International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2025: 7.089

Antecedents of Customer Awareness and their Impact on Adoption Intentions of Fin-Tech Payment Applications

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Abstract: ***Fin-tech payment applications have revolutionized India's payment ecosystem by merging financial services with cutting-edge digital technologies. These platforms offer users fast, secure, and convenient payment solutions, contributing significantly to the nation's transition toward a cashless economy. Their rapid adoption in recent years has been driven by increased smartphone penetration, widespread internet connectivity, proactive government initiatives promoting digital transactions, and evolving consumer preferences-trends that were further accelerated during the COVID-19 pandemic. However, despite their availability and the strong push toward digitization, a considerable segment of potential users remains hesitant or under-utilizes these applications. This gap highlights that mere access to technology does not necessarily translate into adoption. Instead, customer decisions are influenced by multiple antecedent factors, including perceived ease of use, trust in the platform, perceived security, tangible benefits, and the influence of peers and social networks. These factors contribute to shaping customer awareness, which plays a mediating role in determining a user's intention to adopt fin-tech payment services. This research aims to systematically identify and analyze the antecedent factors that foster customer awareness of fin-tech payment applications and to evaluate how such awareness impacts adoption intentions. A structured questionnaire will be employed for primary data collection, targeting diverse demographic and socioeconomic user groups. The study will apply statistical techniques examine relationships between variables and test the proposed conceptual framework.The findings are expected to provide valuable insights into consumer behavior in the context of digital financial services. By understanding the pathways through which awareness translates into adoption, stakeholders- including fin tech companies, policymakers, and financial institutions- can develop targeted strategies to enhance user engagement, address trust and security concerns, and ultimately promote broader financial inclusion in India's rapidly evolving digital economy.***

Keywords: Fin-tech payment applications, Customer awareness, Antecedent factors, Adoption intentions

1. Introduction

Fin-tech payment technologies have significantly transformed the financial services sector in India, where banks, non-bank institutions, and fintech companies compete to attract and retain customers. Rapid growth in digital infrastructure, wireless communication, and smartphone penetration has enabled fintech platforms to provide fast, secure, and convenient financial services through smart devices. These platforms allow financial institutions to improve efficiency, enhance customer experience, and remain competitive in the evolving digital economy. Earlier studies such as Johnson et al. (2010) highlighted the growing adoption of mobile commerce in developing countries, while Facchetti et al. (2005) emphasized increased investments in digital infrastructure by financial institutions. With advancements such as biometric authentication, improved user interfaces, and contactless technologies, digital payment services have become more accessible and cost-efficient for consumers.

As fintech payment systems expand, understanding customer awareness and the factors influencing adoption has become increasingly important. Previous studies on digital payment adoption are largely based on models such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Research indicates that awareness, trust, perceived usefulness, perceived security, and ease of use strongly influence customers' behavioural intentions toward digital payments. However, adoption patterns vary across countries due to cultural, economic, and technological differences. Recent studies also highlight new determinants such as digital literacy, cybersecurity awareness, and regulatory transparency. Although India shows rapid growth in digital payments, gaps in awareness regarding security, privacy, and service reliability continue to influence adoption behaviour.

Therefore, this study aims to identify the antecedents of customer awareness and examine how these factors influence adoption intentions of fintech payment services. By analyzing demographic characteristics and evaluating relationships between variables using Structural Equation Modeling (SEM), the research seeks to provide insights that can help financial institutions, policymakers, and fintech companies design effective awareness strategies and promote wider adoption of digital payment platforms in India.

2. Literature Review

Fin-tech payment platforms have become an important part of the modern financial system, enabling users to perform fast, secure, and convenient digital transactions. The rapid growth of fintech has encouraged many researchers to study factors influencing its adoption, where trust, perceived usefulness,

ease of use, and customer awareness are consistently identified as key determinants. Alkadi and Abed (2023) reviewed 84 studies from 2015–2023 and found that the Technology Acceptance Model (TAM) is widely used to explain fintech adoption behaviour. Their study highlighted that trust and perceived usefulness strongly influence adoption, but gaps still exist regarding demographic differences and multidimensional aspects of awareness.

Similarly, Singh, Sahni, and Kovid (2022) examined fintech adoption using interviews and surveys and found that prior experience, perceived risk, usability, trust, and digital literacy significantly influence adoption intentions. Their findings also emphasized the importance of awareness-building initiatives such as marketing communication and digital literacy programs. Kanimozhi and Rose (2021) studied consumers in Kerala and found that demographic factors like age, education, and income affect awareness and adoption of fintech services.

Sahi (2022) highlighted the growing importance of awareness in digital payment adoption, noting that marketing campaigns, social influence, security messaging, and perceived value increase user awareness and adoption. Similarly, Goswami (2021) studied fintech adoption among rural users in India using the UTAUT2 framework and found that performance expectancy, effort expectancy, social influence, and price value influence adoption, while perceived risk moderates these relationships.

