

Impact of Geopolitical Uncertainty on Digital Financial Service Adoption in Indian Banking: A NAVI Perspective

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Abstract

The banking sector has been transformed tremendously due to the digital technological innovations in the sector which has led to the adoption of various digital financial services like mobile banking, internet banking, UPI based transactions and digital wallets. Event though digital transformation has a huge presence globally and the banking sector has seen a drastic change in the adoption of digital banking; the presence of geopolitical uncertainty has brought in new challenges for the various financial institutions and these uncertainties have even impacted the customers at large. As the globe is interconnected the various geopolitical events such as trade disputes, international conflicts, cybersecurity threats and economic sanctions do have a potential to influence customer perception and their financial decision making. Keeping these uncertainties in mind this study the current study tries to understand the impact of geopolitical uncertainty on digital financial services adoption in Indian banking from a NAVI (Non-linear, Accelerated, Volatile and Interconnected) perspective.

This study has adopted a quantitative research approach and the data has been collected through a structured questionnaire by collecting responses of 168 respondents who use digital financial services. The data that was collected was analysed by using Cronbach's Alpha, Descriptive statistics, Regression Analysis and Pearson Correlation Analysis. Post analysis the findings suggest that there is a high level of awareness among respondents with regards to the geopolitical uncertainty and its impact due to the digital financial system. There is a positive relationship between geopolitical uncertainty and digital financial services adoption which was clearly visible due to the Correlation and regression analysis which also suggest that customers rely a lot on digital financial platforms to manage their activities in uncertain environment. The findings play an important role in contributing to the existing literature by combining geopolitical uncertainty and digital financial service adoption in a NAVI framework and these insights will be valuable to banks, policymakers and even researchers who are looking to strengthen the ecosystem of the volatile and interconnected digital financial environment.

Keywords: Geopolitical Uncertainty, Digital Financial Services, Digital Banking Adoption, Indian Banking, NAVI Environment.

1. Introduction

There has been a rapid growth in the environment of digital technologies and it has significantly transformed the banking scenario, it has even made the financial services more transparent, efficient, accessible and convenient to all the customers. In India the growth has accelerated to a great extent due to the widespread adoption of various innovations like internet banking, mobile banking and UPI. The government has also taken multiple initiatives like Digital India, used different schemes to increase the penetration of smartphones and

improved internet connectivity which has also encouraged the use of digital financial services making it an important part of the customers day-to-day banking activities.

In the past few years, the global economy has seen an increasing geopolitical uncertainty arising due to international conflicts, trade disputes, economic sanctions, cybersecurity threats and financial market disruptions alongside digital transformation. Due to these developments the business environment has been characterized by unpredictability and interconnected risk that can have an influence on customer perception and financial decision making. Since the world is highly interconnected any geopolitical event that has occurred in one country or region has a rapid effect on the financial system and digital network across different countries that also raises the concerns regarding reliability, financial stability and security.

This developing landscape can be understood better through the NAVI framework, which will help in describing the contemporary environment as Non-linear, Accelerated, Volatile and Interconnected. With regards to the NAVI framework the technological advancement and geopolitical developments interact to outline the behaviour of the consumer and the adoption of the digital financial services. The literature review has primarily focused on security, perceived usefulness, trust and convenience to use as the determine the adoption of digital banking services, less attention has been given to the role of geopolitical uncertainty in determining the adoption.

These is a lot of dependency on digital financial platforms and it is growing significantly day by day, along with the growth of the global geopolitical developments, it becomes highly significant to understand how these uncertainties have a major influence on customer adoption behaviour. Therefore, the current study examines the impact of geopolitical uncertainty on digital financial services adoption in Indian banking from a NAVI point of view. The analysis and finding give a brighter view and provides valuable insights for banks, policymakers and researchers in order to strengthen the digital financial ecosystems in this highly uncertain and interconnected global environment.

