Antecedents of Fintech Adoption: An Empirical Study among Millennials's Attitude and Intention

B. Indira Priyadarshini
Research Scholar,
GITAM School of Business and
Assistant Professor in
Business Management,
St Ann's College for Women,
Mehdipatnam, Hyderabad
indira.boojala@stannscollegehyd.com
https://orcid.org/0000-0002-4087-4613

Dr. Poonam Gupta
Professor, Department of Commerce,
Dyal Singh Evening College,
Delhi University

Nandini Jagannarayan
Professor, Department of Commerce,
Assistant Professor,
Ramniranjan Jhunjhunwala College of Arts,
Science and Commerce, Mumbai-86

Dr. S. Ramesh Babu
Associate Professor,
Department of MBA, Business School,
Koneru Lakshmaiah Education Foundation,
Green Fields, Vaddeswaram, A.P.

Dr. Sarika Keswani
Assistant Professor,
Symbiosis Centre for Management
Studies Nagpur (SCMS Nagpur),
Symbiosis International
(Deemed University) Pune
https://orcid.org/0000-0002-2191-3103

Abstract

Purpose: With an increase in updated technologies use of Fintech services have also been increased. Intention to use of Fintech services largely depend upon attitude of individuals towards adoption of these services. Drawing upon the Technology Innovation Model (TAM) theory this paper observes different factors associated with customer's attitude towards acceptance of fintech facilities provided by banks that in turn affect intent about usage of these services. The features like Supposed Utility, Apparent Comfort for Usage, Supposed Peril, Trust Factor, Administration Sustenance, Consumer Innovativeness, Attitudes in the direction of Acceptance, Intent in the direction of Adoption are used in this study.

Methodology: The data was collected from residents of Delhi using a survey method through online mode. A well-structured questionnaire was circulated among customers with the help of employees of each branch by using the online platform WeChat. Also, Questionnaire was circulated among customers with the help of employees of each branch who gave them proper instructions to fill the questionnaire. It was circulated through WeChat. To inspect the strength of the association amid factors, , Confirmatory Factory Analysis (CFA) and regression path analysis were applied using SEM in AMOS software.

Findings: The findings revealed that Government Support is a key predictive variable for the adoption of Fintech services. Whereas Perceived Ease of Use and Perceived Risk are not significantly supported the attitude towards adoption of Fintech services. While other factors slightly supported attitude towards adoption.

Practical Implications: The findings of this article are useful for banks to provide empirical framework for customers to adopt new, user-centered fintech services.

Originality/Value: This article in useful for the banking institutions, Government agencies and insurance companies provide empirical framework for customers to adopt new, user-centered fintech services.

Keywords: Perceived Usefulness, Perceived Ease of Use, Perceived Risk, Trust Factor, Government Support, User Innovativeness, Attitudes towards Adoption, Intention towards Adoption

Introduction

In today's rapidly evolving financial landscape, the acceptance and application of Fintech amenities have become pivotal to individuals and businesses alike. The rapid growth of financial technology, or Fintech, has revolutionized the way individuals manage their finances, invest, and transact in the modern world (Twum et. al.,2021). Fintech includes a comprehensive range of advanced services and products, from portable banking apps and peer-to-peer advancing podiums to crypto currencies and robo-advisors. These technologies promise to enhance convenience, efficiency and accessibility in the financial sector, reshaping traditional banking and investment practices. The decision to embrace these innovative financial technologies is not solely determined by their functionality or availability; rather, it hinges significantly on the attitudes of individuals towards their adoption. In recent years, a variety of research projects have focused on the technology adoption model (TAM), which is designed to capture the intent to transact and the relationship between this intent and online transactional behaviour. Technology Acceptance is a measure of the practicality of technology acceptance, which is based on the fact that it is heavily skewed towards technology (Pavlou, 2003). The selection of Technology Acceptance as a direct component of intention towards use of technology was based on the criteria of perceived usefulness, perceived ease of use, perceived risks etc. the most common criteria for Technology Acceptance. The relationship between Fintech services and user attitudes is a dynamic and multifaceted one, influenced by a myriad of factors ranging from trust and perceived benefits to familiarity and risk tolerance.

