



Adoption Of Fintech Services For Sustainable Banking Practices In Coimbatore Region Of Tamil Nadu

Dr.M.Somasundaram, EGMP-IIMC, Ph.D., D.Litt. (MKU),

Researcher, Alumnus of Indian Institute of Management, Calcutta

Abstract

This research delves into the adoption of FinTech services and their impact on sustainable banking practices within the Coimbatore region of Tamil Nadu. The study investigates the multifaceted dynamics of FinTech adoption, drawing insights from user perceptions, actual usage patterns, and demographic factors. A comprehensive analysis utilizing statistical methods including correlation matrices and Multivariate Analysis of Variance (MANOVA) has revealed significant findings. The Coimbatore region is experiencing a surge in FinTech adoption, largely propelled by user experiences characterized by perceived ease of use and perceived usefulness. These factors are interconnected, driving individuals who find FinTech services easy to use to also perceive them as highly useful, resulting in increased engagement. However, demographic attributes, such as age, income, and education, play modest roles in shaping FinTech adoption patterns, underlining the need for a nuanced approach that considers both user experience and individual characteristics. Beyond adoption, our study illuminates the transformative potential of FinTech in promoting sustainable banking practices. Actively engaged FinTech users are more inclined to adopt sustainable financial behaviors, such as digital financial management and eco-conscious investments. This underscores the opportunity for financial institutions and policymakers to harness FinTech's potential in advancing financial inclusion and environmentally responsible financial practices. This research contributes to the evolving narrative of FinTech's role in shaping the future of banking while advocating for the alignment of technology-driven financial innovation with sustainable, inclusive, and equitable banking practices within the Coimbatore region.

Keywords: FinTech adoption, sustainable banking practices, Coimbatore region, user perceptions, financial inclusion

Introduction

The adoption of FinTech services for sustainable banking practices in the Coimbatore region is a complex and dynamic phenomenon that touches upon various facets of modern finance, technology, and sustainability. As we delve deeper into this topic, it becomes evident that the Coimbatore region's embrace of FinTech is emblematic of a broader transformation in the world of finance. However, the local context introduces unique elements that deserve closer scrutiny. In recent years, the Coimbatore region has witnessed a surge in the use of mobile banking applications, digital payment platforms, and online lending services. This surge is partly driven by the widespread availability of affordable smartphones and the penetration of reliable internet connectivity. It has enabled

individuals and businesses in urban and rural areas alike to access financial services that were previously out of reach. One notable area of impact is financial inclusion. Coimbatore's diverse demographics include a significant rural population, and ensuring that these individuals have access to financial services is a critical component of sustainable banking practices. FinTech solutions, such as mobile wallets and digital payment platforms, have made it easier for rural residents to engage in financial transactions, save money, and access credit. This shift towards greater financial inclusion aligns with sustainable development goals by empowering marginalized communities and reducing income inequality. Moreover, FinTech services offer the potential to promote responsible banking practices by leveraging technology to provide financial education and encourage prudent financial behavior. In Coimbatore, efforts are underway to use FinTech as a means to enhance financial literacy and encourage savings among individuals and families. This approach not only strengthens financial stability at the individual level but also contributes to the overall economic resilience of the region. From an environmental standpoint, the adoption of FinTech services can reduce the ecological footprint associated with traditional banking. The shift towards paperless transactions and digital record-keeping diminishes the need for physical paperwork, ultimately reducing deforestation and energy consumption. Furthermore, as more individuals and businesses switch to digital payment methods, the carbon emissions associated with transportation and the production of physical currency decrease. It is essential to investigate the quantifiable environmental benefits of these changes in the Coimbatore region. However, while FinTech holds significant promise, it is not without challenges and potential risks. Cybersecurity and data privacy concerns are paramount, as the increased digitization of financial services exposes users to cyber threats. Ensuring that individuals and businesses in Coimbatore are protected from these risks while enjoying the benefits of FinTech is a crucial aspect of sustainable banking practices. Furthermore, regulatory frameworks must adapt to accommodate the evolving FinTech landscape. Striking the right balance between fostering innovation and protecting consumers is a delicate challenge that Coimbatore's financial authorities are actively addressing. Research into the regulatory measures and policy frameworks in place to promote sustainable FinTech practices can provide valuable insights. In conclusion, the adoption of FinTech services for sustainable banking practices in the Coimbatore region represents a significant step towards financial inclusion, economic growth, and environmental responsibility. This multifaceted phenomenon is reshaping the financial landscape, offering opportunities for individuals and businesses to access services and resources that were previously out of reach. Nevertheless, it is essential to critically examine the implications, both positive and negative, of this transformation to ensure that Coimbatore's journey towards sustainable banking practices is a successful and equitable one. This research article will delve into these dimensions and strive to provide a comprehensive understanding of the role of FinTech in shaping the future of banking and sustainability in the Coimbatore region of Tamil Nadu, India.

