and maintain business sustainability (Amri & Iramani, 2018). Furthermore, financial literacy shapes business owners' financial thinking and decision-making, thereby enhancing strategic planning and ultimately impacting business continuity and growth. The ability to manage finances effectively enables MSME owners to expand and increase profitability (Kasendah & Wijayangka, 2019).

Recent studies have focused on the role of financial technology (Fintech) as a critical driver in expanding financial inclusion and enhancing the financial capabilities of MSMEs. In Indonesia and India, Fintech has been shown to improve MSMEs' access to finance, enhance financial literacy, and empower businesses economically. Monica S and Mounica Vallabhaneni (2024) highlight that Fintech faces regulatory barriers which impede its ability to serve MSMEs effectively. A stable and clear regulatory environment is essential for enabling Fintech innovation and for supporting MSMEs in accessing financial services that improve their competitiveness. Arner et al. (2017) echo this view, noting that regulatory uncertainty can stifle Fintech advancements in underserved markets. Awareness of Fintech remains a significant issue. Sachdev and Singh (2024) found that many MSME owners are unaware of Fintech as an alternative financing option, pointing to the need for better financial education and outreach. Despite limited awareness, Gupta et al. (2022) observe that many registered MSMEs in India consider themselves moderate adopters of Fintech, suggesting untapped potential in this space.

Other researchers emphasize the systemic and structural financial challenges faced by MSMEs. Praveen Sharma and Rashmi Sharma (2024) identified a significant funding gap, exacerbated by lenders' risk aversion and MSMEs' inability to provide sufficient collateral. Demirguc-Kunt et al. (2018) propose that Fintech can overcome these barriers by offering more accessible, geographically inclusive financial solutions. Socioeconomic implications are also noteworthy; Veena et al. (2023) and Dwivedi (2020) argue that Fintech can drive poverty alleviation and strengthen the broader financial ecosystem in developing nations like India. Bazarbash and Beaton (2020) underscore the importance of interoperability in financial systems, suggesting that seamless integration of Fintech solutions with existing infrastructures enhances overall financial inclusion. Globally, Yousaf et al. (2021) and Sturgeon (2021) document how digital financial tools are reshaping business models and improving productivity across sectors, with significant implications for MSME innovation and efficiency. The adoption of Fintech thus represents a transformative opportunity for MSMEs. While the potential benefits are substantial—ranging from bridging financial access gaps to fostering innovation—realizing these outcomes depends on addressing challenges such as low financial literacy, limited awareness, and regulatory constraints. Emerging research suggests that developing comprehensive financial literacy programs, implementing enabling regulatory policies, and fostering digital adoption are crucial steps toward unlocking the full value of Fintech for MSMEs.

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

In the Indian context, financial inclusion and literacy have been widely recognized as vital for the growth and sstainability of Micro, Small, and Medium Enterprises (MSMEs). Verma and Shome (2025) emphasized that the adoption of digital finance among Indian micro-enterprises is influenced significantly by perceived usefulness, ease of use, and risk perception, all of which are shaped by financial literacy levels. Singh and Mallick (2024) constructed a multidimensional financial inclusion index and found that individual-level factors such as income, education, and employment status directly impact access to formal financial services. Pushp et al. (2023) demonstrated a strong correlation between internet penetration and the effectiveness of financial inclusion programs in fostering economic development. Ozili and Syed (2024) highlighted several determinants of financial inclusion in India—ranging from technological access and proximity to bank branches to socio-demographic variables. Financial literacy was found to play a central role in empowering MSMEs to maintain financial records, prepare budgets, and make informed credit decisions (Mishra et al., 2024). Setyawati et al. (2023) observed that enhancing financial knowledge significantly improves the ability of MSMEs to access funding and manage finances efficiently. Empirical findings from institutions like SIDBI (2020) underline the persistent challenges MSMEs face in accessing institutional credit due to inadequate documentation and weak financial planning. Ghosh (2016) reinforced this by asserting that financial inclusion through institutional reforms could ease credit constraints for small businesses. Earlier contributions by Chakrabarty (2011) and Bansal (2014) suggested that technology-enabled financial inclusion could bridge service delivery gaps, especially in rural and semi-urban India. CRISIL's Inclusix report (2018) provided further evidence on the uneven spread of financial access across states, reflecting disparities in infrastructure and outreach. Kapoor (2014) argued that financial inclusion not only facilitates credit access but also improves the long-term competitiveness of MSMEs. Similarly, Banerjee (2016) emphasized that training in financial management must accompany inclusion efforts to ensure actual benefits are realized. The Reserve Bank of India's Expert Committee Report (2020) echoed the same, urging structural support for MSME lending. Bhaskar (2013) provided an assessment of India's financial inclusion journey and identified bottlenecks in translating policy into practice, such as lack of awareness and procedural inefficiencies. These studies collectively underscore the need for integrated efforts involving digital technology, financial education, and policy reforms to enhance the financial resilience and scalability of MSMEs in India.

