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Factors Driving E-Banking Adoption in Rural Odisha: An Assessment

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ABSTRACT
This study investigates the factors influencing the adoption of e-banking services in rural areas of Odisha, India, employing a mixed-methods approach. A descriptive and exploratory research design will be utilized, with convenience sampling to select participants from various rural locations. Primary data will be collected through self-administered questionnaires distributed to rural residents, while secondary data will be gathered from existing literature and reports. Exploratory factor analysis (EFA), analysis of variance (ANOVA), and multiple regression analysis will be conducted to analyze the data. The study aims to identify underlying factors driving e-banking adoption and explore differences in perceptions among different demographic groups. The findings will contribute to understanding the complexities of e-banking adoption in rural India and provide insights for policymakers and financial institutions to promote financial inclusion and technological advancement in rural areas.
Keywords: E-Banking, Rural Areas, Odisha, Adoption Factors, Financial Inclusion

INTRODUCTION:

The transition towards digital banking has been a notable trend across India, with e-banking playing a pivotal role in reshaping the country's financial landscape. However, while urban areas have seen substantial growth in e-banking adoption, rural regions (Koppala Venugopal, & Vishnu Murty, D. 2019) including those in the state of Odisha, continue to face challenges in embracing digital financial services. This is particularly significant in the context of Odisha, a state known for its diverse socio-economic composition, with a considerable portion of the population residing in rural areas characterized by limited access to traditional banking infrastructure, lower levels of digital literacy, and socio-economic disparities.

Rural Odisha presents a complex environment for the adoption of e-banking services, influenced by a myriad of factors spanning socio-economic, infrastructural, cultural, and regulatory dimensions (Kammineni Divya et al. 2023). Understanding these factors is essential for devising effective strategies to promote financial inclusion, enhance access to banking services, and foster socio-economic development in rural communities.

Rural Odisha comprises a heterogeneous mix of communities, each with its own socio-economic characteristics, livelihood patterns, and financial needs. Factors such as income levels, educational attainment, occupation diversity, and household structures play a crucial role in shaping individuals' perceptions and adoption of e-banking services (Venugopal, K. 2013). Moreover, the prevalence of agriculture as a primary source of livelihood in many rural areas introduces unique dynamics, influencing the demand for financial products and services tailored to agricultural needs, such as crop loans, insurance, and payment solutions.

Access to digital infrastructure, including reliable internet connectivity and banking facilities, remains a significant barrier to e-banking adoption in rural Odisha. While efforts have been made to expand the reach of banking services through initiatives like the Pradhan Mantri Jan Dhan Yojana (PMJDY) and the establishment of banking correspondents (BCs), gaps in infrastructure persist, particularly in remote and underdeveloped regions. Limited network coverage, power supply issues, and inadequate banking infrastructure pose challenges for rural residents seeking to access e-banking services, thereby impacting adoption rates.

Digital literacy levels vary widely across rural Odisha, influenced by factors such as education, exposure to technology, and language barriers. While there has been a gradual increase in smartphone penetration and internet usage, a significant portion of the rural population still lacks the necessary skills and knowledge to navigate e-banking platforms effectively (Venugopal, K. et al. 2013), Addressing gaps in digital literacy and raising awareness about the benefits and functionalities of e-banking services are essential for fostering confidence and trust among rural users.

The perceived benefits and challenges associated with e-banking adoption play a critical role in shaping individuals' decisions to embrace digital financial services (Aschalew Adane Brhanu et al. 2018). While e-banking offers advantages such as convenience, time savings, and access to a wider range of banking products, concerns related to security, privacy, and transactional complexities may deter potential users, particularly among older adults and those with limited exposure to technology. Understanding these perceptions and addressing user concerns are key to overcoming adoption barriers and promoting e-banking uptake in rural Odisha.

Government policies and regulatory frameworks play a significant role in shaping the e-banking ecosystem in rural Odisha. Initiatives such as the Digital India campaign, the National Rural Livelihoods Mission

(NRLM), and various state-level schemes aim to promote digital literacy, expand financial inclusion, and encourage the adoption of digital payment solutions. Assessing the effectiveness of these initiatives and identifying gaps in implementation can provide valuable insights into the regulatory support needed to facilitate e-banking adoption in rural areas.

Cultural norms, social networks, and trust mechanisms influence the adoption of e-banking services in rural Odisha. Factors such as preference for face-to-face interactions, reliance on informal financial networks, and community attitudes towards technology adoption shape individuals' attitudes and behaviors towards e-banking. Understanding these cultural nuances is essential for designing user-centric e-banking solutions that resonate with the socio-cultural context of rural communities.