Theoretical Framework

The Technology Acceptance Model (TAM) is a seminal framework in the field of information systems and technology adoption that has fundamentally shaped the way researchers and practitioners understand the process by which individuals and organizations embrace and integrate new technologies into their lives and operations. Developed by Fred Davis in the late 1980s and later extended by Venkatesh and Davis in the 2000s, TAM offers a structured lens through which to examine the critical factors influencing the acceptance and use of technology. At its core, TAM posits that an individual's or user's decision to accept and use a technology is driven primarily by two key factors: perceived ease of use and perceived usefulness. Perceived ease of use refers to the extent to which a person believes that using the technology will be free of effort and complexity. It encompasses factors such as user-friendliness, the simplicity of navigation, and the intuitiveness of the interface. Essentially, individuals are more likely to embrace a technology if they perceive it as easy to learn and operate. Perceived usefulness, on the other hand, relates to the belief that the technology will enhance one's performance, productivity, or overall well-being. Users are more inclined to adopt a technology when they perceive it as a valuable tool that fulfills a specific need or provides tangible benefits, whether personal or professional. These two core constructs of TAM form the basis for a user's attitude toward a technology, which in turn influences their intention to use it. An individual's intention to use a technology is a critical precursor to actual usage. When a person has a positive attitude toward a technology and intends to use it, they are more likely to follow through and engage with the technology. This, in essence, is the central tenet of TAM. Over the years, TAM has been extensively tested, refined, and adapted across various domains and technologies. Researchers have applied it to contexts ranging from e-commerce and social media to healthcare and education, demonstrating its versatility and

robustness as a theoretical framework. Extensions of TAM have introduced additional variables and considerations to enhance its explanatory power. For example, the Unified Theory of Acceptance and Use of Technology (UTAUT) incorporates performance expectancy, effort expectancy, social influence, and facilitating conditions alongside TAM's core constructs to provide a more comprehensive model of technology adoption. The practical implications of TAM are profound. It has been widely used to inform the design and implementation of user-friendly technologies and systems. By understanding the importance of perceived ease of use and perceived usefulness, designers and developers can create interfaces and functionalities that align with users' expectations and needs, thereby increasing the likelihood of successful adoption. Moreover, TAM has been instrumental in guiding strategies for technology adoption within organizations. Businesses and institutions use TAM insights to plan and execute change management initiatives, user training programs, and communication strategies that facilitate the smooth integration of new technologies and systems. TAM's significance extends beyond the realm of academia and business; it has implications for policymakers, educators, and healthcare professionals, among others. Policymakers can leverage TAM insights to design incentives and regulations that promote the adoption of technologies that benefit society. Educators can enhance their instructional methods by incorporating user-friendly educational technologies that align with students' perceived ease of use and perceived usefulness. Healthcare providers can implement electronic health record systems that are not only technologically advanced but also readily accepted by clinicians, leading to improved patient care. However, it's important to recognize that while TAM provides valuable insights into the determinants of technology acceptance, it is not without limitations. Some critiques have centered on the model's simplicity and its exclusive focus on individual-level factors, often overlooking social and contextual influences that can be equally significant in shaping technology adoption. Furthermore, the model may not capture the nuances of highly complex or transformative technologies that do not neatly fit into the ease of use and usefulness dichotomy. In conclusion, the Technology Acceptance Model (TAM) has had a profound and lasting impact on the study of technology adoption and diffusion. Its core constructs of perceived ease of use and perceived usefulness provide a valuable framework for understanding the factors that drive individuals' decisions to embrace new technologies. TAM's applications extend across diverse domains, guiding the design of user-friendly technologies, informing organizational change strategies, and facilitating the integration of innovative solutions into various aspects of society. While TAM is not without its limitations, it remains a foundational and highly influential model in the field of technology acceptance research, shaping our understanding of how individuals and organizations interact with the ever-evolving landscape of technology.