As we delve deeper into this intricate realm, it becomes clear that the intentions to use Fintech services largely depend upon the mindset and perspectives of individuals. In this context, understanding the psychology and motivations behind Fintech adoption is crucial for both providers and consumers. This exploration will uncover the key drivers and barriers that shape people's attitudes towards Fintech, shedding light on how these groundbreaking technologies are transforming the financial landscape and the individuals who participate in it.

The current paper seeks to explore the critical part that individual attitudes play in determining the intention to use Fintech services by using technology acceptance model (TAM). Drawing on existing research and empirical evidence, the present paper is a preliminary investigation into the key determinants and influencers of these attitudes, shedding light on the intricate interplay between technology, finance, and human behavior. By understanding the aspects that drive or obstruct the adoption of Fintech, businesses, legislators, and researchers can develop strategies to promote its acceptance and utilization (Jaradat &Twaissi, 2010; Cho, 2024; Hai and Duong, 2024; Semara et al., 2024; Maltare et al., 2023; Bagga et al., 2024; AlZubi, 2023).

The study is being performed with Millennials as the target audience as they are considered as one of the leading cohorts which very soon are going to move in their key years. Very soon, they will become a crucial segment of the forthcoming world, from the viewpoint of both consumers and workers. Millennials will be the folks who will play an immense role in determining and building commerce and businesses. They are often regarded as “technology savvy cohort”.

Theoretical background

Many previous researches have successfully applied technology adoption model and have proven the model a good fit for technology adoption Shachak et al. (2019) has concluded that there exist other variables also which are crucial to understand the technology adoption process smoothly. Consequently, different studies explored TAM with numerous novel variables, like technology anxiety along with support of the government, family support, societal effect and apparent peril, among others. Basis the findings of the previous literature and recommendations from numerous practitioners', present study has been undertaken to study the effect of numerous variables on the attitude towards technology acceptance and the

relationship amongst attitude towards technology adoption and purpose to adopt.

Perceived Usefulness

On the basis of the recommendations of the technology adoption model, perceived usefulness is defined as the extent to which one assumes that use of technology will lead to an increase in their respective performance (Davis, 1989; Grover et al., 2019). In the extensive literature, there are numerous studies which showcased significant effect of perceived usefulness on the behaviour attitude towards adoption. This construct is considered to be an important determinant in technology adoption model(Venkatesh and Morris, 2000; Chen and Barnes, 2007). The prevailing studies has suggested that perceived usefulness meaningfully impacts intent to accept technical novelties thus affecting their real use (Adams et al., 1992; Gefen and Straub, 2003; Laukkanen, 2017). The optimistic effect of perceived usefulness on behavior attitude is analytically verified at different point of time. Therefore, considering both, the results of empirical study and academic context, it is recommended that the higher the extent of perceived worth about different financial innovations, greater will be their real usage. Therefore, it will be thought-provoking to examine the effect of apparent usefulness on the behavior attitude towards adoption and intention towards adoption. Hence, the corresponding hypothesis proposed for the model is as follows

H1: There exists a substantial connection amongst perceived usefulness and attitude towards adoption.

Perceived Ease of Use

As per Davis (1989) perceived comfort of usage is the level to which one person assumes about the number of efforts required for the usage of technology. Lesser the efforts the more is the perceived use of ease and vice versa. Also, the Technology Adoption Model additionally emphasizes that the construct of apparent comfort of usage is the crucial aspect in elucidation of the degree of variance in the variable called as perceived usefulness. It is suggested that comfort of usage has an optimistic and direct outcome on behavior attitude towards technology services. This, in the longer aspect, can lead to the acceptance of technological services by the users. It is likewise found that perceived ease of use boosts the forecast of use of technology services together with Internet banking (Gounaris and Koritos,2008) as well as further IT-related goods (Adams et al., 1992; Gefen et al., 2003). As there exists plentiful variations of FinTech facilities, awareness for ease of use can be verified for its effect on the behavior attitude. in view of the earlier works and observed studies, another proposed hypothesis is as follows

H2: There exists a noteworthy association amongst perceived ease of use and attitude towards adoption.

Apparent Risk

Apparent risk has been examined over the last many decades to govern an association amid human behaviour. A risk is a performance of an individual who makes a choice that provides optimism and unfavourable effect (Fernando &Touriano, 2018). The behaviour of the user towards risk is defined in a multidimensional way (Peter & Ryan, 1976; Yang et. al., 2015). The user also accepts the likely undesirable consequences of its use Risk used to play a crucial role in all aspects and in all times like finance, societal, time etc. Based on the significance of risk, the following hypothesis is framed for the current study.