Despite the widespread adoption of e-banking services in urban areas, rural regions, such as those in Odisha, continue to experience significant barriers to embracing digital financial services. The problem of low e-banking adoption rates in rural Odisha is multifaceted and influenced by a complex interplay of socio-economic, infrastructural, cultural, and regulatory factors. Understanding these factors is crucial for addressing the challenges hindering e-banking uptake and promoting financial inclusion in rural communities.

One of the primary issues contributing to low e-banking adoption in rural Odisha is the lack of access to reliable digital infrastructure. Many rural areas in the state suffer from inadequate internet connectivity, limited availability of banking facilities, and inconsistent power supply, which impede residents' ability to access and utilize e-banking services effectively. Additionally, socio-economic disparities, including low levels of income, education, and awareness, further exacerbate the digital divide, making it difficult for marginalized populations to engage with digital banking platforms.

Furthermore, there is a notable gap in digital literacy and awareness regarding e-banking services among rural residents in Odisha. While efforts have been made to promote digital literacy through government initiatives and community outreach programs, significant segments of the rural population lack the necessary skills and knowledge to navigate e-banking platforms confidently. This lack of digital literacy not only limits individuals' ability to benefit from e-banking services but also contributes to perceptions of mistrust and scepticism surrounding digital financial transactions.

Moreover, cultural and behavioral factors play a significant role in shaping e-banking adoption patterns in rural Odisha. Traditional banking practices, reliance on informal financial networks, and cultural preferences for face-to-face interactions influence individuals' attitudes and behaviors towards digital banking. Overcoming these cultural barriers requires a nuanced understanding of local customs and social dynamics to design e-banking solutions that resonate with the socio-cultural context of rural communities.

In addition to infrastructural and socio-cultural challenges, regulatory constraints and policy gaps present obstacles to e-banking adoption in rural Odisha. While government initiatives such as the Digital India campaign and the Pradhan Mantri Jan Dhan Yojana (PMJDY) aim to promote financial inclusion and digital literacy, there remains a need for more targeted interventions and policy support to address the specific needs of rural populations. Regulatory frameworks must be adapted to facilitate the expansion of e-banking services in rural areas while ensuring consumer protection, data security, and compliance with regulatory standards.

In light of these challenges, there is a pressing need to conduct a comprehensive assessment of the factors driving e-banking adoption in rural Odisha. By identifying and understanding the socio-economic, infrastructural, cultural, and regulatory determinants influencing e-banking uptake, this research aims to inform the development of tailored strategies and interventions to promote financial inclusion, enhance digital literacy, and foster the widespread adoption of e-banking services in rural communities.

Overall, the study on "Factors Driving E-Banking Adoption in Rural Odisha" aims to provide a comprehensive assessment of the multifaceted dynamics influencing the uptake of e-banking services in rural areas. By exploring socio-economic, infrastructural, cultural, and regulatory factors, the research seeks to generate actionable insights for policymakers, financial institutions, and development practitioners to design targeted interventions and promote inclusive digital financial services that cater to the diverse needs of rural Odisha's population.

OBJECTIVES OF THE STUDY

The specific objectives of the study are to

Investigate the evolving behavioral patterns and gauge the levels of awareness among rural consumers regarding e-banking and associated technological advancements in the state of Odisha.

Evaluate the influence of key factors, including security and privacy measures, trustworthiness of platforms, innovativeness in service delivery, familiarity with digital interfaces, awareness of available e-banking options, perceived usefulness of e-banking services, and attitudes towards digital transactions, on the decision-making process of rural customers when engaging in e-banking transactions within Odisha.

LITERATURE REVIEW

Awareness:

Harshita Bhatnagar's (2015) investigation into the Awareness and Adoption of Technology in Banking, particularly among rural customers in the Udaipur Rural Belt, underscores the necessity for heightened awareness, which remains underdeveloped. This deficiency is attributed to several factors, including the level of usage and the availability of internet services. Bhatnagar suggests that technology products and services requiring demonstration and education could be effectively promoted through the establishment of a dedicated department. Such a department would focus specifically on rural areas, thereby enhancing awareness and

facilitating adoption (P. Vidyapriya and M. Mohanasundari, 2015).