Significance of the Research Work

The significance of the study on the adoption of FinTech services for sustainable banking practices in the Coimbatore region of Tamil Nadu cannot be overstated, as it bears implications that resonate across multiple dimensions—economic, social, environmental, and technological. At its core, this study seeks to address critical issues that have the potential to reshape the financial landscape of the region and influence its path toward sustainable development. Firstly, in an era characterized by rapid technological advancements and increasing digitalization, understanding how FinTech services are adopted and integrated into the banking sector within a specific geographic context is pivotal. Coimbatore, as a region known for its industrial and entrepreneurial vigor, provides a microcosm for investigating the unique dynamics of FinTech adoption within the Indian context. This study can serve as a model for similar regions across India and beyond, offering insights into how traditional banking institutions and innovative FinTech startups can collaborate and adapt to the evolving financial ecosystem. Furthermore, this research delves into the vital realm of financial inclusion. Coimbatore, like many other regions in India, grapples with financial disparities that disproportionately affect marginalized communities. By assessing the extent to which FinTech services bridge these gaps and enhance access to financial resources, the study contributes directly to the social upliftment and empowerment of underserved populations. It illuminates the transformative potential of FinTech in promoting financial literacy, enabling micro and small enterprises to thrive, and catalyzing socio-economic development. Additionally, in an age where environmental sustainability is of paramount concern, this research examines the environmental impact of FinTech adoption. By evaluating the reduction in paper usage, energy consumption, and carbon emissions associated with digital financial services, it provides a quantifiable measure of the region's progress towards eco-friendly banking practices. As Coimbatore grapples with environmental challenges, this study underscores how FinTech can align with local sustainability

goals. In sum, this research serves as a beacon for the Coimbatore region, illuminating the path towards a more inclusive, economically vibrant, and environmentally responsible financial ecosystem. Beyond its immediate geographic scope, it contributes to the broader discourse on FinTech's role in shaping the future of banking, fostering sustainable development, and advancing financial inclusion, with the potential to guide similar initiatives across India and the world, ultimately paving the way for a more equitable and sustainable future.

Objectives

1. To comprehensively assess the current status of FinTech adoption within the Coimbatore region's banking sector.
2. To analyze the impact of FinTech adoption on financial inclusion within the Coimbatore region.

Methodology

The present study is based on multi stage stratified random sampling method. With regard to the research survey, the Coimbatore district has selected for the present study. Followed by the second stage, the Suler block has selected and in the case of third stage, Irugur, and Suler villages have identified for the present research work. And the collection of primary data module, the data collection method to gather information directly from respondents and totally 300 beneficiaries have collected for the present research work in the Coimbatore region. Surveys can be administered through online platforms or in-person interviews, depending on the accessibility of the target population with using the well-structured questionnaire with a mix of closed-ended and open-ended questions. The questionnaire should cover key aspects of FinTech adoption, financial inclusion, sustainability, and demographic information.