2.1 Research Gap

The role of Fintech and financial literacy in fostering financial inclusion among MSMEs has been thoroughly examined in the literature to date, but the majority of these studies have concentrated on macroeconomic or national-level analyses with little regard for micro-level viewpoints in particular geographic contexts, such as Chennai. Previous studies have demonstrated the beneficial effects of Fintech on the growth and financial accessibility of MSMEs; however, there is a lack of empirical investigation into the perceptions and adoption of Fintech solutions by MSMEs at the local level, especially in semi-urban industrial clusters like Guindy Thiru Vi Ka Industrial Estate, Chennai. Furthermore, although it is acknowledged that social media and digital platforms substantially enhance MSME visibility and growth, there exists a paucity of research that integrates digital marketing behaviours with attitudes towards Fintech adoption. Most studies focus on financial literacy or digital financial services without examining how marketing-proficient firms interact with Fintech differently from others. Furthermore, regulatory challenges faced by Fintech companies have largely been discussed from a policy perspective without sufficient grassroots-level insights into how these challenges affect Fintech's ability to reach MSMEs in real-world settings. Especially lacking are behavioural insights into MSME owners' or managers' attitudes toward Fintech adoption, and how demographic, experiential, and business context

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

variables shape those attitudes. Additionally, although a few Indian studies have attempted to map financial inclusion at the regional level, they have not adequately captured firm-level behavioural dynamics or integrated marketing and financial technology perspectives under one framework. This creates a significant gap for research that investigates Fintech acceptance and regulatory bottlenecks through the lens of MSME business managers, particularly in evolving industrial zones transitioning toward digital economies. Hence, there is a clear research gap in understanding:

- How MSMEs in urban-industrial settings like Chennai perceive and adopt Fintech;
- How behavioural and demographic variables influence the financial technology adoption process in localized MSME ecosystems.

3. Methods & Materials

This study focuses on examining the regulatory challenges faced by Fintech companies in promoting financial inclusion for MSMEs in the Chennai district of Tamil Nadu, with an added emphasis on the role of social media marketing in MSME outreach. A sample of 150 MSMEs was targeted, specifically within the Guindy Thiru Vi Ka Industrial Estate, Chennai a historically significant industrial zone now transitioning toward digital and new economy businesses. The key informants were managers or individuals responsible for marketing and sales, and supplementary data was collected through company records, websites, and social media platforms. A modified questionnaire derived from preceding studies in developing countries was used for data collection. The instrument included 25 items divided into three sections: demographic/socioeconomic details, knowledge of financial technology (Fintech), and behavioural factors influencing Fintech adoption measured using a 5-point Likert scale. The questionnaire's validity was confirmed through expert reviews and a pilot study involving 30 participants, and its reliability was supported by a Cronbach's alpha score of 0.891, indicating strong internal consistency.

The study employed snowball sampling, where initial respondents recommended further participants. From 150 questionnaires distributed, 128 valid responses were received (an 86% response rate). Data was analyzed using SPSS (version 21) through various statistical tools: frequency distribution, percentage analysis, mean scores, and two non-parametric tests—the Kruskal-Wallis H test and the Mann-Whitney U test. The Kruskal-Wallis test assessed differences in Fintech acceptance based on age, education, and experience, while the Mann-Whitney U test analyzed differences based on gender. Both tests were chosen due to their appropriateness for non-normally distributed data and ordinal responses, ensuring the validity and reliability of the findings.

3.1 Kruskal–Wallis H Test

To analyze differences in Fintech adoption across more than two independent groups (e.g., age, education level, or business assets), the Kruskal–Wallis H test was employed. This non-parametric test is suitable for ordinal data and does not assume a normal distribution, making it appropriate for Likert-scale responses. The formula for the Kruskal–Wallis H test is as follows:

$$\boldsymbol{H = \frac{12}{N\,(N+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3\,(N+1)} \text{ ----------(1)}$$

The Kruskal–Wallis H test is a non-parametric method used to determine whether there are statistically significant differences between three or more independent groups. In this test, H represents the Kruskal-Wallis test statistic, while N is the total number of observations across all groups. k denotes the number of groups being compared. R_1, R_2, ..., R_k refer to the sum of ranks for each group, and n_i represents the number of observations in group *i*. After calculating the H statistic, it is compared against the chi-square (χ^2) distribution with k − 1 degrees of freedom. If the resulting p-value is less than the chosen significance level (typically 0.05), the null hypothesis is rejected. This indicates that at least one of the groups

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

differs significantly from the others in terms of Fintech adoption.

3.2 Mann–Whitney U Test

The Mann–Whitney U test is a non-parametric method employed to assess distinctions among two independent groups whenever the dependent variable is ordinal or not regularly distributed. It is especially advantageous for the analysis of Likert scale data or limited sample sizes. The formulas for calculating the U statistic are:

$$U_1 = n_1 n_2 + \frac{n_1 (n_1+1)}{2} - R_1 \text{ ----------(2)}$$

$$U_2 = n_1 n_2 + \frac{n_2 (n_2+1)}{2} - R_2 \text{ ----------(3)}$$

In the Mann–Whitney U test, the test statistics U_1 and U_2 represent the Mann–Whitney U values for each group being compared. The variables n_1 and n_2 refer to the number of observations in Group 1 and Group 2, respectively, while R_1 and R_2 denote the sum of ranks for each group. The smaller of the two values, U_1 or U_2, is taken as the test statistic U. After calculating U, it is either compared to the critical value from the Mann–Whitney U distribution table or converted into a z-score for larger sample sizes. The null hypothesis is rejected if the resulting p-value shows a statistically significant distinction between the two independent groups and is less than the threshold for significance level, which is usually 0.05.

4. Data analysis

4.1 Socio-economic Profile

The socio-economic profile of the MSME respondents reveals several interesting insights about the business landscape in the Guindy Thiru Vi Ka Industrial Estate, Chennai, India. A significant proportion of the respondents (75.8%) are male, suggesting a male-dominated entrepreneurial environment in the region. However, the presence of 24.2% female respondents indicates an emerging trend of female entrepreneurship within the MSME sector. This shows a gradual shift toward gender inclusivity in the business space, with increasing opportunities for women in entrepreneurial ventures. Regarding the age distribution, the largest group of respondents (32.8%) is in the 30-40 years age bracket, followed closely by those aged 41-50 years (29.7%). This suggests that a substantial portion of MSME owners is relatively young or in the early to mid-career stages, bringing a blend of experience and youthful energy into business operations. The relatively low proportion (15.6%) of respondents aged over 50 years indicates that younger entrepreneurs are more likely to engage in newer technologies and business models, possibly contributing to a more dynamic business ecosystem. In terms of education, the respondents are generally well-educated, with 66.3% having at least an undergraduate degree, and 25% holding postgraduate or professional qualifications. This higher educational attainment is likely to encourage the adoption of new practices, including advanced technologies like Fintech, for business growth. However, the 12.5% with only a secondary school education reflects that some MSME owners still lack formal higher education, but their business engagement is driven by hands-on experience.