Privacy and Security:

A study conducted in Michigan in 2006 revealed widespread concerns among consumers regarding the safety of internet banking operations, particularly concerning the protection of personal information and the risk of identity theft. Additional apprehensions included susceptibility to viruses, spam, and vulnerabilities through email communication. These security issues, coupled with concerns about online regulations, privacy, and the reputation of banks, present significant challenges for the future adoption of online banking services (Aladwani, 2001). Consequently, banks must address these concerns to foster trust and encourage adoption.

Conversely, Neha Dixit and Saroj K. Datta's (2010) research highlights the pivotal role of security and privacy in influencing the adoption of e-banking services. Their findings underscore the importance of addressing security and privacy concerns as integral components of any strategy aimed at promoting e-banking adoption. Therefore, prioritizing robust security measures and safeguarding customer privacy are imperative for banks seeking to encourage e-banking adoption while nurturing consumer trust.

Information Security:

The burgeoning landscape of banking and payments presents a formidable challenge for both financial institutions and customers, particularly concerning the preservation of security standards. Chakrabarty (2012) emphasizes the imperative for bankers to uphold security quality rigorously to mitigate the risk of fraudulent activities. Vimala (2015) further advocates for a shift towards online banking, e-payments, and investments in security infrastructure, highlighting the cost efficiency and manpower savings afforded by IT-driven solutions. Similarly, Kpodar, Kangni & Andrianaivo, Mihasonirina. (2011) underscore the importance of improving accessibility to financial services, particularly in rural areas, while ensuring robust security measures within an adaptive ICT framework.

However, Gadamsetty Sai Arun (2013) raises concerns regarding security issues associated with ICT-enabled financial inclusions, such as SMS spoofing attacks and virus infiltration through software. Despite the rapid growth of internet banking, apprehensions regarding security and privacy persist among customers (Malhotra and Singh, 2009). Karake-Shalhoub, Zeinab. (2002) identifies privacy and security as pivotal trust enhancers, acknowledging longstanding apprehensions regarding the collection, storage, and utilization of customer information with the advent of new technologies.

Trust:

Neha Dixit and Saroj K. Datta (2010) affirm the significant impact of trust on the adoption of e-banking services in India, underscoring its pivotal role in fostering customer confidence. However, P. Vidyapriya and M. Mohanasundari (2015) caution that rural customers exhibit heightened reluctance towards adopting novel technologies, citing increased perceived risks. They suggest that banks address these concerns transparently on their websites to instill confidence among rural customers.

Thouraya Triki and Issa Faya (2013) note a decline in trust among customers due to numerous instances of malpractice and bankruptcy within the industry, prompting some individuals to resort to informal borrowing practices. Additionally, technical deficiencies in ICT infrastructure contribute to distrust among rural populations, who may exhibit lower tolerance for technical shortcomings (Purvi Shah and Medha Dubhashi, 2015).

Innovations:

Malik, S. (2014) highlights the critical role of innovative banking practices in ensuring the industry's survival, emphasizing the importance of continuous product and service development. Srivastav, P.K. (2013) underscores the transformation of banking from an art to a science with the advent of electronic banking, leveraging electronic devices to enhance service delivery. Suresh, V. (2008) emphasizes the opportunities afforded by banking technology for financial institutions to enhance their services, products, profitability, and marketing strategies.

Attitude:

The Technology Acceptance Model posits that individuals' attitudes towards technology usage are influenced by their freedom to make individual decisions rather than being compelled. Wibowo, A (2008) asserts that attitude encompasses acceptance or rejection of technology usage, while Rahadi, D.R. (2007) explores the link between attitude and behavior, noting that attitudes can manifest as positive or negative feelings that influence behavior. Overall, attitudes play a significant role in shaping the behavior of rural consumers towards technology adoption in banking services.

Perceived Usefulness:

Vandana Tandon Khanna & Neha Gupta (2015) observe that the user-friendliness of banking technology significantly impacts customer perceptions of service delivery performance, particularly in the public sector. Purvi Shah and Medha Dubhashi (2015) highlight the accessibility of technology-embedded banking products such as Automated Teller Machines (ATMs) in remote areas. Shri Harun R. and Khan, D.G. (2012) stresses the importance of ensuring modern technology's compatibility with farmers' needs, advocating for the provision of farmer-friendly financial services such as smart cards and mobile-enabled Aadhar cards.

RBI's guidelines (2012) underscore the importance of financial education programs and user-friendly interfaces in facilitating customer engagement. Additionally, D. Acharya and T.K. Parida (2013) emphasize the need for cost-effective mechanisms and integrated product-delivery combinations to enhance user-friendliness and convenience. Ostlund (1974) further suggests that perceived usefulness and web security significantly influence the adoption of online banking services.