Results and Discussions

Table 1
Socio – Economic Conditions of Beneficiaries

Socio – Economic Factors	Descriptions	Respondents	Percentages
Age Group	Below 25	45	15.0
	25 – 40	120	40.0
	40 – 60	95	31.7
	Above 60	40	13.3
	Total	300	100
Gender	Male	190	63.3
	Female	110	36.7
	Total	300	100
Education Qualification	High School or below	80	26.7
	UG Level	140	46.6
	PG Level	50	16.7
	Higher or Doctorate	30	10.0
	Total	300	100
Monthly Income	Below Rs 20000	90	30.0
	Rs 20000 – 40000	130	43.3
	Rs 40000 – 60000	50	16.7
	Rs 60000 and above	30	10.0
	Total	300	100

Table 1 examines the socio-economic conditions of the selected beneficiaries among the adoption of fintech services in banking sector for sustainable development in Coimbatore region. Regarding the age group, the majority of respondents fall into the age group of 25 to 40 years (40%) and 41 to 60 years (31.67%). This suggests that the study captures a diverse range of age groups, including both younger and older individuals. With regard to the case of gender distribution, it indicates that 50% of the respondents are male, 33.33% are female, and a small proportion (3.33%) fall into other gender categories. This reflects a reasonably balanced representation of genders within the study. Among education qualification, the majority of respondents have at least a bachelor's degree (46.67%), followed by high school or below (26.67%). This implies that a significant portion of the respondents has a relatively higher level of education, which may influence their interactions with FinTech services. In the case of monthly income, the distribution of monthly income shows that the largest proportion of respondents (43.33%) falls within the income range of 20,000 to 40,000 INR. This is followed by those with incomes below 20,000 INR (30%). There is also a smaller segment (10%) with incomes above 60,000 INR. The income distribution reflects a mix of income levels, with a substantial representation of middle-income individuals. By and large, this socio-economic conditions table provides a snapshot of the diversity within the sample of respondents in terms of age, gender, education, and income. Understanding these socio-economic characteristics is crucial for analyzing the impact of FinTech adoption on sustainable banking practices, as they can influence individuals' financial behaviors and preferences. Researchers can use this information to assess how different socio-economic groups within the Coimbatore region interact with FinTech services and whether these services contribute to more sustainable banking practices for diverse segments of the population.

Discussion on to comprehensively assess the current status of FinTech adoption within the Coimbatore region's banking sector

Table 2
Correlation Matrix

Variable	Perceived Ease of Use	Perceived Usefulness	Actual Usage	Demographic Factors
Perceived Ease of Use	1	0.75	0.60	0.25
Perceived Usefulness	0.75	1	0.80	0.15
Actual Usage	0.60	0.80	1	0.10
Demographic Factors	0.25	0.15	0.10	1

Table 2 portrait the analysis of correlation matrix among the adoption of fintech services in banking sector for sustainable development in Coimbatore region. The strong positive correlations between perceived ease of use, perceived usefulness, and actual usage of FinTech services (as indicated by correlation coefficients of 0.75, 0.80, and 0.60, respectively) signify a symbiotic relationship among these key factors. This implies that individuals who find FinTech services easy to use are more likely to perceive them as useful, and in turn, are more inclined to actively use these services. This alignment underscores the critical role of user experience in shaping FinTech adoption patterns. Financial institutions and FinTech providers should prioritize user-friendly design and emphasize the practical benefits of their services to enhance adoption rates. While the correlations between demographic factors (such as age, income, and education) and FinTech adoption variables are comparatively weaker (correlation coefficients ranging from 0.10 to 0.25), they still hold significance. These findings suggest that individual characteristics modestly influence FinTech adoption within the Coimbatore region. For instance, younger individuals may exhibit a slightly higher propensity to find FinTech services easy to use and useful, aligning with their familiarity with technology. Meanwhile, higher-income individuals may perceive FinTech services as more useful due to their financial sophistication. Understanding these nuanced demographic influences can aid in tailoring marketing strategies and product offerings to different customer segments. The correlation matrix provides a comprehensive snapshot of the interplay between various factors

impacting FinTech adoption. It highlights the need for a holistic approach that considers both user experience and individual demographics when crafting strategies to promote FinTech adoption in the Coimbatore region. By addressing the user-centric aspects of ease and usefulness and acknowledging the role of demographics, financial institutions and policymakers can better target their efforts to foster a more robust and sustainable FinTech ecosystem within the banking sector. These insights contribute to a more nuanced understanding of the region's FinTech adoption dynamics and offer a roadmap for promoting financial innovation and inclusion.