H3: There exists a noteworthy association amongst apparent risk and attitude towards adoption.

Trust Factor

Another crucial factor influencing user's decision to use technology for adoption of fintech services are the trust for safety of transactions done online (Gefen and Straub, 2003). The safety of online dealings along with the repute of the facility provider are considered as the vital parameters prompting trust for performing financial transactions (Pavlou, 2003; Damghanian et. al., 2016). When equated with the earlier brick-and-mortar model of doing and using financial services, trust is more important while performing online financial transactions (Reichheld and Schefter, 2000). In the absence of face-face interface, at the time of performing FinTech services, operators sense a larger peril and ambiguity. Trust is the utmost operative means for dropping this peril and ambiguity (Suh and Han, 2002; Pavlou, 2003). Numerous previous experimental

studies included trust as an antecedent in adopting technology Results show trust to be forerunner for the ease-of-use construct (Pavlou, 2003; Grabner &Faullant, 2008) and usefulness (Pavlou,2003; Dahlberg et al., 2003). The boosted trust also positively affects the social customs for use of FinTech services. Consequently, seeing the usefulness of trust in elucidation the belief behavior, current study aims to discover the influence of trust on the user attitude for adoption of FinTech services. The next hypothesis proposed for the model is

H4: There exists a noteworthy association amid trust and attitude towards adoption.

Government Support

Government support progresses the growth of favourable atmosphere for the Fintech division through the innovation office. Government support is generally perceived as the vital strength for Fintech progress. Numerous studies validated the need for government support and concluded presence of significant positive association with the adoption process. In the present study, government support is available and connected with structural development, lawmaking, and guidelines that can encourage the growth of Fintech sector. Therefore, to investigate the relationship amongst extent of government support and attitude towards adoption, the succeeding hypothesis is proposed.

H5: There exists a noteworthy association amongst government support and attitude towards adoption.

User Innovativeness

Lu et. al., (2005) explained consumer innovativeness as the grade to which an individual is enthusiastic totrial with novel know-how. User novelty can be enhanced by improving the usage of exterior information. Further, Hu et al., (2005) define the construct of user novelty as the extent of person's acceptance of novel goods, new skills, or new facilities and amenities. The willingness to admit the existence of novel expertise is the topmost motivating feature for technology adoption (Jahanmir& Cavadas, 2018; Yun et al., 2020). The intent for trying novel technologies, and a readiness to trial with Fintech services is considered in the present study as user innovativeness.

Basis the prior studies, the following hypothesis is proposed:

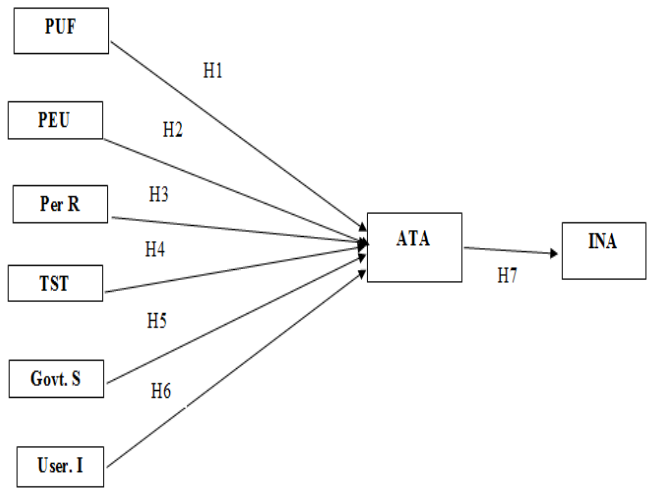
H6: There exists a noteworthy relationship amongst user innovativeness and attitude towards adoption.

Attitude and Intention towards Adoption

User's intents rest on their attitudes toward the usage of FinTech, conferring to theory of TRA and model of technology adoption. Contingent on the attitude of the users, may forecast their behaviour towards the usage of FinTech (Davis, 1989; Fishbein & Ajzen, 1977). Therefore, following hypothesis was framed out for the model.

H7: There exists a noteworthy connection amongst attitude towards adoption and intention towards adoption.