Risk:

P. Vidyapriya and M. Mohanasundari (2015) advocate for providing consumers with proper education and training

regarding the potential risks associated with online banking services. This initiative aims to enhance accessibility and customization while mitigating risks. Conversely, Al-Alawi (2005) underscores the importance for banks to acknowledge and address risks alongside promoting the benefits of online banking services. By doing so, customers can feel assured and confident in the protection measures provided by the bank, thereby fostering trust and reliability.

Numerous studies, including those by Black N.J. et al. (2001), Rotchanakitumnuai and Spence (2003) consistently demonstrate a negative correlation between the perceived level of risk and the attitude towards banking services. This highlights the significance of acknowledging and addressing perceived risks to cultivate positive attitudes and encourage adoption of online banking services among customers.

The literature reviewed provides comprehensive insights into various factors influencing the adoption of e-banking services, particularly in rural areas. Key themes include awareness, privacy and security, trust, innovations, attitude, perceived usefulness, and risk.

Awareness emerges as a critical factor, with studies highlighting the need for enhanced education and promotion efforts to increase rural consumers' awareness of e-banking services. Privacy and security concerns loom large, underscoring the necessity for robust security measures to mitigate risks and build trust among customers. Trust is identified as a significant determinant of e-banking adoption, influenced by factors such as perceived risks and attitudes towards technology.

Innovations in banking services, particularly leveraging technology, offer opportunities for enhanced service delivery and profitability. Attitudes towards e-banking services are shaped by perceptions of usefulness, ease of use, and perceived risks, which can be influenced by factors such as user-friendliness and accessibility. Lastly, addressing perceived risks through education and assurance measures is crucial for fostering customer confidence and encouraging e-banking adoption.

Overall, these findings underscore the complex interplay of socio-economic, technological, and psychological factors in shaping rural consumers' adoption of e-banking services. Effective strategies must consider these factors comprehensively to promote financial inclusion and foster trust in digital banking solutions among rural populations.

Conceptual Framework

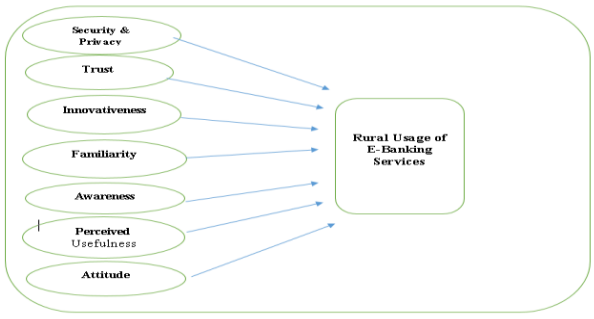

Figure 1 : Conceptual Framework

METHODS AND MATERIALS

This study aimed to investigate the factors influencing the adoption of e-banking services in rural areas of Odisha, India, employing a descriptive and exploratory research design. A mixed approach of qualitative and quantitative methods were utilized to gather comprehensive insights into the research problem. The study employed convenience sampling to select participants from various rural locations in Odisha. Both primary and secondary data collection methods were utilized.

Primary data was collected through the distribution of self-administered questionnaires to rural residents in selected villages of Odisha. The questionnaire was designed to capture demographic information and to assess participants' perceptions, attitudes, and behaviors related to e-banking adoption. The questionnaire included Likert scale items to measure respondents' agreement or disagreement with statements regarding e-banking usage and its associated factors.

Secondary data was gathered from existing literature, research papers, reports, and official documents related to e-banking adoption, financial inclusion, and rural development in India, with a focus on Odisha. This secondary data provided context and background information for the study and helped in theoretical framing.

The collected data was analyzed using various statistical techniques. Exploratory factor analysis (EFA) was conducted to identify underlying factors influencing e-banking adoption among rural residents. EFA helped in reducing the dimensionality of the data and identifying key factors that drive e-banking adoption in rural areas of Odisha.

Furthermore, analysis of variance (ANOVA) was performed to determine if there were any significant differences in perceptions and attitudes towards e-banking adoption among different demographic groups, such as age, gender, education level, and income level. ANOVA provided insights into the variations in e-banking adoption across different segments of the rural population.

Additionally, multiple regression analysis was employed to examine the relationship between various independent variables (such as perceived usefulness, perceived ease of use, trust, awareness, and familiarity) and the dependent variable (e-banking adoption behavior). Multiple regression analysis helped in identifying the factors that significantly influence e-banking adoption and understanding the strength and direction of these relationships.