2. Review of Literature

Iyer and Iyer (2025) studied how the role of e-commerce has evolved in the Indian Banking Sector and it also throws some light on how digital banking services has increased the operational efficiency, convenience and accessibility of the banking services. The challenges were also outlined in the paper which were related to cybersecurity, technological infrastructure, barriers in customer adoption, digital literacy, regulatory compliance which will need secured and inclusive digital banking ecosystem.

Qadri (2025) analysed the impact of risk that is associated with the geopolitical uncertainties on the Indian Financial Markets, including foreign exchange, bonds, equity and the changes in the banking sector using the Quantile Vector Autoregression (QVAR) framework. The finding of the study was that the geopolitical uncertainties significantly have an effect on the financial markets specially during the times of heightened global tension, although there is resilience of the Indian Market is supported by the strong regulatory and institutional framework.

Negi and Bohra (2024) analysed the date by conducting a bibliometric analysis of digital banking research in India using the date derived from the Scopus database. The study highlighted that there is a growing importance of digital banking through innovations such as banking with the help of internet, mobile wallets and UPI, highlighting their contribution to financial inclusion, convenience and the digital transformation of the Indian Banking Sector.

Kakhkharov et al. (2024) mentioned that the transformation of the banking industry is an

outcome of the Global Financial Crisis and the COVID-19 pandemic which gave a rise to the geopolitical tension. The study also mentions that there is an increase in the adoption of digital technologies, evolving regulatory framework and there is an emerging risk that is affecting financial stability particularly with regards to the banking operations in developing countries. Javkhedkar et.al. (2024) studied the integration of FinTech with respect to the Indian Banking and the financial service industry. The study also mentions the rapid adoption of the mobile wallets, digital payments, UPI, peer-to-peer lending, blockchain technology and open banking initiatives. It mentions the importance of the role of technology innovation and regulatory support in changing the financial service delivery and enhancing customer accessibility. Ridwan et. al. (2025) investigated various aspects such as trust in FinTech, digital banking adoption, customer satisfaction and perceived security on financial inclusion in the banking sector of Indonesia. The data was collected from 110 respondents with the approach of quantitative method by applying SEM-PLS analysis. The findings of the study was that all the factors listed had a significant and positive effect on financial inclusion. Among all the listed digital banking adoption came out to be the most influential. The findings also highlighted the importance of digital transformation, customer trust and satisfaction in expanding access to financial services and promoting financial inclusion within the ecosystem of the banking sector.

3. Research Gap

After detailed study of the existing literature it reveals that there is a lot of scholarly attention that is required on various topics like FinTech, Digital Banking, customer trust, financial inclusion, digital financial services adoption and perceived security. The main focus of the studies conducted previously have been on technological determinants like perceived usefulness, trust, security, service quality, digital literacy as the key drivers for adopting financial services. Few of the studies have examined the role of financial innovation, digital transformation and regulatory framework in increasing the accessibility and efficiency of the banking services.

Moreover the studies have also investigated the geopolitical uncertainties and have concentrated on its impact on investment decisions, financial markets, risk management and banking stability. The body of research acknowledges that the geopolitical events like economic sanctions, trade disputes, cybersecurity threats and international conflicts can have a notable impact on the financial system and economic outcomes.

However there has been limited study that has been devoted to how geopolitical uncertainties have an influence on the adoption of digital financial services at the level of customers. As digital financial services depend on interconnected technological infrastructure, digital ecosystem and cross-border data flow, customers adoption and perception may be affected by geopolitical developments. This research examined the two aspects of geopolitical uncertainties and financial service adoption as separate domains, resulting in understanding that, lack of integrated study has been done exploring these interrelationships. In addition to this, there is a major influence of NAVI (Non-linear, Accelerated, Volatile and Interconnected) environment on adoption of digital financial services remains inadequately explored specially in the Indian Banking Sector. Therefore, there is a need for research that will examine the impact of geopolitical uncertainty on the adoption of digital financial services within the Indian Banking Sector.

4. Objectives

- a) To assess the level of awareness and perception of geopolitical uncertainty among digital banking users in Mumbai.