Figure 1: Hypothesized Model



Source: The authors

PUF: Perceived Usefulness

PEU: Perceived Ease of Use

Per R: Perceived Risk

TST: Trust Factor

Govt. S: Government Support

User. I: User Innovativeness

ATA: Attitudes towards Adoption

INA: Intention towards Adoption

Research Methodology

Research Design: Present study is a descriptive study for which primary information gathered through well-structured questionnaire circulated online mode. The aim of this study was to find out the valuable factors influencing the adoption of Fintech services by measuring different statistics like reliability, validity and also measure the behavioral intentions of users.

Research Instrument

For this study a survey was conducted among active customers of cooperative banks of the region of Delhi. Random sampling method was used to select the customers for the study. Customers who were active in using Fintech services of the bank like online banking, mobile banking etc. included in this study. A well-structured questionnaire was prepared and circulated among customers through online mode. Questionnaire was circulated among customers with the help of employees of each branch who gave them proper instructions to fill the questionnaire. It was circulated through WeChat. Fintech services were defined in the questionnaire as an innovative financial service. innovative financial services mean services using new technological tools like online banking, mobile banking, big data, cloud computing, online insurance, online personal loan and other Fintech services. The questionnaire included interrogations connected to demographic individualities of respondents as well as features of fintech amenities by using a five-point Likert-scale. To measure the statistics of reliability for the gathered data, a pilot study was conducted among 100 customers. The value of Cronbach's alpha (CA) was measured as above 0.7, implying reliable data.

Sample Size: The sample size for the survey of Fintech services was 610 participants. Around 610 surveys questionnaires were distributed to customers but only 512 responses were received. All the absent/ invalid responses and random filling were eliminated and total 380 valid responses were transmitted into SPSS 20 version for further study. In this article, the collected data were analyzed by using AMOS 20 version. The demographic variables of 380 questionnaires such as education level, gender, age, occupation, annual income, and the use of Fintech services/products were also analyzed, as shown in Table 1. This table describes that the majority of respondents in the sample were men, 65.78% of the respondents, while 34.21% were women. Most of the respondents belong to the age group of 32-41 years, 36.84%, while the minimum number was from the age group of more than 51-60 years. In terms of education, 39.47% of respondents were graduate. Among these participants 63.15% were usual user of fintech services.

Table1. Demographic characteristics and category of the Respondents

Demographic Characteristics	Frequency (N)	%
Education		
Diploma/ Intermediate	80	21.05%
Bachelor/ Graduate	150	39.47%
Masters/ Postgraduate	90	23.68%
Other	60	15.78%
Gender		
Male	250	65.78%
Female	130	34.21%
Age		
21 -31 years	120	31.57%
32–41 years	140	36.84%
42–51 years	70	18.42%
51-60 years	50	13.15%
Income/ Y(p.a)		
Less than 2 Lakh	50	13.15%
2–8 lakh	70	18.42%
9–16 lakh	130	34.21%
Above 16 lakh	130	34.21%

Demographic Characteristics	Frequency (N)	%
Employment status		
Student	30	7.8%
Salaried employee	110	28.94%
Self-Employed	140	36.84%
Temporary Employee	70	18.42%
Other	30	7.8%
Fintech service usage		
Never	12	3.15%
Occasionally	70	18.42%
Usually	240	63.15%
Frequently in everyday	58	15.26%

Source: The authors

Measurement Instrument Development

This section presents epistemic relationships between dimensionality of ATA and INA that characterizer Fintech services. The epistemic relationship represents relationship between constructs and their indicators (Picón et al., 2014). To establish the epistemic relationship a main survey questionnaire instrument consisting of 23 questions was adopted in form of Likert-Scale. In 5-point Likert-Scale options for respondents were available as strongly disagree, disagree, neutral, agree, and strongly agree. Further to measure the relationship between dependent and independent variables, data processing and analysis structural equation modelling (SEM) Approach was used. SEM was used with the help of AMOS version 20 software which is very useful for conducting confirmatory factor analysis (CFA), multiple regression analysis (MRA) and path analysis (Rai, K., & Gupta, A.,2021).