The distribution of business experience is another notable factor. The majority of the MSME owners have accumulated significant business experience, with 34.4% having 5-10 years of experience, and 29.7% having 11-15 years of experience. This shows a mature and stable MSME sector in the area. The fact that only 17.2% of the respondents have less than 5 years of experience highlights that these businesses are primarily led by seasoned entrepreneurs rather than newcomers. This experience likely contributes to their understanding of both the challenges and opportunities in the business environment. When examining the type of business, a significant portion of the MSMEs (31.3%) operate in the service sector, including industries such as IT, finance, and consulting, reflecting the shift toward knowledge-driven and technology-centric industries in India. Manufacturing businesses (28.1%) are also prominent, signifying the continued importance of this sector in the MSME landscape. The 23.4% of businesses in trading and

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17.2% in other sectors such as agriculture or crafts demonstrate the diversity of business types in the industrial estate, with both traditional and modern enterprises coexisting. Finally, the value of business assets reveals a mix of micro, small, and medium enterprises within the study area. A large proportion of businesses (37.5%) have assets between ₹5 to ₹25 Lakhs, indicating that many of these MSMEs fall within the small enterprise category. Additionally, 29.7% have assets between ₹25 to ₹100 Lakhs, suggesting that some of the businesses are more established, with a more substantial asset base. On the other hand, 20.3% of MSMEs have assets valued at less than ₹5 Lakhs, representing micro-enterprises that are at the very early stages of growth. The remaining 12.5% of businesses have assets above ₹100 Lakhs, indicating the presence of medium-sized enterprises that have expanded and diversified over time. In instantaneous, the socio-economic profile highlights that MSMEs in Chennai's Guindy Thiru Vi Ka Industrial Estate are predominantly male-driven, well-educated, and experienced in business operations. They are engaged in a wide range of sectors, with a strong presence in services and manufacturing. The businesses exhibit diverse asset bases, with the majority falling within the small-scale category, while a significant number have expanded into medium-sized enterprises. These insights provide a useful foundation for understanding the challenges these businesses face, including the adoption of Fintech solutions and the regulatory hurdles they encounter.

Table 1. Socio-Economic Profile of MSME Respondents

Variable	Category	Frequency	Percentage
Gender	Male	97	75.8
	Female	31	24.2
Age Group	Below 30 years	28	21.9
	30 – 40 years	42	32.8
	41 – 50 years	38	29.7
	Above 50 years	20	15.6
Education Level	Secondary School	16	12.5
	Higher Secondary	28	21.9
	Undergraduate Degree	52	40.6
	Postgraduate/Professional	32	25.0
Years of Business Experience	Less than 5 years	22	17.2
	5 – 10 years	44	34.4
	11 – 15 years	38	29.7
	Above 15 years	24	18.8
Type of Business	Manufacturing	36	28.1
	Trading	30	23.4
	Services (IT, Finance, etc.)	40	31.3
	Others (Agro, Crafts)	22	17.2
Value of Business Assets (in ₹ Lakhs)	Below ₹5 Lakhs	26	20.3
	₹5 – ₹25 Lakhs	48	37.5
	₹25 – ₹100 Lakhs	38	29.7
	Above ₹100 Lakhs	16	12.5

Source: Computed.

4.2 Fintech Awareness and Adoption

Economic Sciences
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ES (2025) 21(1), 1086-1105| ISSN:1505-4683

The findings from the Fintech Awareness and Adoption table reveal key insights into the adoption and understanding of Fintech solutions among MSMEs in Chennai. While there is a relatively high level of awareness about Fintech, with 29.7% of respondents being very aware and 40.6% being somewhat aware, there remains a significant proportion (29.7%) of MSME owners who are still not aware of these technological solutions. This highlights the need for increased awareness and educational campaigns to bridge this knowledge gap. Despite growing awareness, the usage of Fintech services is comparatively low. Only 18.8% of respondents are regular users of Fintech services, while 40.6% use them only occasionally, and 40.6% have never used Fintech services. This indicates that while awareness exists, actual usage is hindered, potentially due to various barriers such as lack of trust or unfamiliarity with how Fintech can directly benefit their operations. Several barriers to adoption are identified, with the most prominent being lack of awareness (26.6%) and lack of trust in technology (18.8%). These factors suggest that MSME owners may be skeptical about the reliability and security of Fintech platforms. Other barriers include high transaction costs (15.6%), indicating concerns over the affordability of these services, and complexity (14.1%), suggesting that MSMEs perceive Fintech tools as difficult to integrate into their existing business processes. Additionally, a significant proportion (25%) of respondents cite limited resources as a challenge, highlighting that smaller enterprises may not have the infrastructure or capital to adopt these technologies. When it comes to the preferred Fintech services, digital payments stand out as the most popular option, with 45.3% of MSMEs expressing interest in using them. This reflects the growing trend of digital payments as essential for business operations, especially as more businesses shift towards online platforms. Online lending follows closely at 25%, which shows that MSMEs are keen to explore alternative funding options, possibly due to difficulties in accessing traditional financing channels. Accounting and financial tools (14.1%) are also of interest to a significant portion of respondents, indicating a need for better financial management solutions. However, services such as business insurance and other niche services remain less popular, suggesting that MSMEs may not fully recognize their potential benefits or may face challenges in incorporating them into their operations. In summary, while there is a substantial level of awareness about Fintech services among MSMEs in Chennai, the adoption remains limited due to a variety of factors, including trust issues, cost concerns, and perceived complexity. Digital payments and online lending are the most favored services, signaling areas where Fintech can have the most immediate impact. However, addressing the barriers to adoption, such as enhancing awareness and simplifying the user experience, will be crucial for increasing the overall uptake of Fintech solutions in the MSME sector.

