

## **Determinants of FinTech Adoption in India: Insights from West Bengal**

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**Abstract:** The term 'FinTech' (Financial Technology) can be described as the application of modern technology in traditional financial services. It integrates technological innovation within traditional financial services in order to improve operational efficiency, accessibility, optimise cost, and to offer better customer experience. Technological advancements have introduced various digital tools like mobile banking, digital wallet, QR-based payment etc. and accelerates the digital shift in routine financial behaviour. This study seeks to explore the factors that influence the FinTech adoption pattern. Furthermore, it investigates the association between various demographic factors and FinTech adoption pattern of Indian citizen. The present study is descriptive and exploratory in nature. Statistical tools like descriptive statistics, reliability analysis, ANOVA, factor analysis were applied for data analysis purpose. Despite the limited sample size, the study provides meaningful insights into the adoption pattern of FinTech, fuelled by six key drivers, such as Perceived Usefulness, Trust and Risk, Perceived Ease of Use, Attitude towards Adoption, Government Support, and Financial Literacy. Collectively these factors indicate users' perception and willingness towards adopting and using new technology in their routine financial activities.

**Key Words:** FinTech, FinTech Adoption, Technology Acceptance, Digital Payment System, Financial Behaviour.

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### **I. INTRODUCTION**

Financial Technology (FinTech) is essentially the application of modern technology in traditional financial services. It helps in the creation of new business models using advanced technology that aims to improve operational efficiency, minimize cost, and provide better customer service, etc. (Chavan & Patankar, 2024). It can be said that FinTech utilizes technology to help entrepreneurs, companies, businesses, and consumers manage their financial activities efficiently. Moreover, FinTech companies allow their users to initiate, observe, and settle financial transactions in real-time mode, and the solution that these firms offer can be easily implemented by unserved or underserved communities of our society.

Technological advancement is forwarding the innovations and broad acceptance of FinTech offerings in the society. These technological advancements have facilitated the generation of capabilities such as digital wallets, smart apps, QR code, open banking platforms using APIs etc. (Chavan & Patankar, 2024). These factors ensure wider adoption of digital transactions in day-to-day life, which ultimately indicates financial behavioural transformation among individuals. Global digital payment volume is expected to grow to more than USD 10 Trillion by 2026 and half of the volume will be contributed by emerging economies (KPMG, 2019).

In this technological era, FinTech acts as a transformative force, ultimately driving innovations across the globe, reshaping economies and helping small businesses to achieve operational efficiency and market reach (Li et al., 2022; Tang et al., 2024). This transformation empowers small businesses to access modern technology and opportunities at an affordable cost, saving their time and increasing efficiency and, as a result, improving productivity (Pizzi et al., 2021; Leonidou et al., 2024). FinTech platforms ensure formal banking services at a much higher speed, make them more convenient and flexible, reduce cost, and also increase competition (Ya, 2020). The key factors for the wider acceptance of FinTech are perceived usefulness and perceived ease of use. The Technology Acceptance Model (TAM) suggests that perceived usefulness and perceived ease of use are the most influential factors in technological adoption (Davis, 1989). Chinese small and medium enterprises (SMEs), while introducing FinTech solutions into their regular operations, also consider these factors carefully (Dai &

Taube, 2020). It has been observed that individual generally tend to accept innovations that are user-friendly, less complications and offers tangible benefits. FinTech products offer these advantages to the society at minimal cost (Awotunde *et al.*, 2021).

FinTech offers attractive benefits to the small and medium enterprises (SMEs) and individuals at a lower cost, but some risks are associated with it due to the online mode of transactions. Moreover, its adoption depends largely on the financial knowledge of SMEs owners and individuals. A higher level of financial literacy indicates a better understanding of financial technology, which ultimately ensures higher rate of FinTech adoption (Huang *et al.*, 2020).

Regulatory architecture and supportive government policies help in promote the acceptance and adoption of FinTech solutions by the market in its regular financial behaviour. These factors also play a pivotal role in FinTech adoption by the market (Noreen *et al.*, 2022).

A positive perception of individuals towards accepting technology in traditional finance has a significant impact on individuals FinTech adoption patterns. Studies have showed that people who are technologically fluent and willing to experience new FinTech products tend to adopt FinTech (Cai *et al.*, 2022; Gomber *et al.*, 2017). It is also observed that creative people accept, adopt and use FinTech product more than others. Existing studies reveal a positive correlation between positive attitude and behavioural intention and individuals' FinTech adoption (Lee & Pan, 2023).

Trustworthiness and risk play a pivotal role in individuals' decision-making process towards adoption of new technology in traditional finance. A higher level of trust among consumer leads to higher rate of FinTech adoption (Chan *et al.*, 2022). However, risk of cyber security, financial loss, operational failure, and data breaches etc. may also act as bottlenecks to FinTech adoption.