Analysis Results:

Instrument/ Scale Validity and Reliability:

To test the model CFA (Confirmatory factor analysis) was used. CFA is valuable analysis tool to test internal consistency among statements, factor reliability and validity, discriminant validity etc. Reliability reflects reliability of the questionnaire items and the degree of consistency of the measurement results. CFA also facilitates various tools to test the internal consistency among data like CR (composite reliability), CA (Cronbach's alpha) etc. that have been used in this paper. The recommended value of composite reliability of the sample is considered to be more than 0.7 while the recommended value of Cronbach's alpha should be more than 0.8 (Fornell, C., & Larcker, D. F.,1981). In the analysis table (Table 3) Cronbach's alpha (CA) of all latent variables have been found more than the recommended values, which refers the model has a good internal consistency.

Table 2.

Construct	Items	Statement	Authors
Perceived use	PUE1	Using Fintech services is easy and convenient	Lockett et al., 1997 and Huh et al., 2009
	PUE2	The Fintech interface facility is easily understandable	
	PUE3	Easy access to the devices for the usage of Fintech services is available	
Perceived Usefulness	PUF1	I am able meet my own financial needs using fintech amenities	Cheng et al., 2006
	PUF 2	Fintech services saves my time	
	PUF3	Fintech services improves my level of efficiency	
	PUF4	My efficiency improves when fintech services are used.	
Trust	TST1	I believe in the economic safety while using fintech services	Yee Loong Chong et al., 2010
	TST2	I believe my private information is safe when using fintech services.	

Construct	Items	Statement	Authors
PER. R.	PER R1	High level of risk is associated with using fintech service	Marakarkandy et al., 2017
	PER R2	Only little difference exists when fintech services are compared with traditional services.	
	PER R3	By using Mobile Fintech Facilities , user is exposed to great level of risk	
User Innovativeness	User I.1	Whenever there is any new product in the market , I look forward to try it	Zhang et al., 2018
	User I.2	Amongst all my friends , I am the first to make use of a new tech product	
Government Support	GS1	The support of the government improvises the usage of Fintech services	Marakarkandy et al., 2017
	GS2	There exists a favourable legislation for the usage of Fintech services	
	GS3	There exists an active infrastructural support towards fintech services.	
Intention towards Adoption	INA1	I intend to embrace mobile fintech facility in the coming days	Marakarkandy et al., 2017
	INA2	I foresee that I will regularly use mobile fintech facility in the coming days	
	INA3	I will stalwartly endorse others to use mobile fintech facility	
Attitude Towards adoption	ATA1	I trust using Fintech	et al., 2008
	ATA2	I gain enjoyable experience while using fintech facilities.	
	ATA3	I am interested in using Fintech facilities	

Table 3: Summary of CFA (Reliability and validity measures)

Variables	Item	Standardized Factor Loading	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
PUF	PUF1	0.712			
	PUF2	0.867			
	PUF3	0.800			
	PUF4	0.872	0.824	0.876	0.662
PEU	PEU1	0.852			
	PEU2	0.874			
	PEU3	0.848			
			0.823	0.892	0.736
Per R	PER R1	0.801			
	PER R2	0.909			
	PER R3	0.857	0.836	0.901	0.736
TST	TST1	0.872			
	TST2	0.910	0.798	0.891	0.805
Govt. S	Govt. S1	0.814			
	Govt. S2	0.801			
	Govt. S3	0.867	0.797	0.871	0.701
User I.	User I.1	0.903			
	User I.2	0.901	0.801	0.902	0.821
ATA	ATA1	0.901			
	ATA2	0.892			
	ATA3	0.897	0.876	0.918	0.819
INA	INA1	0.869			
	INA2	0.801			
	INA3	0.854	0.809	0.881	0.721

Source: The authors

AVE= average variance extracted should be more than the recommended value i.e., 0.5 (Ruvio, Shoham, & Brenčič, 2008).

CR = Composite Reliability should be more than the recommended value i.e., 0.7 (Chin, W. W.,1998)

Cronbach's alpha should be more than the recommended value i.e., 0.8 (Fornell, C., & Larcker, D. F.,1981)

Validity here includes both convergent validity and discriminant validity which reflects the degree with which the model fits the collected data. The convergent validity reflects correlation degree among variables that is through AVE, CR and Cronbach's alpha. All these indicators found to be satisfactory (Table 3) as per the recommended values. Discriminant validity refers the degree to which each variable distinguished/ Separated from others. In this model discriminant validity of each variable is good as shown in Table 4.