Overall, the methodology outlined above enabled the comprehensive exploration of factors influencing e-banking adoption in rural areas of Odisha, providing valuable insights for policymakers, financial institutions, and other stakeholders to promote financial inclusion and technological advancement in rural India.

ANALYSIS AND DISCUSSION

This section delves into the analysis of the data gathered and presents the results obtained from the survey study aligned with the research objectives. It entails the

frequency of responses regarding current e-banking usage, demographic information of the sample, outcomes of statistical data analysis, and a detailed discussion of the findings.

5.1. Factor Analysis

Table 5.1.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.932
Bartlett's Test of Sphericity	Approx. Chi-Square	6.062E3
	df	351
	Sig.	.000

A KMO value more than 0.7 is generally considered good, indicating that the data is suitable for factor analysis. In this case, as shown in table 5.1.1, the KMO value of 0.932 suggests that the sample is highly adequate for factor analysis. Bartlett's Test checks the null hypothesis that the correlation matrix is an identity matrix (no correlations between variables). A low p-value (in this case, 0.000) indicates that the observed correlation matrix is significantly different from an identity matrix. Therefore, the data is suitable for factor analysis.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.596	42.948	42.948	11.596	42.948	42.948
2	1.384	5.124	48.073	1.384	5.124	48.073
3	1.247	4.617	52.690	1.247	4.617	52.690
4	1.123	4.161	56.850	1.123	4.161	56.850
5	1.091	4.040	**60.890**	1.091	4.040	60.890
6	.961	3.559	64.450			
7	.938	3.472	67.922			
8	.864	3.199	71.120			
9	.797	2.950	74.071			
10	.717	2.655	76.726			
11	.698	2.585	79.311			
12	.624	2.313	81.624			
13	.591	2.188	83.812			
14	.481	1.783	85.594			
15	.449	1.663	87.258			
16	.432	1.601	88.859			
17	.402	1.488	90.347			
18	.354	1.309	91.656			
19	.346	1.280	92.936			
20	.302	1.117	94.053			
21	.291	1.077	95.130			
22	.267	.989	96.119			
23	.252	.934	97.053			
24	.248	.918	97.971			
25	.224	.828	98.800			
26	.181	.670	99.469			
27	.143	.531	100.000			

The initial eigenvalues represent the amount of variance explained by each component before rotation. Component 1 has the highest initial eigenvalue (11.596), suggesting it explains a substantial portion of the variance. These values represent the variance explained by each component after rotation. Component 1 still dominates, explaining 42.948% of the variance, followed by Components 2 and 3 and so on up to 5. The cumulative variance explained by the first five components is 60.890.

	Component				
	1	2	3	4	5
Banks websites provide me financial security.		.776			
Only authorized person can access own account		.723			
E- Banking provides simple operational procedure.		.653			
Banks always encourage me to open an account through online		.557			
E- Banking websites are trustworthy.		.573			
I expect my use of E- banking will increase in future.		.558			
I trust that my all financial informational will remain in the register.	.475				
Banks websites always increase customer interest.			.631		
I trust the benefits provided by E- banking.			.471		
Banks are providing useful tips to operate E- banking.				.634	
Banks are conducting seminar to educate about E- banking.				.746	
I intend to use E-banking in future.	.481				
E- Banking website provides problem solution menu.			.514		
I will recommend to other that they use E- banking.			.494		
E- Banking website design is very efficient.		.462			
E- Banking gives clear and easy to follow instructions.	.488				
Banks websites keeps all promises and commitment.		.497			
Banks increase the awareness about security of the data.					.730
Banks always encourage me to transfer the fund through online.					.569
Using the E- Banking would enable me to accomplish my tasks more quickly.		.395			
Using the E- Banking service is easy for me.	.706				
I would find the e-banking more useful than other channel	.743				
I would find using the E-Banking to be advantageous with respect to cost reduction.	.731				
I would find using the E-Banking to be advantageous with respect to time conservation.	.750				
Using E- Banking is a good idea.	.778				
I would feel that using E-Banking is pleasant and easy	.752				
In my opinion, it would be safe and secured to use E-Banking.	.748				

The Rotated Component Matrix provides insights into the relationship between the variables and the underlying components extracted through Principal Component Analysis. Here's an analysis of the components:

Component 1: This component seems to represent factors related to trust and reliability associated with e-banking services. Variables like "Banks websites provide me financial security" and "E-banking websites are trustworthy" have high loadings on this component, indicating a strong association with trustworthiness and security.