## **II. LITERATURE REVIEW**

Rajpal & Manglani (2026) reported that FinTech has transformed the entire financial landscape globally through improved financial services delivery mechanisms, streamlined business operation, and improved customers' engagement strategies. In their study they try to explore and integrate the influential factors of FinTech adoption. The findings of the study indicate several key drivers of FinTech adoption, such as ease of use, perceived usefulness, trust, perceived risk, social influence, financial literacy, and regulatory supports etc.

Okaily & Okaily (2025) observed that, FinTech innovation was positively influenced by digital transformation, digital orientation, and digital leadership, ensuring better financial resilience and competitiveness among Jordanian financial firms. Financial firms need to invest a sizeable portion of their capital in emerging technologies such as AI, cloud computing, and blockchain, etc., to improve their operational efficiency, decision-making capabilities, and risk management abilities.

Bohari *et al.* (2024) reported that behavioural factors play an important role in FinTech adoption among young Malaysian consumers. FinTech service providers including banks offers both monetary and non-monetary benefits which encourage consumers to use FinTech. FinTech firms need to invest a sizeable portion of their money in enhancing their service quality such as encouraging digital payment services, making the traditional procedure more convenient and less time consuming and reducing the need of currency and cards.

Shaikh *et al.* (2023) stated that Mobile Financial Services (MFS) comprise three major domains, namely Mobile Banking, Mobile Payment, and Mobile Money, which are considered the backbone of digital financial services. This study also revealed changing consumer behaviour, emerging smartphones, and contactless technology increases the gap between these three domains and transform the traditional financial landscape.

Han (2021) observed rapid growth of China's FinTech companies, with the strategic focus on globalization at the developmental phase. These globalization strategies facilitated the development of an efficient and user-friendly digital payment and digital financial services delivery platforms by Chinese FinTech companies.

Sung *et al.* (2019) demonstrated the online searching trends of financial technology related jobs and educational information, along with this study also explored the FinTech related job distribution pattern in UK. This study revealed that a statistically significant increasing trend of searching the keyword FinTech in the field of job and education from September 2012 to August 2018. Whereas, during the same period the online searching trends decreased for both finance and accounting. Additionally, this study identified the geographic distribution of FinTech related jobs in UK market.

### III. OBJECTIVES OF THE STUDY

The preliminary objective of the study is to assess the key drivers of FinTech adoption among individuals from Kolkata, Howrah and South 24 PGS. Considering the preliminary objective, the specific objectives of the study are as follows:

1. To explore the factors that influence the FinTech adoption pattern
2. To investigate the association between various demographic factors and FinTech adoption

### IV. RESEARCH METHODOLOGY

The present study is descriptive and exploratory in nature. A sample size of 260 respondents, residing in Kolkata, Howrah and South 24 PGS, was selected using a convenience sampling technique. Primary data was collected through a structured questionnaire, during the period of August, 2025 to January, 2026. Collected data was analysed using SPSS software. Statistical tools like Descriptive statistics, reliability analysis, ANOVA, Factor analysis were applied for data analysis.

### V. DATA ANALYSIS AND FINDINGS

**Table 1: Demographic Profile of the Respondents**

| Demographic Variables            | Category                 | Frequency  | Percentage |
|----------------------------------|--------------------------|------------|------------|
| <b>Gender</b>                    | Male                     | 147        | 56.15      |
|                                  | Female                   | 113        | 43.85      |
|                                  | <b>Total</b>             | <b>260</b> | <b>100</b> |
| <b>Age</b>                       | 21-30                    | 71         | 27.70      |
|                                  | 31-40                    | 94         | 36.15      |
|                                  | 41-50                    | 57         | 21.54      |
|                                  | 51-60                    | 38         | 14.61      |
|                                  | <b>Total</b>             | <b>260</b> | <b>100</b> |
| <b>Educational Qualification</b> | Up to class 12           | 52         | 20.00      |
|                                  | Graduate                 | 124        | 47.70      |
|                                  | Post Graduate            | 84         | 32.30      |
|                                  | <b>Total</b>             | <b>260</b> | <b>100</b> |
| <b>Occupation</b>                | Student                  | 53         | 20.77      |
|                                  | Service                  | 67         | 25.38      |
|                                  | Business                 | 94         | 36.15      |
|                                  | Retired                  | 16         | 6.15       |
|                                  | Homemaker                | 30         | 11.55      |
|                                  | <b>Total</b>             | <b>260</b> | <b>100</b> |
| <b>Annual Income</b>             | Below Rs.5,00,000        | 145        | 55.38      |
|                                  | Rs.5,00,001-Rs.10,00,000 | 82         | 31.54      |
|                                  | Above Rs.10,00,000       | 33         | 13.08      |
|                                  | <b>Total</b>             | <b>260</b> | <b>100</b> |