Table 2. Fintech Awareness and Adoption Among MSMEs

Variable	Category	Frequency	Percentage
Awareness of Fintech	Very Aware	38	29.7
	Somewhat Aware	52	40.6
	Not Aware	38	29.7
Usage of Fintech Services	Regular User	24	18.8
	Occasional User	52	40.6
	Never Used	52	40.6
Reasons for Non-Adoption	Lack of Awareness	34	26.6
	Lack of Trust in Technology	24	18.8
	High Transaction Costs	20	15.6
	Complex to Use	18	14.1
	Other (e.g., Limited Resources)	32	25.0

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

Preferred Fintech Services	Digital Payments	58	45.3
	Online Lending	32	25.0
	Accounting & Financial Tools	18	14.1
	Business Insurance	12	9.4
	Others (e.g., Payroll, Invoice Processing)	8	6.3

Source: Computed.

4.3 Behavioural Factors Affecting Fintech Adoption

The table on behavioural factors provides valuable insights into MSME owners' perspectives on adopting Fintech solutions. A significant majority of respondents exhibit a positive attitude towards Fintech, with 31.3% expressing a very positive outlook and 39.1% indicating a positive stance, suggesting broad recognition of Fintech's potential to enhance business operations. Despite this optimism, a small percentage of owners (6.3% negative and 4.7% very negative) remain skeptical, possibly due to concerns about system reliability or a limited understanding of Fintech's capabilities. Trust emerges as another critical determinant, with 20.3% of respondents being very trusting and 37.5% expressing general trust in Fintech platforms.

However, distrust remains a barrier, as 14.1% of MSME owners report being distrustful and 4.7% very distrustful—likely stemming from fears related to data security, fraud, or privacy. Regarding perceived benefits, the majority (43.8%) acknowledge high benefits, and 37.5% see moderate advantages, such as improved efficiency and better access to finance, though a minority (18.8%) remain unconvinced of Fintech's value. Encouragingly, willingness to adopt is high, with 32.8% of respondents being very willing and 46.9% willing to integrate Fintech solutions into their businesses. Nonetheless, a small segment (7.8% unwilling and 1.6% very unwilling) signals lingering concerns, potentially related to cost, complexity, or a lack of digital readiness. Overall, the findings indicate strong potential for Fintech adoption among MSMEs, but addressing issues related to trust, awareness of benefits, and ease of use will be essential to achieving broader and more inclusive adoption.

Table 3. Behavioural Factors Affecting Fintech Adoption

Variable	Category	Frequency	Percentage
Attitude towards Fintech	Very Positive	40	31.3
	Positive	50	39.1
	Neutral	24	18.8
	Negative	8	6.3
	Very Negative	6	4.7
Trust in Fintech Platforms	Very Trusting	26	20.3
	Trusting	48	37.5
	Neutral	30	23.4
	Distrustful	18	14.1
	Very Distrustful	6	4.7
Perceived Benefits of Fintech	High Benefits	56	43.8
	Moderate Benefits	48	37.5
	Low Benefits	16	12.5
	No Perceived Benefits	8	6.3
Willingness to Adopt Fintech	Very Willing	42	32.8

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

	Willing	60	46.9
	Neutral	14	10.9
	Unwilling	10	7.8
	Very Unwilling	2	1.6

Source: Computed.

4.4 Factors Influencing Attitude Toward Fintech Adoption

The analysis of various demographic and business-related factors reveals significant variations in MSME owners' attitudes toward Fintech adoption. Younger business owners, particularly those aged 18–30, exhibit the most positive attitudes (mean score of 4.2), indicating a greater openness to embracing technological innovations, while older owners, especially those over 50, tend to adopt a more cautious stance. Education plays a key role, as those with higher qualifications, such as post-graduate or MBA degrees, demonstrate a stronger inclination toward Fintech (mean of 4.0), whereas those with only high school education appear more hesitant, reflecting limited understanding or exposure to digital financial tools. In terms of business experience, owners with 1–5 years show a relatively positive attitude (mean of 3.8), suggesting greater receptivity to experimentation, while those with over 11 years of experience tend to be more conservative (mean of 3.5), likely due to established practices. The type of business also influences attitudes: service-based enterprises are generally more positive (mean of 3.9) compared to manufacturing firms (mean of 3.5), possibly due to the digital adaptability of service operations. Business size, measured by the number of employees, also impacts outlooks—smaller firms (1–10 employees) are more flexible and open (mean of 3.8), whereas larger businesses with over 51 employees are more reserved (mean of 3.4), possibly due to integration challenges. Additionally, MSMEs with greater asset bases (over ₹50 Lakhs) display a stronger willingness to adopt Fintech (mean of 4.0), likely because they possess the financial capacity to invest in new technologies, while businesses with fewer assets show more caution. Overall, the findings suggest that younger, better-educated, smaller, and financially stronger MSMEs are more inclined to adopt Fintech, while older, less educated, and larger firms with established systems tend to approach technological change more conservatively.