Table 4. Measurement Model Diagonal Elements (Discriminant validity of constructs)

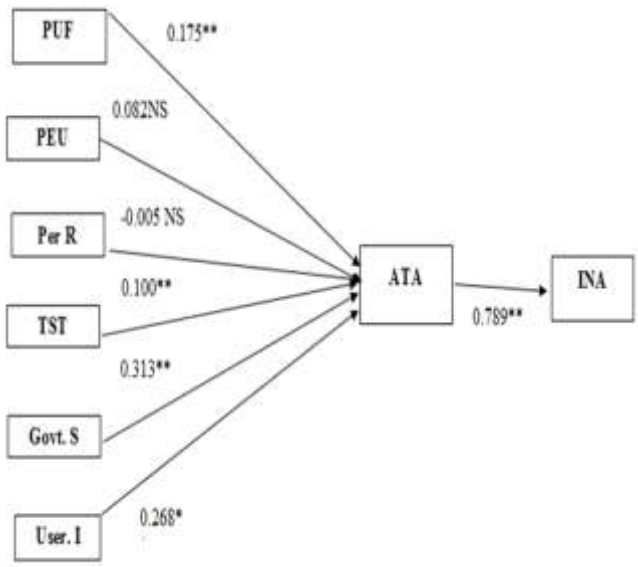
Constructs	PUF	PEU	Per R	TST	Govt. S	User I.	ATA	INA
PUF	.811	_	_	_	_	_	_	_
PEU	.721	0.861	_	_	_	_	_	_
Per R	-.201	-0.157	0.869	_	_	_	_	_
TST	0.417	0.451	-0.358	0.906	_	_	_	_
Govt. S	0.501	0.501	-0.176	0.558	0.837	_	_	_
User I.	0.273	0.345	-0.129	0.491	0.501	0.908	_	_
ATA	0.568	0.571	-0.218	0.601	0.700	0.609	0.909	_
INA	0.512	0.532	-0.229	0.569	0.588	0.549	0.789	0.847

Source: The authors

Structural Equation Model (SEM) Results: Hypotheses Testing

SEM is a statistical technique to test hypotheses by using the covariance between variables and also used for multivariate data analysis. In this section proposed hypotheses tested by obtaining Standardized path coefficient (SPC) and t value by using AMOS 20 using SEM model. If the value of t is more than the recommended value 1.96, the coefficient test is considered significant at confidence level $p < 0.05$. If the value of t is more than the recommended value 2.58, the coefficient test is considered significant at confidence level $p < 0.01$. If the value of t is more than the recommended value 3.1, the coefficient test is considered significant at confidence level $p < 0.001$. Hypotheses test results (beta values) have been shown in Figure 2 below.

Figure 2: Proposed model Structural results (*, p < 0.05; **, p < 0.01; ***, p < 0.001). NS= Hypotheses Not Supported



In the above results the values of PUF (β = 0.175, t = 3.299), TST (β = 0.100, t = 2.111), Govt. S (β = 0.313, t = 5.499), and User I (β = 0.268, t = 6.288) all these had a momentous positive influence on ATA. Thus, hypotheses H1, H4, H5 and H6 were supported as their t values were more than 1.96. Since ATA (b = 0.789, t = 24.86) had a noteworthyinfluence on INA and supporting H7. However, hypotheses H2 and H3 were not supported because their t values were less than 1.96. The values of PEU (b = 0.082, t = 1.268) and Per. R (b = -0.005, t = 0.199) had no significant impact on ATA.

Conclusions

This article presents the valid reasons for the use and acceptance of Fintech facilities by consumers of banks. The result of this exploration study is consistent with investigation of Sikdar et. al., 2015. This paper supported the results of Marakarkandy et al. (2017) that concluded Government Support is a key predictive variable for the acceptance of Fintech amenities. Like Kesharwani et al. (2012) results, this paper also give evidence that PEU, Per. R are not significantly associated with ATA. During this research work authors interacted with banks and its users. During this interaction authors found that popularity of the internet, risk, perceived ease of use, privacy, government support, usefulness, intelligent terminal equipment and user innovativeness are key aspects that effect use of fintech amenities. The findings of this article are useful for banks to provide empirical framework for customers to adopt new, user-centered services.

Limitations Of The Study

As discussed before also, the current study is performed on a small sample, which can be considered as a major limitation of the study. Also, data is collected from a specific context in a specific region i.e., Delhi only. Although this study has reinforced many sub- portions of the prevailing theory surrounding the observations of Artificial Intelligence and the influence of its acceptance, but when it comes to external validity, that is, the ability to generalize the results discovered to other circumstances, this study cannot be generalized or applied to the complete financial sector. It was just an exploratory study.