Source: Primary Data

Table 1 reveals the demographic characteristics of 260 respondents. The sample includes 56.15% of male representation and 43.85% of female representation. In terms of age, majority of the respondents belongs to 31-40 years age bracket, followed by 21-30 years age group. Another 57 respondents belong to 41-50 years age limit and remaining 38 respondents are from 51-60 years age bracket. This indicates that the majority of the respondents are young and middle-aged adults who are actively adopt and use the FinTech solution in their regular financial transactions.

In terms of educational qualification, majority of the sample (47.70%) are graduate, followed by 32.30% of post graduated, and 26% with education up to class XII. It indicates a large portion of the respondents possess higher academic qualification, which may positively influence the FinTech adoption process.

The occupational distribution reveals that majority of the respondents (36.15%) are belong to business class, followed by 25.38% of service holders and 20.77% of students. Homemakers and retired individuals constitute only 11.55% and 6.15% of the total respondents. The dominance of business class and service holders implies that majority of respondents are economically active, and who may have the requirement of FinTech solution in their frequent financial activities.

Regarding income level, 55.38% of the respondents earns below Rs.5,00,000, followed by 31.54% earning between Rs.5,00,001 to Rs.10,00,000, and only 13.08% earning above Rs.10,00,000. The dominance of lower- and middle-income respondents reveals the increasing accessibility and adoption of FinTech solution across the diverse economic segments of our society.

### **FinTech adoption pattern:**

Six constructs were considered to study the adoption pattern of FinTech in every day's financial practices. These constructs were considered from existing literature and after taking expert opinion. Each construct was measured using a 5-point Likert scale items, ranging from Strongly Disagree (SD) to Strongly Agree (SA). For this study total 28 items were considered. The responses on these factors were analysed to understand the FinTech adoption pattern in every day's financial practices among the respondents. The complete list of items along with descriptive statistics is given below:

**Table 2: Descriptive Statistics of FinTech Adoption Pattern**

| Factor                    | Item Code | Statement                                                                                                                                     | Frequency (%) |              |              |              |              | Mean | SDV  |
|---------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------|--------------|--------------|------|------|
|                           |           |                                                                                                                                               | SD            | D            | N            | A            | SA           |      |      |
| Perceived Usefulness (PU) | PU1       | FinTech application allows me to access financial services without visiting the physical branch of financial institutions.                    | 16<br>(6.2)   | 22<br>(8.5)  | 91<br>(34.6) | 57<br>(22.3) | 74<br>(28.5) | 3.58 | 1.16 |
|                           | PU2       | FinTech application helps me to complete my financial transactions quickly.                                                                   | 12<br>(4.6)   | 54<br>(20.8) | 77<br>(29.2) | 89<br>(34.6) | 28<br>(10.8) | 3.26 | 1.05 |
|                           | PU3       | FinTech app simplifies recurring payments such as EMIs, recharge, bill payments, and subscriptions.                                           | 14<br>(5.4)   | 26<br>(10)   | 63<br>(24.6) | 81<br>(30.8) | 76<br>(29.2) | 3.68 | 1.15 |
|                           | PU4       | FinTech service makes it easier for me to keep track of my daily transactions and spending.                                                   | 16<br>(6.2)   | 14<br>(5.4)  | 96<br>(36.9) | 68<br>(26.2) | 66<br>(25.4) | 3.59 | 1.11 |
|                           | PU5       | The real time notification (ex. Payment confirmation, low balance alerts etc.) Send by FinTech app helps me to manage my finance efficiently. | 14<br>(5.4)   | 16<br>(6.2)  | 72<br>(27.2) | 86<br>(33.1) | 72<br>(27.2) | 3.72 | 1.10 |
|                           | PU6       | FinTech service helps me maintain better control over my financial activities by providing detailed digital records.                          | 14<br>(5.4)   | 29<br>(10.8) | 50<br>(20)   | 95<br>(36.2) | 72<br>(27.2) | 3.70 | 1.14 |
| Trust & Risk (TR)         | TR1       | I believe that FinTech apps keep my personal and financial information confidential.                                                          | 20<br>(7.7)   | 21<br>(8.5)  | 55<br>(20.8) | 93<br>(36.2) | 71<br>(26.9) | 3.66 | 1.18 |