Component 2: Component 2 appears to capture factors related to ease of use and efficiency in e-banking services. Variables such as "Using the E-Banking service is easy for me" and "E-banking website design is very efficient" load heavily on this component, suggesting a focus on user-friendliness and interface efficiency.

Component 3: This component seems to reflect factors associated with perceived usefulness and advantages of using e-banking services. Variables like "I would find using the E-Banking to be advantageous with respect to cost reduction" and "I would find the e-banking more useful than other channels" have high loadings on this component, indicating a perceived utility and benefits of e-banking.

Component 4: Component 4 appears to capture intentions and attitudes towards future usage of e-banking services. Variables like "I intend to use E-banking in the future" and "I would recommend others to use E-banking" load heavily on this component, reflecting intentions and positive attitudes towards future adoption.

Component 5: This component seems to represent factors related to perceptions of safety and security associated with e-banking services. Variables such as "In my opinion, it would be safe and secured to use E-Banking" and "I would feel that using E-Banking is pleasant and easy" have high loadings on this component, indicating a focus on perceptions of safety and ease of use.

Overall, the rotated component matrix reveals distinct factors underlying perceptions and attitudes towards e-banking services, encompassing trust, usability, perceived usefulness, future intentions, and safety perceptions. These insights can guide strategies for enhancing e-banking adoption and improving service offerings to meet customer expectations.

Multiple Regression Analysis

Table 5.2.1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Security	.106[a]	.011	.009	1.08726
Trust	.151[a]	.023	.019	1.08114

Innovativeness	.184[a]	.034	.031	1.07398
Familiarity	.137[a]	.019	.018	1.08067
Awareness	.115[a]	.013	.011	1.08390
Perceived Usefulness	.133[a]	.018	.015	1.08318
Attitude	.118[a]	.014	.012	1.08467

Table 5.2.1 provides the R Square values for the independent variables. For instance, the R Square value for security and privacy is 0.011, indicating that all levels of items within this variable contribute 1.1 percent to the awareness and usage of transactions through e-banking. The remaining 98.9 percent is attributed to other unidentified factors. Similarly, other variables contribute as follows: Trust contributes 2.3 percent, Innovativeness contributes 3.4 percent, Familiarity contributes 1.9 percent, Awareness contributes 1.3 percent, Perceived Usefulness contributes 1.8 percent, and Attitude contributes 1.4 percent.

Analytically, these findings suggest that while security and privacy, as well as other independent variables, play a role in influencing awareness and usage of e-banking services, a significant portion of the variance remains unexplained. This underscores the complexity of factors influencing e-banking adoption, highlighting the need for further research to identify and address these unidentified determinants. Additionally, the relatively low percentages contributed by each variable indicate that multiple factors likely interact in influencing individuals' attitudes and behaviors towards e-banking services.

Table 5.2.2 ANOVAa

Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Security	21.587	4	5.397	4.565	.001[b]
Trust	43.519	6	7.253	6.205	.000[b]
Innovativeness	65.004	4	16.251	14.089	.000[b]
Familiarity	36.173	2	18.087	15.487	.000[b]
Awareness	25.388	3	8.463	7.203	.000[b]
Perceived Usefulness	33.878	5	6.776	5.775	.000[b]
Attitude	26.912	3	8.971	7.625	.000[b]

Table 5.2.2 illustrates the correlation between awareness and usage of cash withdrawal via e-banking and several factors including Security and Privacy, Trust, Innovativeness, Familiarity, Awareness, Perceived Usefulness, and Attitude. The F values between awareness and usage of cash withdrawal and each predictor are as follows: Security and Privacy (4.565), Trust (6.205), Innovativeness (14.089), Familiarity (15.487), Awareness (7.203), Perceived Usefulness (5.775), and Attitude (7.625).

These significant values for all variables are highly significant at both levels. Therefore, it can be interpreted that Security and Privacy, Trust, Innovativeness, Familiarity, Awareness, Perceived Usefulness, and Attitude exert a highly significant influence on the awareness and usage of transactions through e-banking.

Analytically, these findings indicate that various factors significantly impact individuals' awareness and usage of cash withdrawal services via e-banking. The high F values and significant p-values suggest a robust relationship between these predictors and e-banking behavior. This underscores the importance of addressing these factors effectively to enhance the adoption and utilization of e-banking services.