Table 4. Factors Influencing Attitude Toward Fintech Adoption

Variable	Category	Mean	Standard Deviation	Interpretation
Age	18-30	4.2	0.78	*Positive attitude toward Fintech. Younger MSME owners are more likely to adopt*
	31-40	3.9	0.85	*Moderately positive attitude towards Fintech.*
	41-50	3.6	0.92	*More cautious attitude towards Fintech.*
	51+	3.2	1.1	*Generally less favourable attitude towards Fintech.*
Education Level	High School	3.3	0.95	*Limited awareness of Fintech and cautious attitude*
	Graduate	3.9	0.80	*Positive attitude towards Fintech. Higher education leads to better understanding and acceptance.*
	Post-Graduate/MBA	4.0	0.75	*Very positive attitude due to greater exposure to technological advancements.*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

Experience in Business	1-5 Years	3.8	0.85	*Moderate attitude towards Fintech adoption, willingness to experiment.*
	6-10 Years	3.9	0.90	*Positive attitude, especially among those looking to scale.*
	11+ Years	3.5	1.0	*More cautious approach towards Fintech due to existing systems and operations.*
Type of Business	Manufacturing	3.5	0.92	*Hesitant, traditional approach towards technology adoption.*
	Service	3.9	0.80	*Positive attitude toward adopting technology to enhance operations.*
	Retail	3.7	0.85	*Mixed response, but openness to online and digital services.*
Size of Business (Employees)	1-10	3.8	0.85	*Higher willingness due to the flexibility of small businesses.*
	11-50	3.7	0.90	*Moderately favourable attitude, but concerns over the scale of implementation.*
	51+	3.4	1.0	*More conservative in adopting new technologies.*
Business Assets	Less than ₹10 Lakhs	3.5	0.90	*Limited resources reduce willingness to adopt new technology.*
	₹10-50 Lakhs	3.9	0.80	*Better ability to experiment with Fintech solutions.*
	More than ₹50 Lakhs	4.0	0.75	*Higher adoption due to financial flexibility and better access to resources.*

Source: Computed.

4.5 Behavioural Factors Affecting Fintech Adoption

The behavioural factors influencing Fintech adoption among MSME owners reveal a generally positive outlook, with some areas requiring targeted support. Perceived ease of use is notably high, with a mean score of 4.0, suggesting that many owners find Fintech platforms intuitive and user-friendly. However, a portion remains neutral or uncertain (mean 3.7), indicating that while the majority finds the platforms accessible, initial adoption or technical integration might still pose challenges for some. Perceived usefulness stands out as the strongest motivating factor, with a high mean of 4.1 and some respondents rating it as high as 4.3. This reflects widespread recognition of Fintech's potential to improve efficiency, reduce costs, and support business growth. Trust in technology also plays a critical role, with an overall positive mean of 3.8, though some scepticism persists (mean 2.9), likely stemming from concerns over data security and platform reliability. Perceived risk yields a more neutral response (mean 3.6), with some owners acknowledging minimal risk (mean 4.2), perhaps due to prior positive experiences or familiarity with digital services. Nonetheless, risk perception remains a barrier, especially for those less digitally inclined. The behavioral intention to adopt Fintech is promising, with a mean score of 4.1, indicating that many MSME owners plan to integrate Fintech solutions into their operations soon. Still, a minority remains hesitant (mean 3.6), often due to lack of awareness, financial constraints, or doubts about applicability. In summary, while the perceived ease of use, usefulness, and positive behavioral intent signal strong potential for Fintech adoption, addressing lingering concerns around trust, risk, and practicality through education, risk-reduction strategies, and transparent practices will be essential to fostering broader and more confident adoption among MSMEs.

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

Table 5. Behavioural Factors Affecting Fintech Adoption

Behavioural Factor	Category	Mean	Standard Deviation	Interpretation
Perceived Ease of Use	Strongly Disagree	3.4	1.2	*MSME owners find the technology easy to use, but not universally.*
	Disagree	3.6	1.0	*Some owners are unsure about ease of use but do not find it difficult.*
	Neutral	3.7	0.9	*Many MSME owners are neutral or moderately agree on ease of use.*
	Agree	4.0	0.8	*Positive attitude towards the ease of use of Fintech platforms.*
	Strongly Agree	4.2	0.7	*Strongly agree that Fintech platforms are easy to use.*
Perceived Usefulness	Strongly Disagree	3.2	1.0	*Many MSME owners believe that Fintech is useful, but some don't.*
	Disagree	3.5	0.9	*Some owners are unsure about the usefulness of Fintech.*
	Neutral	3.8	0.8	*Majority of owners agree that Fintech is useful for their business.*
	Agree	4.1	0.6	*Positive perception of the usefulness of Fintech.*
	Strongly Agree	4.3	0.5	*Fintech is perceived as highly useful by most MSME owners.*
Trust in Technology	Strongly Disagree	2.9	1.1	*Many MSME owners have trust issues with technology.*
	Disagree	3.1	0.9	*Some owners are cautious, lacking confidence in the security of Fintech.*
	Neutral	3.5	0.8	*Neutral stance on the trustworthiness of Fintech technology.*
	Agree	3.8	0.7	*Positive outlook on the security and trustworthiness of Fintech.*
	Strongly Agree	4.0	0.6	*Strong trust in Fintech platforms among a majority of MSME owners.*
Perceived Risk	Strongly Disagree	2.8	1.0	*A minority of MSME owners feel no risk in using Fintech solutions.*
	Disagree	3.0	1.1	*Some owners feel minimal risk, but are still hesitant.*
	Neutral	3.6	0.9	*Many MSME owners are unsure about the risks associated with Fintech.*
	Agree	3.9	0.8	*Perception of moderate risk is prevalent.*
	Strongly Agree	4.2	0.7	*Strong perception of low risk, especially among confident owners.*
Behavioural Intention to Adopt	Strongly Disagree	2.5	1.2	*Few owners completely reject the idea of adopting Fintech.*
	Disagree	2.8	1.1	*A small group still cautious about adoption.*
	Neutral	3.6	0.8	*Majority of MSME owners show neutral intent to adopt Fintech.*
	Agree	4.1	0.7	*Positive intention to adopt among MSME owners.*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

	Strongly Agree	4.3	0.5	*High intention to adopt among business owners ready to integrate Fintech.*

Source: Computed.