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|                                |     |                                                                                                               |              |              |               |               |               |      |      |
|--------------------------------|-----|---------------------------------------------------------------------------------------------------------------|--------------|--------------|---------------|---------------|---------------|------|------|
|                                | TR2 | I believe that FinTech apps complete my payments and transfer fund accurately without any errors.             | 24<br>(9.2)  | 52<br>(20)   | 104<br>(40)   | 62<br>(23.8)  | 18<br>(6.9)   | 2.99 | 1.04 |
|                                | TR3 | I feel confident because FinTech apps clearly show transaction details before I confirm any payment.          | 22<br>(8.5)  | 18<br>(6.9)  | 98<br>(37.7)  | 66<br>(25.4)  | 56<br>(21.5)  | 3.45 | 1.15 |
|                                | TR4 | I am concerned that my digital transactions may be misused or become victims of online fraud.                 | 28<br>(10.8) | 46<br>(17.7) | 106<br>(40.8) | 62<br>(23.8)  | 18<br>(6.9)   | 2.98 | 1.06 |
|                                | TR5 | I worry that technical issues may cause financial loss.                                                       | 20<br>(7.7)  | 42<br>(16.2) | 118<br>(49.5) | 64<br>(24.6)  | 16<br>(6.2)   | 3.05 | 0.98 |
|                                | TR6 | I trust that well known FinTech platform follows proper regulations and safety standards.                     | 24<br>(9.2)  | 50<br>(19.9) | 112<br>(43.1) | 56<br>(21.5)  | 18<br>(6.9)   | 2.98 | 1.03 |
| Perceived Ease of Use (EU)     | EU1 | Registration or set-up process of FinTech app is easy for me and I do not need any kind of assistance for it. | 20<br>(7.7)  | 62<br>(23.8) | 96<br>(36.9)  | 70<br>(26.9)  | 12<br>(4.6)   | 2.97 | 1.00 |
|                                | EU2 | Navigating through different sections (payment, transfer etc.) in FinTech app is convenient for me.           | 14<br>(5.4)  | 16<br>(6.2)  | 62<br>(23.8)  | 62<br>(23.8)  | 106<br>(40.8) | 3.88 | 1.17 |
|                                | EU3 | I can easily complete UPI or QR based payment without any confusion.                                          | 14<br>(5.4)  | 16<br>(6.2)  | 55<br>(20.8)  | 113<br>(43.8) | 62<br>(23.8)  | 3.75 | 1.06 |
|                                | EU4 | FinTech app clearly displays the steps I need to follow while performing a transaction.                       | 12<br>(4.6)  | 18<br>(6.9)  | 52<br>(20)    | 104<br>(40)   | 74<br>(28.5)  | 3.81 | 1.07 |
|                                | EU5 | I can solve minor issue on FinTech apps (like OTP errors or payment retries) without putting much effort.     | 18<br>(6.9)  | 54<br>(20.8) | 108<br>(41.5) | 58<br>(22.3)  | 22<br>(8.5)   | 3.05 | 1.02 |
|                                | EU6 | Learning new features in FinTech app is easy for me.                                                          | 16<br>(6.2)  | 66<br>(25.4) | 100<br>(38.5) | 66<br>(25.4)  | 12<br>(4.6)   | 2.97 | 0.97 |
| Attitude Towards Adoption (AT) | AT1 | Using FinTech services for my financial activities is beneficial for me.                                      | 14<br>(5.4)  | 16<br>(6.2)  | 74<br>(28.5)  | 80<br>(30.8)  | 76<br>(29.2)  | 3.72 | 1.11 |
|                                | AT2 | I prefer using FinTech services over traditional method.                                                      | 12<br>(4.6)  | 26<br>(10)   | 54<br>(20.8)  | 96<br>(36.9)  | 72<br>(27.7)  | 3.73 | 1.11 |
|                                | AT3 | I am willing to adopt more FinTech services in the future when they become available.                         | 24<br>(9.2)  | 58<br>(22.3) | 92<br>(35.4)  | 64<br>(24.6)  | 22<br>(8.5)   | 3.01 | 1.09 |
| Government Support (GS)        | GS1 | Government policies encourage the safe use of FinTech services.                                               | 24<br>(9.2)  | 72<br>(27.2) | 74<br>(28.5)  | 64<br>(24.6)  | 26<br>(10)    | 2.98 | 1.14 |
|                                | GS2 | Government regulations help protect users personal and financial information on FinTech platforms.            | 34<br>(13.1) | 56<br>(21.5) | 70<br>(26.9)  | 82<br>(31.5)  | 18<br>(6.9)   | 2.98 | 1.16 |