- b) To examine the impact of geopolitical uncertainty on the adoption of digital financial services among users of banking services.
- c) To identify the factors that influence customers adoption of digital financial services in a NAVI (Non-linear, Accelerated, Volatile and Interconnected) environment.

5. Hypothesis

Hypothesis 1: Geopolitical uncertainties impact on digital financial service adoption

- H10: Geopolitical uncertainty has no significant impact on digital financial service adoption in Indian banking.
- H1A: Geopolitical uncertainty has a significant impact on digital financial service adoption in Indian banking.

Hypothesis 2: Relationship between customers' perception of geopolitical uncertainty and digital financial service adoption.

- H20: There is no significant relationship between customers' perception of geopolitical uncertainty and digital financial service adoption.
- H2A: There is a significant relationship between customers' perception of geopolitical uncertainty and digital financial service adoption.

6. Research Methodology

6.1 Research Design

In-order to examine the impact of geopolitical uncertainty on digital financial service adoption among customers in Mumbai, a quantitative research approach is adopted in this study. A descriptive and analytical research design has been used to understand customer perception with regards to geopolitical uncertainty and the influence it has on the adoption digital financial services in a NAVI (Non-linear, Accelerated, Volatile and Interconnected) environment.

6.2 Population of the Study

The population of the study includes all the customers of the banking sector including the public and private banks in Mumbai who actively use the digital financial services such as mobile banking, internet banking, Digital Wallets, UPI and any other technological-enabled banking platforms.

6.3. Sampling Unit

The sampling unit includes individual banking customers who have experience in using digital financial services. Each respondent will represent a single sample unit for the study.

6.4. Sample Size

For this study 168 respondents were selected. This sample size was considered adequate in order to analyse customer perception and understand the adoption behaviour related to digital financial services.

6.5. Sampling Technique

The sampling technique used in this study is convenience sampling technique for collecting primary data. Respondents were selected on the bases of accessibility and their willingness to take part in the survey.

6.6. Sources of Data

This study employs both primary and secondary data.

a) Primary Data: The data was collected through a structured questionnaire which was circulated among the banking customers.

b) Secondary Data: The secondary data was obtained from journals, research articles, conference papers, books, reports and relevant online databases related to FinTech, digital banking, geopolitical uncertainty and digital financial service adoption.

6.7. Research Instruments

The primary instrument used in the study was a structured questionnaire for data collection. There are two sections of the questionnaire. The initial section captures demographic information like age, gender, education, occupation and frequency of digital banking usage. The later section includes statements related to geopolitical uncertainty and digital financial services adoption, measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

6.8. Variables of the Study

The Variables identified in the study are: The Independent variable being Geopolitical Uncertainty and the Dependent Variable Being Digital Financial Service Adoption.

6.9. Statistical Techniques for Data Analysis

The data that was collected was analysed using appropriate statistical tools. To describe the demographic profile of the respondents, frequency and percentage analysis was used. To assess respondents' perception regarding geopolitical uncertainty and digital financial service adoption, mean and standard deviation were applied. Cronbach's Alpha for examining the reliability and internal consistency of the measurement scale. To determine the relationship between geopolitical uncertainty and digital financial service adoption, Pearson Correlation Analysis was used. The data related to the impact of geopolitical uncertainty on digital financial service adoption and for testing the hypothesis, regression analysis was used.