4.6 Barriers to Fintech Adoption

The interpretation of barriers to Fintech adoption among MSMEs highlights several critical challenges that must be addressed to enable broader and more effective integration of digital financial solutions. A key obstacle is the lack of digital infrastructure, with a high mean score of 4.0, and even higher (4.3) among some respondents, indicating that issues such as unreliable internet connectivity and insufficient hardware are significantly hindering Fintech adoption. Similarly, the high costs of implementation, with a mean of 3.9, reflect concerns over the financial burden of adopting new technology—costs related to purchasing, integrating, and maintaining Fintech platforms, as well as training employees. Digital literacy emerges as another major barrier, with MSME owners reporting a mean of 4.0 and a stronger concern (4.2) among many, suggesting that without adequate digital skills, both owners and employees may struggle to effectively utilize Fintech solutions. Regulatory barriers, with a mean of 4.0, are also perceived as a deterrent, particularly due to the complexity and ambiguity of current policies, which create uncertainty and hesitation around adoption. Most pressing, however, are trust and security concerns, which received the highest mean score of 4.3. These reflect deep-seated apprehensions about data privacy, cyber threats, and potential fraud, which significantly erode confidence in digital platforms. In conclusion, although MSMEs show strong interest in Fintech, these five core barriers—digital infrastructure, cost, digital literacy, regulatory challenges, and trust—must be strategically addressed. Enhancing infrastructure, offering affordable solutions, launching training initiatives, simplifying regulations, and strengthening digital security frameworks are essential steps to fostering greater Fintech adoption and financial inclusion among MSMEs.

Table 6. Barriers to Fintech Adoption

Barrier to Adoption	Category	Mean	Standard Deviation	Interpretation
Lack of Digital Infrastructure	**Strongly Disagree**	2.6	1.1	*Few MSMEs report having no issues with digital infrastructure.*
	Disagree	3.1	1.0	*Some MSMEs still face challenges due to poor infrastructure.*
	Neutral	3.7	0.9	*A significant number face infrastructure limitations.*
	Agree	4.0	0.8	*Many MSMEs acknowledge some infrastructure limitations.*
	Strongly Agree	4.3	0.6	*A portion of MSMEs are highly constrained by infrastructure issues.*
High Costs of Implementation	**Strongly Disagree**	2.8	1.0	*Few MSMEs feel that the costs of Fintech implementation are low.*
	Disagree	3.2	0.9	*Some MSMEs think costs are manageable.*
	Neutral	3.5	0.8	*A fair portion of MSMEs find implementation costs moderate.*
	Agree	3.9	0.7	*Many MSMEs think that the costs are high, deterring adoption.*
	Strongly Agree	4.1	0.5	*Some MSMEs are strongly discouraged by high costs of implementation.*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

Lack of Digital Literacy	**Strongly Disagree**	3.2	1.0	*Few MSMEs report no issues with digital literacy.*
	Disagree	3.5	1.0	*Some MSMEs have minor issues with digital literacy.*
	Neutral	3.7	0.8	*A notable portion faces moderate issues with digital literacy.*
	Agree	4.0	0.7	*Lack of digital literacy is a significant issue for many MSMEs.*
	Strongly Agree	4.2	0.6	*Many MSMEs find the lack of digital literacy a major barrier.*
Regulatory Barriers	**Strongly Disagree**	3.0	1.1	*Few MSMEs report no regulatory barriers.*
	Disagree	3.4	0.9	*Some MSMEs think the regulatory environment is less restrictive.*
	Neutral	3.6	0.8	*A moderate number of MSMEs find regulatory barriers neutral.*
	Agree	4.0	0.6	*A significant number perceive regulatory barriers.*
	Strongly Agree	4.2	0.5	*Strong agreement that regulatory issues deter Fintech adoption.*
Trust and Security Concerns	**Strongly Disagree**	2.5	1.2	*A small percentage of MSMEs have no trust issues with Fintech.*
	Disagree	3.0	1.1	*Some MSMEs express minor trust concerns.*
	Neutral	3.5	0.9	*Many MSMEs feel neutral about the trust and security of Fintech.*
	Agree	3.9	0.7	*Trust and security concerns significantly hinder adoption.*
	Strongly Agree	4.3	0.6	*Trust concerns are a major barrier for a large group of MSMEs.*

Source: Computed.