|                         |     |                                                                                                                                 |              |              |              |              |             |      |      |
|-------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|-------------|------|------|
|                         | GS3 | Government campaigns and programs increase my awareness of digital financial services.                                          | 18<br>(6.9)  | 68<br>(26.2) | 74<br>(28.5) | 76<br>(29.2) | 24<br>(9.2) | 3.08 | 1.09 |
|                         | GS4 | Government initiatives (like UPI promotions, zero cost payments digital literacy drives) motivate me to adopt FinTech services. | 28<br>(10.8) | 73<br>(27.7) | 67<br>(26.2) | 70<br>(26.9) | 22<br>(8.5) | 2.95 | 1.15 |
| Financial Literacy (FL) | FL1 | I understand basic financial concepts such as savings, borrowing, interest rates, and digital payment.                          | 30<br>(11.5) | 48<br>(18.5) | 76<br>(29.2) | 82<br>(31.5) | 24<br>(9.2) | 3.08 | 1.15 |
|                         | FL2 | I can evaluate and compare different financial products or services before choosing one.                                        | 28<br>(10.8) | 52<br>(20)   | 86<br>(33.1) | 84<br>(32.3) | 10<br>(3.8) | 2.98 | 1.05 |
|                         | FL3 | I can understand and interpret the financial information (statements, charges, limits etc.) displayed in FinTech app.           | 30<br>(11.5) | 48<br>(18.5) | 74<br>(28.5) | 87<br>(33.8) | 21<br>(7.7) | 3.08 | 1.11 |

Source: Primary Data

Note- SD= Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree

SDV= Standard Deviation

Values in parentheses represent percentages of respondents within each category.

Table 2, reveals a favourable attitude towards adoption of FinTech services in their regular financial activities. Factors like Perceived Usefulness, Perceived Ease of Use, and Attitude Towards Adoption with comparatively higher mean value, indicating use of FinTech application in the regular financial activities are more convenient, beneficial, and efficient to the respondents. On the other side, factors like Trust & Risk, Government Support, and Financial Literacy having moderate mean values, suggesting a mixed opinion regarding the financial understanding of the users, security issues, and awareness of different government initiatives. The standard deviation values of all the variables lie around 1, which indicates a reasonable level of consistency in respondents' opinion.

#### Reliability Test:

The results of Cronbach's alpha for the aforementioned six constructs- Perceived Usefulness (PU), Trust and Risk (TR), Perceived Ease of Use (EU), Attitude towards Adoption (AT), Government Support (GS), and Financial Literacy (FL) were 0.944, 0.941, 0.901, 0.896, 0.783, and 0.689 respectively. Since all values are 0.65 and above, the internal consistency of the dataset can be considered satisfactory.

**Table 3: KMO and Bartlett's Test Statistics**

| KMO and Bartlett's Test                          |                    |          |
|--------------------------------------------------|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .837     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 2592.709 |
|                                                  | df                 | 378      |
|                                                  | Sig.               | .000     |

Source: SPSS

As per Table 3 the KMO and Bartlett's test result indicate the acceptability of data for factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.837, considered acceptable (values above 0.7 are generally deemed good), indicating that sample size is adequate for performing factor analysis. Bartlett's Test was significant ( $\chi^2=2592.709$ ,  $p<0.001$ ), suggesting that the correlation matrix is not an identity matrix, meaning items are sufficient to proceed with factor analysis.

#### Exploratory Factor Analysis (EFA):

Exploratory Factor analysis was performed to identify the latent structure of 28 items measuring the adoption pattern of FinTech in every day's financial practices among individuals in Kolkata. Principal Component Analysis (PCA) with Varimax rotation was applied, and first six components with eigenvalues more than 1 were identified. Together, these six components account for 75.442% of the total variance, which is considered statistically significant for factor extraction. Thus, six components are effective enough in representing all the characteristic of the stated 28 variables.

After extraction, how much variance retained by each component are reflecting through the 'Extraction Sums of Squared Loadings'. Since, PCA was used total variance explained by the extracted factors remain same (75.442%).

After rotation using the Varimax method, the variance is spread more evenly throughout the six components. It improves interpretability of the components with more loading without changing the variance explained. It is clear that component 1 explains 17.018% of the variance, followed by component 2 and 3, which explain 16.968% and 16.669% of the variance. Furthermore, component 4, 5, and 6 explain 9.229%, 8.848%, and 6.709% respectively of the variance.