Practical Implications and Future Research

To address the alleged concerns posed by the global fintech boom, regulators and the banking industry need to take proactive actions. Instigating effective security for online dealings using biometrics option or with the help of tokenization is another area of concern. By improving protection of the users against the possibility of online financial scam, controllers might upsurge the use of fintech in the nation and safeguard both customers and service providers. Standardizing along with monitoring of all reporting procedures for fintech businesses is also indispensable. In regards to future research, it would be exciting to further study the numerous industry divisions within the financial segment. Although the present study enhances understanding about financial sector in particular, forthcoming research might carry out a similar study concerning the opinions on technology models and its adoption in different segments such as indemnification companies, credit institutions and securities broker. Moreover, it would be beneficial to spread the sample to other industry participants. New dimensions can be added by examine the perception of individuals from other Metropolitan states or other regions.

References

- Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: A replication. MIS quarterly, 227-247.
- AlZubi, A.A. (2023). Artificial Intelligence and its Application in the Prediction and Diagnosis of Animal Diseases: A Review. *Indian Journal of Animal Research*. 57(10): 1265-1271.
- Bagga, T., Ansari, A. H., Akhter, S., Mittal, A. & Mittal, A. (2024). Understanding Indian Consumers' Propensity to Purchase Electric Vehicles: An Analysis of Determining Factors in Environmentally Sustainable Transportation. *International Journal of Environmental Sciences*, 10(1), 1-13. https://www.theaspd.com/resources/1.%20Electric%20Vehicles%20and%20Enviorment.pdf
- Chen, Y. H., & Barnes, S. (2007). Initial trust and online

buyer behaviour. Industrial management & data systems, 107(1), 21-36.

- Cheng, T. E., Lam, D. Y., & Yeung, A. C. (2006). Adoption of internet banking: an empirical study in Hong Kong. Decision support systems, 42(3), 1558-1572.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. MIS quarterly, vii-xvi.
- Cho, O.H. (2024). An Evaluation of Various Machine Learning Approaches for Detecting Leaf Diseases in Agriculture. *Legume Research*. 47(4), 619-627. https://doi.org/10.18805/LRF-787
- Dahlberg, T., Mallat, N., &Öörni, A. (2003). Trust enhanced technology acceptance modelconsumer acceptance of mobile payment solutions: Tentative evidence. Stockholm Mobility Roundtable, 22(1), 145.
- Damghanian, H., Zarei, A., &SiahsaraniKojuri, M. A. (2016). Impact of perceived security on trust, perceived risk, and acceptance of online banking in Iran. Journal of Internet Commerce, 15(3), 214-238.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly, 319-340.
- Fernando, E., &Touriano, D. (2018, November). Development and validation of instruments adoption FinTech services in Indonesia (Perspective of trust and risk). In 2018 International conference on sustainable information engineering and technology (SIET) (pp. 283-287). IEEE.
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research, 18(1), 39-50.
- Gefen, D., & Straub, D. (2003). Managing user trust in B2C e-services. e-Service, 2(2), 7-24.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. MIS quarterly, 51-90.
- Gounaris, S., &Koritos, C. (2008). Investigating the drivers of internet banking adoption decision: A comparison of three alternative frameworks. International journal of bank marketing, 26(5), 282-304.
- Grabner-Kräuter, S., &Faullant, R. (2008). Consumer acceptance of internet banking: the influence of internet trust. International Journal of bank marketing, 26(7), 483-504.
- Grover, P., Kar, A. K., Janssen, M., & Ilavarasan, P. V. (2019). Perceived usefulness, ease of use and user acceptance of blockchain technology for digital transactions–insights from user-generated content on Twitter. Enterprise Information Systems, 13(6), 771-800.
- Hai, N. T. & Duong, N. T. (2024). An Improved Environmental Management Model for Assuring Energy and Economic Prosperity. *Acta Innovations*, 52, 9–18. https://doi.org/10.62441/ActaInnovations.52.2
- Huh, H. J., Kim, T. T., & Law, R. (2009). A comparison of competing theoretical models for understanding acceptance behavior of information systems in upscale hotels. International Journal of Hospitality Management, 28(1), 121-134.
- Jahanmir, S. F., & Cavadas, J. (2018). Factors affecting late adoption of digital innovations. Journal of business research, 88, 337-343.
- Jaradat, M. I. R., &Twaissi, N. M. (2010). Assessing the Introduction of Mobile Banking in Jordan Using Technology Acceptance Model. International Journal of Interactive Mobile Technologies, 4(1).
- Kesharwani, A., & Singh Bisht, S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. International journal of bank marketing, 30(4), 303-322.
- Laukkanen, T. (2017). Mobile banking. International Journal of Bank Marketing, 35(7), 1042-1043.
- Lockett, A., & Littler, D. (1997). The adoption of direct banking services. Journal of marketing management, 13(8), 791-811.