Amnas (2022) found that awareness increases trust, which in turn improves adoption intentions. Wei et al. (2021) also emphasized that perceived value and risk interact with awareness to influence fintech adoption. Hoang et al. (2022) further showed that brand image, trust, and awareness of bank–fintech collaborations positively affect adoption intentions.

Overall, existing literature indicates that awareness is a multidimensional concept involving knowledge of features, security, costs, and institutional credibility. It interacts with trust, perceived risk, usefulness, and social influence to influence adoption behaviour. However, research gaps remain regarding demographic differences, regional variations, and integrated frameworks combining behavioural, technological, and cognitive factors, highlighting the need for further research in fintech payment adoption.

3. Materials & Methods

The study aims to highlight the factors determining the adoption of Fin-tech Payment s which created an impact on the livelihood of the people. The study is empirical in nature that the survey method was used to elicit information from the bank customer chosen randomly from both the public and private sectors.

Table 2: Materials and Methods at a glance

Descriptor	Explanations
Research design	Survey Method
Study place	Chennai
Sample size	500
Sample technique	Purposive
Data collection	Questionnaire method
Measures and scale	Likert scale
Statistical tools	Frequency, SEM model
Software used	SPSS,AMOS

4. Analysis and Discussion

Profile of the Respondents

Table 3 explains the frequency distribution of Fin-tech Payment users. It is clear from the table that the male customers of the age group of 21-30, possess UG qualification and work in the Private sector with a monthly income of above Rs 50000 prefer using Fin-tech Payment .

Table 3: Profile of the Respondents

Demographic Variable	Classification	Frequency N= 500	Percentage
Gender	Male	271	54.2
	Female	229	45.8
Age	21-30	241	48.2
	31-40	133	26.6
	41-50	76	15.2
	50 Above	50	10.0
Education	HSC	69	13.8
	UG	125	25.0
	PG	83	16.6
	Professional	91	18.2
Employment	Government	152	30.4
	Private	217	43.4
	Business	84	16.8
	Others	47	9.4
Monthly Income	Below 20000	54	10.8
	21000- 30000	214	42.8
	31000-40000	157	31.4
	41000-50000	70	14.0
	Above 50000	5	1.0
Place of Residence	Urban	250	50.0
	Rural	250	50.0
Nature of Bank	Private Sector	212	42.4
	Public sector	288	57.6

Source: Primary data

The above table also shows that the customers of the **Fin-tech Payment** are urbanite holding their accounts in a public sector bank. The study done by *Anwarulu and Umme (2016)* in Bangladesh elucidates that the majority of the **Fin-tech Payment** users were male of the age group of 21-25, *Amala and Shahir 2015* also highlighted that majority of Fin-tech Payment users were male who were graduates employed in private sector. The study by *Hashita 2015* also supported our findings that the majority of the male respondents belonging to the age group of 21-30 were using mobile banking app services provided by a public sector bank.

Frequency of MBA Usage

The frequency of MBA usage by the respondents is revealed in the above Table 4. The majority of the respondents often use a **Fin-tech Payment** for their banking transactions, and only 9% of the customers rarely use the mobile banking app.

Thus it can be concluded that customers prefer carrying out their banking transactions through mobile banking as application as mobile banking provides the benefits of convenience and mobility. *Vinayagamoorthy & Ganesan (2015)* highlighted in their study regarding the usage of a Fin-tech Payment for a transaction. They revealed that the banking customers use frequently their **Fin-tech Payment application** for the transaction as they believe that transactions through app saves their time and can access anytime anywhere their bank account.

Table 4: Fin-tech Payment usage

Frequency of Usage	Respondents	Percentage
Often	260	52.0
Monthly Once	108	21.6
Fortnight Once	86	17.2
Rarely	46	9.2
Source: Primary data		

Factors Influencing Adoption

Table 5: Antecedents of Fin-tech Payment Adoption Service

Factors Influencing The Adoption	Mean	SD	Rank
Perceived Innovativeness (PI)	18.32	4.99	9
System Quality (SQ)	30.21	7.53	2
Content Quality (CQ)	18.72	4.69	8
Service Quality (SQ)	37.38	9.57	1
Perceived Usefulness (PU)	26.78	5.65	4
Perceived Ease of Use (PEOU)	27.83	6.44	3
Perceived Cost (PC)	18.82	4.12	7
Social Influence (SI)	21.16	5.94	5
Utilitarian Tendency (UT)	19.16	4.66	6
Source: Primary data			