**Table 4: Variance Explained by Principal Components (PCA)**

| Total Variance Explained |                     |               |                     |                                     |               |                     |                                   |               |                     |
|--------------------------|---------------------|---------------|---------------------|-------------------------------------|---------------|---------------------|-----------------------------------|---------------|---------------------|
| Comp<br>onent            | Initial Eigenvalues |               |                     | Extraction Sums of Squared Loadings |               |                     | Rotation Sums of Squared Loadings |               |                     |
|                          | Total               | % of Variance | Cumul<br>ative<br>% | Total                               | % of Variance | Cumul<br>ative<br>% | Total                             | % of Variance | Cumul<br>ative<br>% |
| 1                        | 5.905               | 21.088        | 21.088              | 5.905                               | 21.088        | 21.088              | 4.765                             | 17.018        | 17.018              |
| 2                        | 5.051               | 18.041        | 39.129              | 5.051                               | 18.041        | 39.129              | 4.751                             | 16.968        | 33.986              |
| 3                        | 3.652               | 13.044        | 52.172              | 3.652                               | 13.044        | 52.172              | 4.667                             | 16.669        | 50.655              |
| 4                        | 2.754               | 9.836         | 62.009              | 2.754                               | 9.836         | 62.009              | 2.584                             | 9.229         | 59.884              |
| 5                        | 2.281               | 8.145         | 70.153              | 2.281                               | 8.145         | 70.153              | 2.477                             | 8.848         | 68.733              |
| 6                        | 1.481               | 5.288         | 75.442              | 1.481                               | 5.288         | 75.442              | 1.879                             | 6.709         | 75.442              |
| 7                        | .722                | 2.577         | 78.019              |                                     |               |                     |                                   |               |                     |
| 8                        | .648                | 2.316         | 80.335              |                                     |               |                     |                                   |               |                     |
| 9                        | .602                | 2.149         | 82.483              |                                     |               |                     |                                   |               |                     |
| 10                       | .496                | 1.773         | 84.256              |                                     |               |                     |                                   |               |                     |
| 11                       | .436                | 1.557         | 85.814              |                                     |               |                     |                                   |               |                     |
| 12                       | .401                | 1.431         | 87.244              |                                     |               |                     |                                   |               |                     |
| 13                       | .353                | 1.261         | 88.505              |                                     |               |                     |                                   |               |                     |
| 14                       | .346                | 1.236         | 89.741              |                                     |               |                     |                                   |               |                     |
| 15                       | .326                | 1.166         | 90.906              |                                     |               |                     |                                   |               |                     |
| 16                       | .314                | 1.120         | 92.026              |                                     |               |                     |                                   |               |                     |
| 17                       | .281                | 1.003         | 93.029              |                                     |               |                     |                                   |               |                     |
| 18                       | .250                | .893          | 93.922              |                                     |               |                     |                                   |               |                     |
| 19                       | .230                | .822          | 94.745              |                                     |               |                     |                                   |               |                     |
| 20                       | .218                | .780          | 95.525              |                                     |               |                     |                                   |               |                     |
| 21                       | .202                | .722          | 96.247              |                                     |               |                     |                                   |               |                     |
| 22                       | .193                | .688          | 96.935              |                                     |               |                     |                                   |               |                     |

|    |      |      |         |  |  |  |  |  |  |
|----|------|------|---------|--|--|--|--|--|--|
| 23 | .174 | .622 | 97.557  |  |  |  |  |  |  |
| 24 | .167 | .598 | 98.155  |  |  |  |  |  |  |
| 25 | .148 | .528 | 98.683  |  |  |  |  |  |  |
| 26 | .139 | .497 | 99.180  |  |  |  |  |  |  |
| 27 | .123 | .440 | 99.620  |  |  |  |  |  |  |
| 28 | .106 | .380 | 100.000 |  |  |  |  |  |  |

Extraction Method: Principal Component Analysis.

Source: SPSS

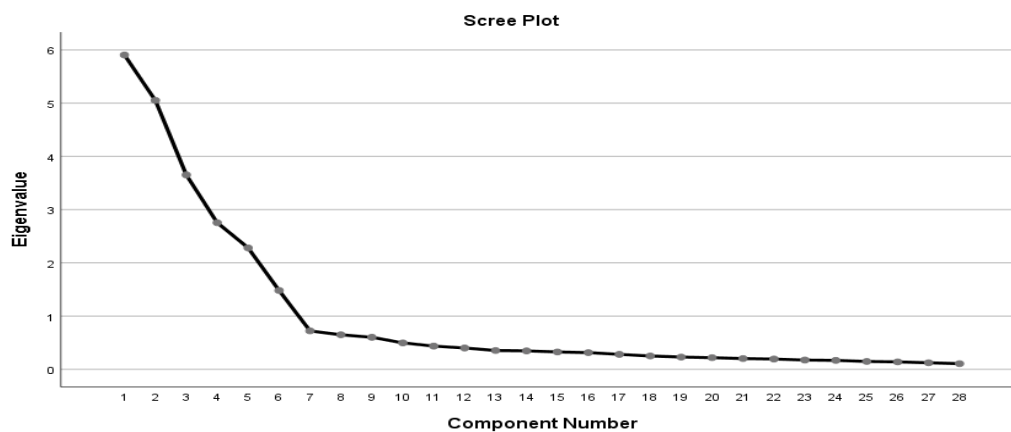


Figure 1: Scree Plot Source: SPSS

The Scree Plot shows the eigenvalues associated with each component extracted through the PCA method. A downward trend is observed in the curve from component 1 to component 6, after which the curve slopes gently and becomes nearly horizontal, revealing diminishing explanatory power of the remaining components. Therefore, the Scree Plot validates the extraction of the first six components (eigenvalue > 1) for the study.