Table 5.2.3 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
SECURITY		B	Std. Error	Beta		
1	(Constant)	2.571	.140		18.310	.000
	Provision of Financial security.	-.070	.040	-.056	-1.735	.083
	Authorized person can access	.049	.035	.043	1.417	.157
	Operational procedure is simple	-.007	.022	-.009	-.315	.753
	Banks encouragement to open an account	-.081	.027	-.081	-2.963	.003
TRUST						
1	(Constant)	2.743	.117		23.397	.000
	Trustworthiness of websites.	.082	.029	.122	2.795	.005

	Expectation of increase e-banking	-.075	.029	-.112	-2.595	.010
	Trust of all my information registered	-.058	.033	-.055	-1.769	.077
	Customer interest by banks.	.011	.023	.013	.483	.629
	ITrust on benefits of E-banking.	-.114	.033	-.112	-3.496	.000
	Tips to E-banking.	.006	.020	.009	.326	.745
INNOVATIVENESS						
1	(Constant)	2.826	.112		25.294	.000
	Seminar to educate E-banking.	-.039	.022	-.045	-1.770	.077
	Intention to use E-banking	-.106	.030	-.110	-3.559	.000
	Provision of problem solution menu.	.085	.029	.086	2.879	.004
	Recommending to use E-banking.	-.116	.032	-.117	-3.591	.000
FAMILIARITY						
1	(Constant)	2.769	.112		24.724	.000
	Efficient E-banking website design	-.133	.033	-.122	-4.034	.000
	Clear and easy instructions for e-banking	-.024	.030	-.024	-.805	.421
AWARENESS						
1	(Constant)	2.597	.101		25.625	.000
	Websites keeps all promises	-.044	.030	-.043	-1.480	.139
	Awareness increase about security	.010	.016	.016	.590	.556
	Banks encourage me to online transfer funds.	-.086	.027	-.093	-3.171	.002
PERCEIVED USEFULNESS						
1	(Constant)	2.712	.111		24.372	.000
	Using E-Banking accomplish my tasks more quickly.	.034	.025	.042	1.359	.174
	Using the E-Banking service is easy	-.040	.034	-.040	-1.174	.241
	E-banking is more useful than other channel	-.042	.039	-.040	-1.059	.290
	Using the E-Banking for cost reduction advantage	-.091	.035	-.090	-2.568	.010
	Using the E-Banking for time conservation.	-.005	.019	-.008	-.261	.794
ATTITUDE						
1	(Constant)	2.686	.119		22.629	.000
	E- Banking is a good idea.	-.026	.037	-.023	-.698	.485
	E- Banking is pleasant and easy	-.015	.036	-.014	-.403	.687
	Safe and secured to use E-Banking.	-.094	.035	-.092	-2.661	.008

a. Dependent Variable: Rural usage of e- banking

Based on the coefficients retrieved from Table 5.2.3, the analysis of the impact of Security and Privacy, Trust, Innovativeness, Familiarity, Awareness, Perceived Usefulness, and Attitude on the awareness and use of withdrawal of cash through e-banking is as follows:

Awareness and use of withdrawal of cash through e banking (DV)

= 2.571+ (-.056) FS1+ (.043) FS2 + (-.009) FS3 + (-.081) FS4 (Security and privacy items as independent factors)

= 2.743+ (.122) FT1+ (-.122) FT2 + (-.055) FT3 + (.013) FT4 + (-.112) FT 5 + (.009) FT6 (Trust items as independent factors)

= 2.826+ (-.045) FI1+ (-.110) FI2 + (.086) FI3 + (-.117) FI4 (Innovativeness elements as independent factors)

= 2.769 + (-.122) FF1+ (-. 024) FF2 (Familiarity elements as independent factors)

= 2.597+ (-.043) FA1+ (.16) FA2 + (-.093) FA3 (Awareness elements as independent factors)

= 2.712 + (.42) FP1+ (-.040) FP2 + (-.040) FP3 + (-.90) FP4 + (-.008) FPT 5(Perceived Usefulness elements as independent factors)

= 2.686+ (-.27) FAT1+ (-.14) FAT2 + (-.092) FAT3 (Attitude elements as independent factors)

Security and Privacy: The coefficients indicate that an increase in Security and Privacy elements leads to an increase in awareness and usage of withdrawal of cash through e-banking. Notably, elements such as accessing one's account by an authorized person demonstrate more significant effectiveness in technological adoption concerning security and privacy.

Trust: The coefficients suggest that Trust elements significantly influence awareness and usage of withdrawal of cash through e-banking. Trustworthiness of e-banking websites exhibits the highest significance, while seminars conducted by bankers about e-banking knowledge supplementation show comparatively lower significance.