Discussion on analyze the impact of FinTech adoption on financial inclusion within the Coimbatore region.

Table 3
MANOVA Analysis

Source	Pillai's Trace	F Value	p-value
Wilks' Lambda	0.30	6.85	< 0.001
Perceived Ease of Use	0.20	4.50	0.004
Perceived Usefulness	0.25	5.25	0.001
Actual Usage	0.30	6.00	< 0.001
Demographic Factors	0.10	2.25	0.033

Table 3 examines the MANOVA analysis of the adoption of fintech services in banking sector for sustainable development in Coimbatore region. The analysis of the impact of FinTech adoption on financial inclusion within the Coimbatore region, as depicted through a Multivariate Analysis of Variance (MANOVA) table, reveals significant relationships between key factors. The MANOVA results indicate a substantial multivariate effect (Wilks' Lambda = 0.30, $F(12, 540) = 6.85$, $p < 0.001$), signifying that at least one independent variable significantly influences the dependent variables collectively. Further univariate tests unveil specific impacts: perceived ease of use, perceived usefulness, actual usage of FinTech, and demographic factors, including income, exhibit statistically significant effects on various dimensions of financial inclusion. These findings underscore the multidimensional nature of the relationship between FinTech adoption and financial inclusion, emphasizing the pivotal role of user perceptions, actual engagement, and demographic attributes in shaping financial inclusion outcomes within the Coimbatore region. Such insights serve as a foundation for informed policy-making and tailored strategies to enhance financial inclusion while leveraging the potential of FinTech innovation.

Conclusion

The conclusion of our study on the adoption of FinTech services for sustainable banking practices in the Coimbatore region of Tamil Nadu underscores the transformative potential of financial technology in shaping the future of the banking sector while emphasizing the critical need for tailored policies to harness its benefits effectively. Our comprehensive analysis has unveiled several crucial insights. First, the Coimbatore region is witnessing a notable surge in FinTech adoption, driven primarily by the perceived ease of use, perceived usefulness, and actual usage of FinTech services. These factors are interconnected, with individuals who find FinTech services easy to use also tending to perceive them as highly useful, resulting in increased engagement with these digital financial tools. This symbiotic relationship between user experience and perceived value underscores the central importance of user-centric design and effective communication strategies in promoting FinTech adoption. Furthermore, while demographic factors such as age, income, and education exerted modest influences on FinTech adoption, they are not the sole determinants of adoption patterns. Younger individuals exhibited a slightly higher propensity for adopting FinTech, aligning with their digital native status, but age alone does not dictate adoption. Similarly, higher-income individuals displayed a greater perception of usefulness, reflecting their financial sophistication, yet income is not the sole driver of adoption. Education also played a role,

albeit to a lesser extent, in influencing user perceptions. Therefore, a nuanced approach that considers both demographic attributes and user experience is essential for crafting effective strategies to bolster FinTech adoption. From a broader perspective, our findings illuminate the potential of FinTech to drive sustainable banking practices. The Coimbatore region, like many other areas globally, is striving to enhance financial inclusion while promoting responsible and eco-conscious financial behaviors. FinTech platforms offer a unique opportunity to align these objectives. Individuals who actively engage with FinTech services are better positioned to adopt sustainable banking practices, such as digital financial management, responsible investment choices, and eco-friendly transaction methods. Financial institutions and policymakers should recognize this potential and invest in FinTech solutions that empower users to make informed and sustainable financial decisions. By and large, the Coimbatore region's journey towards sustainable banking practices through FinTech adoption represents a compelling opportunity for financial institutions, policymakers, and users alike. By prioritizing user experience, tailoring strategies to diverse demographic groups, and promoting responsible and sustainable financial behaviors, the region can pave the way for a more inclusive, environmentally conscious, and technologically advanced banking sector. This convergence of FinTech and sustainability holds the promise of not only reshaping the financial landscape but also contributing to a more equitable and sustainable future for all residents of the Coimbatore region.

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