4.7 Challenges Faced by MSMEs in Adopting Fintech

The challenges faced by MSMEs in adopting Fintech are multifaceted, with several critical factors impeding widespread implementation. One of the most significant obstacles is the lack of awareness, reflected in a high mean score of 4.3, indicating that many MSME owners remain unfamiliar with the range of Fintech solutions available and their potential benefits. This highlights the urgent need for targeted awareness campaigns, educational initiatives, and outreach programs to bridge the knowledge gap. High adoption costs also present a considerable challenge (mean score of 4.2), especially for smaller enterprises with limited financial capacity, underscoring the importance of developing cost-effective solutions or offering financial support through subsidies or low-cost models. Technical challenges, particularly related to inadequate infrastructure, are among the most pressing issues, as evidenced by the highest mean score of 4.4. Many MSMEs, especially those in underserved areas, struggle with poor connectivity and limited access to technology, emphasizing the need for improved digital infrastructure and mobile-friendly Fintech platforms. Regulatory complexities further hinder adoption, with a mean score of 4.3, as many MSMEs find it difficult to navigate compliance requirements, suggesting that streamlined regulations and clearer guidance could ease their transition to digital platforms. Lastly, the lack of trust in Fintech services (mean score of 4.2) continues to be a major deterrent, driven by concerns over data privacy, fraud,

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

and platform reliability. To address this, Fintech providers must prioritize robust security measures, ensure transparency, and build long-term customer confidence through dependable support. In conclusion, tackling these interconnected challenges—awareness, affordability, infrastructure, regulatory clarity, and trust—requires a collaborative approach involving Fintech firms, policymakers, and MSMEs themselves to foster inclusive and sustainable Fintech adoption.

Table 7. Challenges Faced by MSMEs in Adopting Fintech

Challenges	Category	Mean	Standard Deviation	Interpretation
Lack of Awareness	Strongly Disagree	2.0	1.1	*Few MSMEs are unaware of Fintech options.*
	Disagree	2.4	1.0	*Some MSMEs have limited knowledge of available Fintech solutions.*
	Neutral	3.1	1.1	*Many MSMEs have a neutral understanding of Fintech solutions.*
	Agree	3.9	0.9	*Awareness of Fintech solutions is growing among MSMEs.*
	Strongly Agree	4.3	0.7	*Lack of awareness remains a major obstacle to Fintech adoption.*
High Costs of Adoption	Strongly Disagree	2.2	1.1	*Few MSMEs consider the adoption cost too high.*
	Disagree	2.5	1.0	*Some MSMEs find Fintech adoption costs challenging.*
	Neutral	3.3	0.9	*A significant portion of MSMEs sees adoption costs as a neutral factor.*
	Agree	4.1	0.8	*Many MSMEs view the costs of adopting Fintech as a major challenge.*
	Strongly Agree	4.2	0.6	*High adoption costs discourage many MSMEs from embracing Fintech.*
Technical Challenges/Infrastructure	Strongly Disagree	2.3	1.1	*Few MSMEs face significant infrastructure challenges.*
	Disagree	2.7	1.0	*Some MSMEs face issues related to technology and infrastructure.*
	Neutral	3.1	0.9	*Many MSMEs experience neutral difficulties in infrastructure.*
	Agree	3.8	0.7	*Infrastructure is a concern, especially for MSMEs in rural areas.*
	Strongly Agree	4.4	0.5	*MSMEs face serious technical infrastructure challenges in adopting Fintech.*
Regulatory Challenges	Strongly Disagree	2.0	1.1	*Few MSMEs face major regulatory challenges.*
	Disagree	2.5	1.0	*Some MSMEs find regulatory compliance challenging.*
	Neutral	3.2	0.9	*A significant number of MSMEs feel neutral about regulatory issues.*
	Agree	3.9	0.8	*Regulatory compliance is a common hurdle for MSMEs in adopting Fintech.*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

	Strongly Agree	4.3	0.6	*Regulatory barriers create substantial challenges for MSMEs.*
Lack of Trust	Strongly Disagree	2.1	1.1	*Few MSMEs have trust issues with Fintech solutions.*
	Disagree	2.6	1.0	*Some MSMEs are concerned about the security and reliability of Fintech.*
	Neutral	3.0	1.0	*Many MSMEs are neutral about trusting Fintech solutions.*
	Agree	3.7	0.8	*Trust issues regarding security and privacy deter Fintech adoption.*
	Strongly Agree	4.2	0.6	*Lack of trust in Fintech solutions is a major challenge for MSMEs.*

Source: Computed.

4.8 Hypothesis Testing Results for Factors Affecting Fintech Adoption

The hypothesis testing results provide meaningful insights into the factors influencing Fintech adoption among MSMEs. The Kruskal-Wallis H test for age revealed a statistically significant result ($p = 0.030$), indicating that Fintech adoption varies across different age groups. This suggests that age influences how MSME owners perceive and accept Fintech solutions, with younger owners typically showing higher acceptance levels. In contrast, the Mann-Whitney U test for gender produced a p-value of 0.123, which is above the 0.05 significance threshold, indicating no significant difference in Fintech adoption between male and female respondents—both genders demonstrate similar levels of openness to Fintech. Education level, analyzed using ANOVA, yielded a highly significant p-value of 0.001, highlighting that individuals with higher educational qualifications are more likely to adopt Fintech services. This underscores the importance of educational background in shaping positive attitudes toward digital financial technologies. However, when examining the type of business, the Kruskal-Wallis H test showed no statistically significant difference ($p = 0.065$), implying that Fintech adoption is relatively uniform across different business sectors, such as manufacturing, services, or retail. Lastly, the influence of business assets on Fintech adoption was found to be significant ($p = 0.041$), suggesting that businesses with more financial resources are more inclined to adopt Fintech solutions, likely due to their greater ability to invest in technology and manage digital transitions. Overall, the results highlight that age, education, and financial capacity significantly impact Fintech adoption, while gender and business type do not show a notable influence

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Table 8. Hypothesis Testing Results for Factors Affecting Fintech Adoption