- Lu, J., Yao, J. E., & Yu, C. S. (2005). Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. The journal of strategic Information Systems, 14(3), 245-268.
- Marakarkandy, B., Yajnik, N., & Dasgupta, C. (2017). Enabling internet banking adoption: An empirical examination with an augmented technology acceptance model (TAM). Journal of Enterprise Information Management, 30(2), 263-294.
- Maltare, N. N., Sharma, D. & Patel, S. (2023). An Exploration and Prediction of Rainfall and Groundwater Level for the District of Banaskantha, Gujrat, India. *International Journal of Environmental Sciences*, 9(1), 1-17. https://www.theaspd.com/resources/v9-1-1-Nilesh%20N.%20Maltare.pdf
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. International journal of electronic commerce, 7(3), 101-134.
- Peter, J. P., & Ryan, M. J. (1976). An investigation of perceived risk at the brand level. Journal of marketing research, 13(2), 184-188.
- Picón, A., Castro, I., & Roldán, J. L. (2014). The relationship between satisfaction and loyalty: A mediator analysis. Journal of Business Research, 67(5), 746–751.
- Rai, K., & Gupta, A. (2021). Financial literacy leads to retirement financial planning: A structural equation modelling approach. Journal of Commerce & Accounting Research, 10(4), 9-18.
- Reichheld, F. F., & Schefter, P. (2000). E-loyalty: your secret weapon on the web. Harvard business review, 78(4), 105-113.
- Ruvio, A., Shoham, A., &Brenčič, M. M. (2008). Consumers' need for uniqueness: short-form scale development and cross-cultural validation. International Marketing Review, 25(1), 33-53.
- Shachak, A., Kuziemsky, C., & Petersen, C. (2019). Beyond TAM and UTAUT: Future directions for HIT implementation research. Journal of biomedical informatics, 100, 103315.
- Sikdar, P., &Makkad, M. (2015). Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers. International Journal of Bank Marketing, 33(6), 760-785.
- Suh, B., & Han, I. (2002). Effect of trust on customer acceptance of Internet banking. Electronic Commerce research and applications, 1(3-4), 247-263.
- Twum, F. A., Long, X., Salman, M., Mensah, C. N., Kankam, W. A., &Tachie, A. K. (2021). The influence of technological innovation and human capital on environmental efficiency among different regions in Asia-Pacific. Environmental Science and Pollution Research, 28, 17119-17131.
- Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. MIS quarterly, 115-139.
- Yang, Q., Pang, C., Liu, L., Yen, D. C., & Tarn, J. M. (2015). Exploring consumer perceived risk and trust for online payments: An empirical study in China's younger generation. Computers in human behavior, 50, 9-24.
- Yee-Loong Chong, A., Ooi, K. B., Lin, B., & Tan, B. I. (2010). Online banking adoption: an empirical analysis. International Journal of bank marketing, 28(4), 267-287.
- Yun, J. J., Zhao, X., Jung, K., &Yigitcanlar, T. (2020). The culture for open innovation dynamics. Sustainability, 12(12), 5076.
- Zhang, T., Lu, C., &Kizildag, M. (2018). Banking "on-the-go": examining consumers' adoption of mobile banking services. International Journal of Quality and Service Sciences, 10(3), 279-295.
- Semara, I. M. T., Sunarta, I. N., Antara, M., Arida, I. N. S. & Wirawan, P. E. (2024). Tourism Sites and Environmental Reservation. *International Journal of Environmental Sciences,* 10(1),44-55. https://www.theaspd.com/resources/4.%20Tourism%20Sites%20and%20Environmental%20Reservation%20objects.pdf