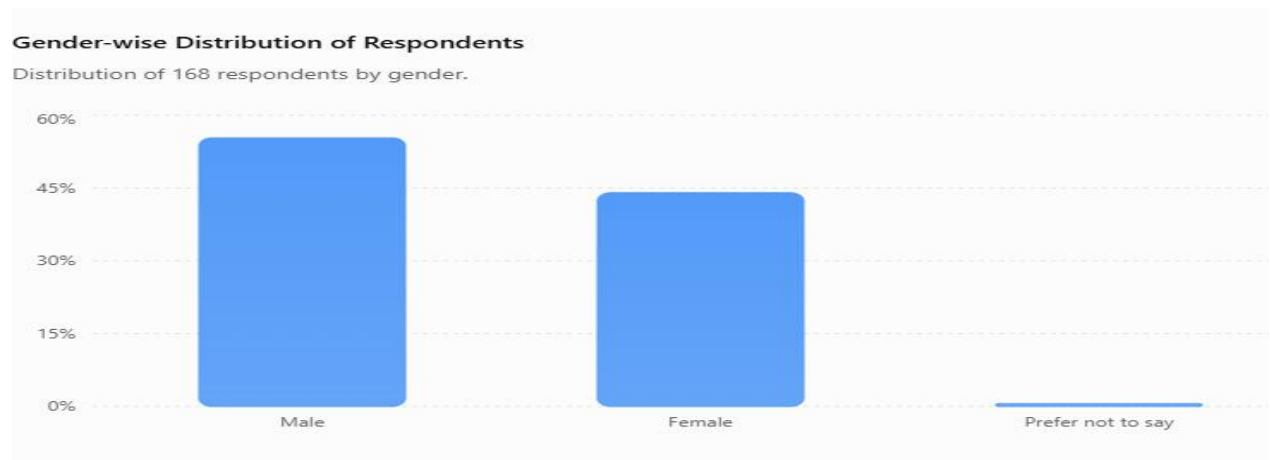
6.10. Scope of the Study

The study provides insights on the customers using digital financial services in the Indian Banking sector. It helps us to understand how geopolitical uncertainty influences the adoption of digital financial services from a NAVI perspective and provides inputs for banking institutions and policymakers operating in an increasingly uncertain global environment.

7. Data Analysis and Interpretation

7.1. Demographic Profile of Respondents

Chart 7.1: Gender-wise Distribution of Respondents



Interpretation:

The majority of the respondents were male which consist of 55.36% while the female respondents were 44.05% of the sample size. This shows that there is a reasonable balance of the digital financial service users.

Table 7.1 Age-wise Distribution of Respondents

Age Group	Frequency	Percentage (%)
Below 25 years	62	36.90
25 to 35 years	35	20.83
36 to 45 years	25	14.88
46 to 55 years	43	25.60
Above 55 years	3	1.79
Total	168	100.00

Interpretation:

The major respondents group belonged to the category of below 25 years which is 36.90%, followed with the category of 46-55 years age group with 25.60%. This shows that the younger and middle-aged group customers are actively involved in digital financial services.

7.2. Reliability Analysis

Table 7.2 Cronbach's Alpha and Decision Rule

Construct	Number of Items	Cronbach's Alpha
Geopolitical Uncertainty	8	0.937
Digital Financial Service Adoption	8	0.922
Overall Scale	16	0.962

Alpha Value	Interpretation
Above 0.90	Excellent
0.80 – 0.89	Good
0.70 – 0.79	Acceptable

Interpretation:

The Cronbach's Alpha values for all the constructs exceed 0.90, which indicates an excellent internal consistency and reliability of the questionnaire. Thus the instrument used is considered highly reliable for further statistical analysis.

7.3 Descriptive Statistics

Table 7.3. Mean and Standard Deviation of Geopolitical Uncertainty Items

Sr. No.	Geopolitical Uncertainty Statement	Mean	SD
1	International conflicts influence my confidence in digital financial services.	4.02	0.92
2	Global political tensions increase concerns regarding online financial transactions.	3.93	0.87
3	Economic sanctions and trade disputes can affect digital banking services.	3.85	0.98
4	Geopolitical instability increases cybersecurity concerns related to digital banking.	3.94	0.91
5	Global uncertainties make me more cautious while using digital financial services.	3.83	0.93
6	International events can affect the reliability of digital financial platforms.	3.88	0.89
7	Geopolitical developments may influence the future growth of digital banking services.	3.93	0.95
8	News about global conflicts affects my perception of digital financial security.	3.98	0.92
Overall	Overall Mean	3.92	—

Interpretation:

The overall mean score is 3.29, which indicates that the respondents generally agree that geopolitical developments influence their perception with regard to digital financial services. The findings also suggest that there is a relatively high level of awareness of geopolitical risk among banking customers.