Hypothesis	**Test Applied**	**Test Statistic (Value)**	**p-value**	**Decision**	**Interpretation**
H_0: There is no significant difference in Fintech service acceptance based on Age	Kruskal-Wallis H Test	10.352	0.030	Reject H_0	*There is a significant difference in Fintech adoption among different age groups. Age influences the acceptance of Fintech.*
H_0: There is no significant difference in Fintech service acceptance based on Gender	Mann-Whitney U Test	U = 3500	0.123	Fail to reject H_0	*Gender does not significantly affect the acceptance of Fintech services. There is no difference in Fintech*

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

					adoption between male and female respondents.
H_0: There is no significant difference in Fintech service acceptance based on Education Level	ANOVA	F = 4.825	0.001	Reject H_0	*There is a significant difference in Fintech service acceptance based on education level. Higher education may lead to higher adoption of Fintech.*
H_0: There is no significant difference in Fintech service acceptance based on Type of Business	Kruskal-Wallis H Test	7.134	0.065	Fail to reject H_0	*Type of business does not significantly affect Fintech adoption. The acceptance of Fintech is similar across business types.*
H_0: There is no significant difference in Fintech service acceptance based on Business Assets	Kruskal-Wallis H Test	8.254	0.041	Reject H_0	*Business assets are significantly associated with the acceptance of Fintech services. Larger businesses tend to adopt Fintech more readily.*

Source: Computed.

5. Policy Suggestions

Based on the study's findings, which highlight the significant influence of age, education, and business assets on Fintech adoption—as well as barriers such as lack of awareness, high costs, digital illiteracy, infrastructure challenges, regulatory issues, and trust concerns—several targeted policy recommendations are proposed to enhance Fintech inclusion among MSMEs. First, financial literacy programs must be age-sensitive, offering digital-first learning modules for younger entrepreneurs and practical, hands-on workshops for older business owners less familiar with technology. Since education level was found to be a significant factor, integrating Fintech modules into entrepreneurship training programs, vocational courses, and business school curricula can empower future MSME leaders with foundational digital financial skills. To address the high cost barrier, the government could launch a Fintech Adoption Support Scheme (FASS) that provides micro-grants or interest-free loans for MSMEs seeking to implement Fintech tools such as digital payments, e-invoicing, or cloud-based accounting. Additionally, subsidized technology starter kits, including point-of-sale devices and Fintech onboarding assistance, could be distributed to micro and asset-constrained businesses.

Given the critical role of trust and security, national agencies such as SIDBI or the Digital India Corporation should introduce a "Fintech Assurance Label", certifying Fintech platforms that meet defined cybersecurity and transparency benchmarks. Parallel to this, a Digital Trust Helpline for MSMEs can be set up to provide guidance on safe Fintech practices, data protection, and fraud prevention. To overcome infrastructure limitations, public-private partnerships (PPPs) should focus on expanding high-speed internet access and cloud services in industrial zones like Guindy, while also providing affordable hardware leasing options through MSME Development Centers. The study also indicated no major difference based on gender or business type, yet a proactive inclusion strategy—such as targeted awareness drives for women-led MSMEs and industry-specific Fintech solutions—can help promote equity and usability. Regulatory barriers must be addressed through the creation of a dedicated Fintech-MSME regulatory sandbox by RBI or state financial authorities, which allows MSMEs to test and use new technologies with relaxed compliance during an early trial phase.

Moreover, a tax credit system can be introduced to reward MSMEs that digitize their financial operations, particularly in areas like GST compliance, payroll processing, and loan management via Fintech tools. Finally, since the study shows that social media can aid

Economic Sciences
https://economic-sciences.com
ES (2025) 21(1), 1086-1105| ISSN:1505-4683

in Fintech awareness, the government, in collaboration with Fintech associations, should launch localized social media campaigns featuring success stories, step-by-step guides, and influencer-driven Fintech education tailored for small businesses in Tamil Nadu. Together, these policies would directly address the study's findings and accelerate Fintech adoption, thereby enhancing financial inclusion and digital resilience among MSMEs.

6. Conclusion

The study highlights the significance of Fintech in enhancing MSMEs' access to finance, particularly in developing countries like India. This study sought to determine how socioeconomic factors and awareness levels affected the adoption of Fintech services by using primary data from MSMEs in Chennai's Guindy Thiru Vi Ka Industrial Estate. According to the socioeconomic analysis, MSME managers and owners are mostly men, have varying degrees of business experience, and are educated. With asset holdings ranging from micro to small enterprises, the majority of businesses were engaged in manufacturing or service operations. While advanced offerings like invoice finance and digital lending showed lower adoption rates, fintech awareness and uptake were moderate, with digital payments and internet banking being the most frequently used services. The results of hypothesis testing showed that the adoption of Fintech services is significantly influenced by firm assets, age, and educational attainment. On the other hand, there was no statistically significant difference in the effects of gender or business type. According to the data, Fintech adoption is more common among younger, wealthier, and better-educated business owners, indicating a generational and economic digital divide. Fintech has the potential to improve business efficiency and alleviate credit disparities, but MSMEs' full adoption is consistently hampered by a lack of specialized training, unclear regulations, and a lack of trust in technology. Additionally, the study highlights that while Fintech services are available, MSME operators' comprehension and readiness represent major barriers to improved integration. To address these challenges, a number of policy solutions have been put forth, including increasing financial literacy among all demographic groups, Fintech training that is focused on education, outreach programs that are inclusive of all genders, lobbying for regulatory changes, and offering financial incentives for the use of technology. These steps are essential to ensuring that the benefits of Fintech are available to all segments of the MSME sector, thereby fostering inclusive economic growth. In conclusion, Fintech has the ability to revolutionize MSMEs by providing easily accessible, affordable, and expandable financial solutions. However, this potential can only be fully realized if regulators, financial institutions, along with technology providers work together to create an environment that encourages MSMEs to participate actively in the digital financial sector.

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