The mean and standard deviation of the factor reveals the factor determining the adoption of Fin-tech Payment by the customer. It is evident from Table 5, that the Service Quality (37.38) is the most important factor Influencing Customers' Adoption Of Fin-tech Payment Service, followed by System Quality), Perceived Ease of Use, Perceived Usefulness, Social Influence, Utilitarian Tendency Perceived Cost, Content Quality, Perceived Innovativeness. Thus it can be stated that respondents are more concerned with **Fin-tech Payment** apps services quality

Structural Equation Modeling

The results of SEM include two competent: the measurement model and the structural model. The measurement model gives the relationship between latent variables and observed variables. The structural model studies path strength and the direction of the relationships the latent variable

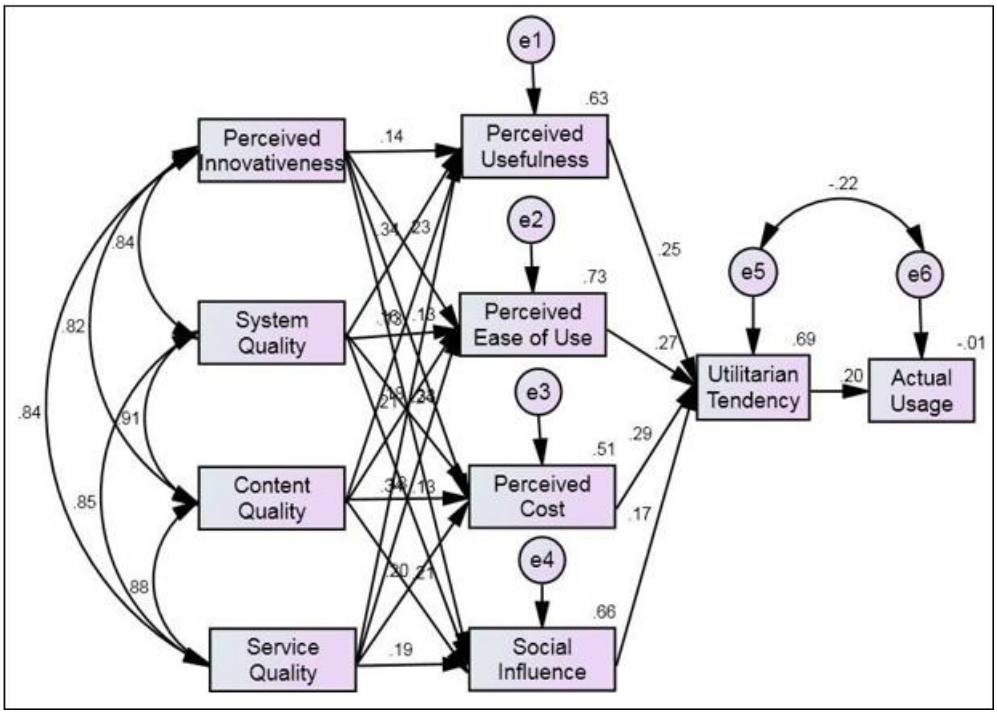

Figure 1: Structural Equation Model (SEM) based on Standardised Coefficient on Antecedents of Intention and Usage towards customers adoption of Fin-tech Payment

Structural equation modeling evaluates whether the data fit a theoretical model. In order to evaluate the model, emphasis was given to Chi-square/degrees of freedom (x2/df), Common model-fit measures like the comparative fit index (CFI), root

mean square error of approximation (RMSEA), the normed fit index (NFI), incremental fit index (IFI), and the Tucker Lewis index (TLI) were used to estimate the measurement model fit.

Table 6: Unstandardized structural path & standardized structural path

Variables			Unstandardised coefficient (B)	S.E of B	Standardized co- efficient (Beta)	t value	P value	Accept/ Reject
PU	<---	**PI**	.162	.063	.143	2.590	.010	Accept
PEOU	<---	**PI**	.295	.061	.229	4.875	***	Accept
PC	<---	**PI**	.110	.053	.134	2.102	.036	Accept
PU	<---	**SQ**	.258	.052	.344	4.924	***	Accept
PEOU	<---	**SQ**	.114	.051	.133	2.245	.025	Accept
PC	<---	**SQ**	.129	.044	.236	2.935	.003	Accept
PU	<---	**CQ**	.196	.087	.163	2.248	.025	Accept
PEOU	<---	**CQ**	.286	.084	.208	3.388	***	Accept
PC	<---	**CQ**	.161	.073	.184	2.200	.028	Accept
PU	<---	**SQ**	.109	.037	.185	2.930	.003	Accept
PEOU	<---	**SQ**	.226	.036	.336	6.286	***	Accept
SI	<---	**SQ**	.119	.037	.192	3.187	.001	Accept
SI	<---	**CQ**	.265	.088	.209	3.014	.003	Accept
SI	<---	**PI**	.390	.063	.327	6.180	***	Accept
SI	<---	**SQ**	.105	.053	.133	1.991	.046	Accept
PC	<---	**SQ**	.086	.031	.200	2.756	.006	Accept
UT	<---	**PU**	.204	.029	.249	7.100	***	Accept
UT	<---	**PEOU**	.197	.027	.274	7.199	***	Accept
UT	<---	**PC**	.322	.036	.286	8.893	***	Accept
UT	<---	**SI**	.132	.028	.169	4.699	***	Accept
AU	<---	**UT**	.211	.057	.198	3.693	***	Accept