Table 7.4 Mean and Standard Deviation of Digital Financial Service Adoption Items

Statement	Mean	SD
Frequent use of digital financial services	3.74	1.02
Convenience of digital financial services	3.83	0.99
Preference for digital banking	3.93	0.95
Comfort with digital transactions	3.99	0.95
Intention to continue using digital services	3.80	0.93
Willingness to recommend digital services	3.78	1.03
Time-saving and banking efficiency	3.76	1.04
Willingness to adopt new digital services	3.89	0.99
Overall Mean	3.84	—

Interpretation:

The overall mean score is 3.84, which indicates that there is a favourable level of digital financial service adoption among respondents. It has been seen that customers demonstrate a positive attitude towards using digital banking platforms and intend to continue using the services.

7.4 Correlation Analysis

Table 7.5 Correlation between Geopolitical Uncertainty and Digital Financial Service Adoption

Variables	Pearson Correlation (r)	Significance (p-value)
Geopolitical Uncertainty and Digital Financial Service Adoption	0.900	0.000

Interpretation:

The Pearson correlation coefficient indicates a value of 0.900 which shows a very strong and positive relationship between geopolitical uncertainty and digital financial service adoption. Since the p-value is less than 0.05, the relationship is also statistically significant. This suggests that perception of the customers with regards to geopolitical uncertainty are significantly associated with their adoption of digital financial services.

7.5 Regression Analysis

Table 7.6. Model Summary

Statistic	Value
R	0.900
R ²	0.810
Adjusted R ²	0.809

Interpretation:

The R² value of 0.810 indicates that approximately 81.0% of the variation in digital financial service adoption can be explained by geopolitical uncertainty.

Table 7.7 Regression Coefficients

Variable	Beta Coefficient	Significance
Geopolitical Uncertainty	0.931	0.000

Interpretation:

The regression coefficient ($\beta = 0.931$) indicates that geopolitical uncertainty has a positive influence on digital financial service adoption. The significance value is less than 0.05, confirming that the impact is statistically significant.

7.8 Hypothesis Testing

The results derived from the regression analysis indicates that there is a significant relationship between geopolitical uncertainty and digital financial services adoption. Therefore the null hypothesis is rejected. The alternate hypothesis is accepted as it confirms that geopolitical uncertainty significantly impacts digital financial service adoption in Indian Banking.

8. Findings

Geopolitical uncertainty has an impact on the adoption of digital financial services, according to a research of 168 respondents. With younger respondents making up the largest group, the sample's gender representation was comparatively balanced. With a Cronbach's Alpha of 0.962, the research equipment showed exceptional reliability. The respondents expressed favorable adoption of digital financial services (mean = 3.84) and strong awareness of geopolitical risks (mean = 3.92). Regression analysis revealed that geopolitical uncertainty accounts for 81% of



the variation in adoption ($R^2 = 0.810$), whereas a strong positive and significant connection was found ($r = 0.900$). The results highlight the necessity of improved cybersecurity, digital infrastructure, and customer trust.

9. Recommendations

To guaranty safe and continuous services, banks should bolster cybersecurity with multi-factor authentication, encryption, fraud detection, and robust digital infrastructure. Programs for digital literacy and customer awareness should inform users about geopolitical and cybersecurity threats. To handle disruptions and new threats, strong frameworks for risk management, business continuity, and disaster recovery should be created. Maintaining customer trust requires open communication, timely grievance resolution, and dependable customer service. Banks should promote digital innovation while maintaining accessibility and security. Effective policy and risk management can be supported by cooperation with regulators. Lastly, in order to respond adaptably to geopolitical instability and maintain the use of digital financial services, banks should implement data analytics and NAVI-oriented initiatives.

10. Conclusion

The study concludes that geopolitical uncertainty significantly influences digital financial service adoption in Indian banking. Customers continue to rely on digital platforms despite global uncertainty. Banks should strengthen cybersecurity, digital infrastructure, resilience, and customer trust. The findings provide valuable insights into customer behaviour and support banks, policymakers, and researchers in developing strategies for a secure and resilient digital financial ecosystem.

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