**Table 5: Rotated Component Matrix**

| Rotated Component Matrix <sup>a</sup> |           |      |      |      |      |      |
|---------------------------------------|-----------|------|------|------|------|------|
|                                       | Component |      |      |      |      |      |
|                                       | 1         | 2    | 3    | 4    | 5    | 6    |
| PU1                                   | .878      |      |      |      |      |      |
| PU2                                   | .880      |      |      |      |      |      |
| PU3                                   | .888      |      |      |      |      |      |
| PU4                                   | .883      |      |      |      |      |      |
| PU5                                   | .870      |      |      |      |      |      |
| PU6                                   | .885      |      |      |      |      |      |
| TR1                                   |           | .893 |      |      |      |      |
| TR2                                   |           | .840 |      |      |      |      |
| TR3                                   |           | .895 |      |      |      |      |
| TR4                                   |           | .858 |      |      |      |      |
| TR5                                   |           | .844 |      |      |      |      |
| TR6                                   |           | .876 |      |      |      |      |
| EU1                                   |           |      | .875 |      |      |      |
| EU2                                   |           |      | .857 |      |      |      |
| EU3                                   |           |      | .851 |      |      |      |
| EU4                                   |           |      | .876 |      |      |      |
| EU5                                   |           |      | .889 |      |      |      |
| EU6                                   |           |      | .876 |      |      |      |
| AT1                                   |           |      |      | .910 |      |      |
| AT2                                   |           |      |      | .908 |      |      |
| AT3                                   |           |      |      | .893 |      |      |
| GS1                                   |           |      |      |      | .738 |      |
| GS2                                   |           |      |      |      | .753 |      |
| GS3                                   |           |      |      |      | .779 |      |
| GS4                                   |           |      |      |      | .806 |      |
| FL1                                   |           |      |      |      |      | .750 |
| FL2                                   |           |      |      |      |      | .780 |
| FL3                                   |           |      |      |      |      | .762 |

Extraction Method: Principal Component Analysis.  
Rotation Method: Varimax with Kaiser Normalization.  
a. Rotation converged in 5 iterations.

Source: SPSS

The Rotated Component Matrix (RCM) represents the standardized factor loading for all 28 items. RCM confirmed a six-factor structure consistent with the theoretical framework of the study. In each factor the respective items are loaded strongly, with no substantial cross-loading. Thus, Perceived Usefulness, Trust and Risk, Perceived Ease of Use, Attitude towards Adoption, Government Support, and Financial Literacy were confirmed as valid and reliable factors contributing to adoption pattern of FinTech in every day's financial practices among individuals in Kolkata.

### Construct 1: Perceived Usefulness (PU)

The first construct Perceived Usefulness (PU) include variable PU1 to PU6, that reflect the application of FinTech in daily life, such as using FinTech in payment, transferring fund, monitoring spending, managing recurring payments etc. These high loading coefficients indicate these variables effectively capture the perceived usefulness of FinTech in routine financial activities. The regression equation for this factor is:

$$PU = 0.878 PU1 + 0.880 PU2 + 0.888 PU3 + 0.883 PU4 + 0.870 PU5 + 0.885 PU6$$

### Construct 2: Trust and Risk (TR)

The second construct, Trust and Risk (TR), is represented by variables TR1 to TR6, confirming the respondent's perception of trustworthiness, reliability, data security, fraud vulnerability, potential financial loss etc. The regression equation for this factor is:

$$TR = 0.893 TR1 + 0.840 TR2 + 0.895 TR3 + 0.858 TR4 + 0.844 TR5 + 0.876 TR6$$

### Construct 3: Perceived Ease of Use (EU)

Items EU1 to EU6 are cluster under construct Perceived Ease of Use (EU) with high loading lies between 0.851 to 0.889, demonstrating that application of FinTech solution is user-friendly, easy to install, navigate, use for financial transactions, control minor issues, and easy to learn new features. The regression equation for this factor is:

$$EU = 0.875 EU1 + 0.857 EU2 + 0.851 EU3 + 0.876 EU4 + 0.889 EU5 + 0.876 EU6$$

#### **Construct 4: Attitude Towards Adoption (AT)**

The fourth construct Attitude Towards Adoption (AT) include variable AT1, AT2 and AT3 with high loading, revealing a strong positive attitude of the respondents toward FinTech adoption in regular mode of financing behaviour and willingness to continue adopting innovative FinTech services in future. The regression equation for this factor is:

$$AT = 0.910 AT1 + 0.908 AT2 + 0.893 AT3$$

#### **Construct 5: Government Support (GS)**

Fifth construct Government Support (GS) is represented by the variables GS1 to GS4, indicating government policies, regulation, various awareness programs and adoption driven initiatives are perceived to support FinTech adoption. The regression equation for this factor is:

$$GS = 0.738 GS1 + 0.753 GS2 + 0.779 GS3 + 0.806 GS4$$

#### **Construct 6: Financial Literacy (FL)**

Items FL1 to FL3 show strong loading and associated under sixth construct Financial Literacy (FL). It confirms that the respondents possess adequate conceptual, functional, and digital knowledge. The regression equation for this factor is:

$$FL = 0.750 FL1 + 0.780 FL2 + 0.762 FL3$$

Thus, the final model explaining FinTech adoption pattern is influenced by the constructs 'Perceived Usefulness', 'Trust and Risk', 'Perceived Ease of Use', 'Attitude Towards Adoption', 'Government Support', and 'Financial Literacy'. The complete regression model is:

$$FinTech\ Adoption = PU + TR + EU + AT + GS + FL.$$

#### **Relationship between demographic characteristics and FinTech adoption:**

**Table 6: Influence of Demographic Variables on FinTech Adoption Factors**

| Factors                        | Gender |              | Age   |              | Education |              | Occupation |              | Annual Income |              |
|--------------------------------|--------|--------------|-------|--------------|-----------|--------------|------------|--------------|---------------|--------------|
|                                | F      | p            | F     | p            | F         | p            | F          | p            | F             | p            |
| Perceived Usefulness (PU)      | 2.546  | <b>0.005</b> | 3.94  | <b>0.000</b> | 0.807     | 0.939        | 1.18       | 0.373        | 1.76          | 0.578        |
| Trust and Risk (TR)            | 1.025  | 0.439        | 1.205 | 0.314        | 2.169     | <b>0.015</b> | 1.936      | <b>0.009</b> | 2.556         | <b>0.001</b> |
| Perceived Ease of Use (EU)     | 2.781  | <b>0.005</b> | 2.689 | <b>0.005</b> | 1.249     | 0.211        | 1.007      | 0.462        | 0.732         | 0.812        |
| Attitude towards Adoption (AT) | 1.342  | 0.211        | 3.55  | <b>0.000</b> | 1.925     | <b>0.005</b> | 1.014      | 0.348        | 0.721         | 0.579        |
| Government Support (GS)        | 0.862  | 0.587        | 1.67  | 0.414        | 0.359     | 0.925        | 0.588      | 0.819        | 0.621         | 0.879        |
| Financial Literacy (FL)        | 0.784  | 0.582        | 1.810 | <b>0.005</b> | 2.478     | <b>0.004</b> | 1.124      | 0.482        | 2.101         | 0.071        |

Source: SPSS

It can be observed from the above table that none of the demographic variables have any statistically significant impact on Government Support factor of FinTech adoption. However, a statistically significant relationship is observed between various demographic variables and remaining factors of FinTech adoption. The gender of the respondents significantly influences the Perceived Usefulness factor of FinTech adoption, followed by the demographic variable age, which significantly influences factors like Perceived Usefulness and Perceived Ease of Use of FinTech adoption. Furthermore, demographic variable like education, occupation and annual income significantly influence the Trust and Risk factors of FinTech adoption. Moreover, a statistically significant

relationship has been observed between demographic variable age and educational qualification and factors like Attitude towards Adoption and Financial Literacy of FinTech adoption.

## VI. CONCLUDING REMARKS

Form this study it can be concluded that FinTech adoption in regular financial behaviour is influenced by six key drivers, such as Perceived Usefulness, Trust and Risk, Perceived Ease of Use, Attitude towards Adoption, Government Support, and Financial Literacy. Collectively these factors indicate users' perception and willingness towards adopting and using new technology in their routine financial activities. It is noted that demographic variables such as age, gender, educational qualification, and annual income have a significant impact on the majority of these adoption factors, revealing that FinTech acceptance is not uniform across all sections of our society. This study suggests that tailored awareness programs, stronger regulatory support, and trust building activities can significantly boost users' expectations, minimize adoption barriers, and contribute to a more holistic and digitally empowered financial ecosystem in and around Kolkata and across India.

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