Note: ** denotes significant at 1% level
Perceived Innovativeness-**PI**,
System Quality- **SQ**,
Content Quality-**CQ**,
Service Quality-**SQ**
Perceived Usefulness-**PU**,
Perceived Ease of Use - **PEOU**,
Perceived Cost - **PC**,
Social Influence - **SI**,
Utilitarian Tendency -**UT**

Table 6 shows the Unstandardised coefficients and associated test statistics and figure1 present the significant structural relationship among the research variable and standardized path coefficient with their respective significance level. It also shows that the model explained substantial variance in perceived ease of use (R^2 =.727), perceived usefulness (R^2 = .631), Perceived cost (R^2 = .512), Social influence (R^2 = .66).

The amount of change in the dependent or mediating variable for each one-unit change in the variable predicting is highlighted by the Unstandardised regression coefficient. The Table illustrated the Unstandardised estimate, its standard error(abbreviated S.E.), and the estimate divided by the standard error (abbreviated C.R. for Critical Ratio). Under the column P, the probability value associated with the null hypothesis (H_0) is exhibited. The above table shows us the Unstandardised coefficient of Perceived innovativeness on Perceived usefulness, perceived ease of use, and the perceived cost is 0.162,.295 and .110 which represents the partial effect of Perceived innovativeness on Perceived usefulness, perceived ease of use and perceived cost, holding the other path variables as constant. Similarly, the p-value of perceived innovativeness on perceived ease of use, perceived usefulness, and perceived cost is less than 0.05 which indicates that innovativeness influences cost, usefulness and ease of use factor as customers prefer innovativeness in their application and updates for continuous usage of application The ratio of Unstandardised coefficient of System quality, content quality, service quality, Perceived ease of use and perceived usefulness is significantly accepted. The table also reveals that the utilitarian tendency of the Fin-tech Payment determines the actual usage of the application. customers expect the functional and productivity from Fin-tech Payment s for actual usage of an application. For the purpose of testing the model fit, the following analysis is done

Table 7: Model fit summary of Structural Equation Model

Chi-square value	DF	Chi-square value/DF	GFI	AGFI	NFI	CFI	RMR	RMSEA
54.195	17	3.188	.945	.921	.971	.974	.063	.076
		< 5.00 (Hair et al., 1998)	>0.90 (Hu and Bentler, 1999)	> 0.90 Hair et al. 2006)	> 0.90 (Hu and Bentler, 1999)	> 0.90 (Daire et al., 2008)	< 0.08 (Hair et al . 2006)	< 0.08 (Hair et al. 2006)

According to Gerbing and Anderson (1992), the criteria for an acceptable model are as follows: RMSEA of 0.08 or lower; CFI of 0.90 or higher; and NFI of 0.90 or higher. The fit between the data and the proposed measurement model can be tested with a chi-square goodness-to-fit (GFI) test where the probability is greater than or equal to 0.9 indicates a good fit (Hu and Bentler, 1999). Bollen (1989), highlighted that the higher the probability associated with Chi-Square, the closer the fit between the hypothesized model and the perfect fit. The test of our null hypothesis (H0), regarding the factors determining the adoption of a Fin-tech Payment , yielded a chi- square value of 54.195 with 16 degrees of freedom. The GFI of this study is 0.945 which is more than the recommended value of 0.90 the other measures fitted satisfactorily; AGFI=0.921, CFI=0.974, NFI=0.971 with x2/df < 3 at 3.188 and RMSEA=0.076 (Bagozzi and Yi, 1988) indicate a good absolute fit of the model.

5. Conclusion

The volume of Fin-tech Payment transactions has considerably increased in the last decade. The banks have started providing personalized service to their customers to meet their expectations. In spite of banks effort their exist other factors which influence the customer in the adoption of Fin-tech Payment . It has become important for banks to understand the factors that influence consumers to visit and conduct transactions on M-commerce by the mobile application system. This study evaluated the drivers determining the Fin-tech Payment adoption by the customer and identified that the "Service Quality" factor of IS influences the customers more towards the adoption of Fin-tech Payment s. The banks must concentrate on service quality of the application such as network availability, guidelines for transactions in the local language, proper platform for downloading the application etc. This will improve the customer base and will also help the customer in the adoption of such services to the fullest extent.

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