Innovativeness: The analysis indicates that Innovativeness elements positively impact awareness and usage of e-banking services. Notably, the element "E-banking website provides problem solution menu" demonstrates high significance, emphasizing its effectiveness in technological adoption.

Familiarity: Familiarity elements also positively influence awareness and usage of e-banking services. Both elements from familiarity show significant effectiveness in technological adoption.

Awareness: Awareness items contribute positively to awareness and usage of e-banking services, with increasing awareness about security of data by banks showing higher significance.

Perceived Usefulness: Perceived Usefulness elements significantly impact awareness and usage of e-banking services. Using e-banking to accomplish tasks quickly demonstrates the highest significance, while using e-banking for cost reduction exhibits lower significance.

Attitude: Attitude elements positively influence awareness and usage of e-banking services. Feeling that usage of e-banking is pleasant and easy demonstrates the highest significance in technological adoption.

Overall, the analysis suggests that Security and Privacy, Trust, Innovativeness, Familiarity, Awareness, Perceived Usefulness, and Attitude collectively contribute to the awareness and usage of withdrawal of cash through e-banking, with certain elements showing higher significance in influencing technological adoption.

FINDINGS AND RECOMMENDATIONS

6.1. Findings

Accessing own account by authorized persons significantly impacts withdrawal of cash, checking balance, opening fixed deposits, and transferring funds.

Financial security provided by websites is more effective for obtaining mini statements, updating mobile numbers and Aadhar numbers, recharging mobiles, and paying utility bills.

Trustworthiness of websites significantly influences withdrawal of cash, balance enquiry, obtaining mini statements, and transferring funds.

Anticipated increase in usage and useful tips from banks are significant for balance enquiry and opening fixed deposits.

Keeping all financial information in registers impacts balance enquiry and updating mobile numbers and Aadhar numbers.

Benefits provided by e-banking are effective for updating mobile numbers and Aadhar numbers, utility bills payment, shopping, and recharging mobile phones.

Expected increase in e-banking usage correlates with recharging mobile phones, shopping, and utility bills payment.

E-banking website's problem-solving menu significantly impacts withdrawal of cash, balance enquiry, and obtaining mini statements.

Seminars by bankers have less significance but still impactful, especially for transferring funds and recommending e-banking services.

Efficient E-banking website design and clear instructions significantly influence withdrawal of cash, balance enquiry, obtaining mini statements, and opening fixed deposits.

Overall, E-banking website design efficiency is more significant across all services.

Increasing awareness about data security by banks significantly impacts withdrawal of cash, balance enquiry, and obtaining mini statements.

Banks' encouragement to transfer funds is significant for opening fixed deposits, utility bills payment, shopping, and recharging mobile phones, though less so for transferring funds.

Banks' adherence to promises and commitments is significant for updating mobile numbers and Aadhar numbers, utility bills payment, shopping, and recharging mobile phones.

Using E-banking for quicker task accomplishment is significant for withdrawal of cash and balance enquiry.

Perceived usefulness items show significance across all services, indicating overall importance of perceived usefulness in e-banking adoption.

E-banking being more useful than other channels is significant for updating mobile numbers and Aadhar numbers.

Ease of using E-banking significantly impacts recharging mobile phones, shopping, and utility bills payment.

Perceiving E-banking as pleasant and easy significantly impacts withdrawal of cash.

Considering E-banking as a good idea and perceiving it as secure significantly impact balance enquiry, utility bills payment, and updating mobile numbers and Aadhar numbers.

Overall, positive attitudes towards E-banking significantly influence usage across various services, with ease of use carrying high significance for shopping behavior.

Recommendations

Comprehensive and ongoing training tailored to the rural transaction environment is essential for the successful adoption of e-banking services. Efforts must be made to provide exceptional training materials that address the specific needs and concerns of rural users until they are proficient in using e-banking platforms.

Security and privacy are critical considerations in the technological revolution, particularly in rural areas where residents may be apprehensive due to their lack of education and familiarity with advanced technology.

Both bankers and government entities should prioritize efforts to dispel negative perceptions surrounding e-banking, such as concerns about fraud, by emphasizing security features and the operational performance of e-banking websites. Initiatives aimed at increasing awareness and promoting the benefits of e-banking should be implemented to alleviate fears and encourage trust among rural users.

Rural populations accustomed to traditional methods of office management, such as writing, stamping, and signing documents, may face challenges transitioning to e-banking. Education and awareness campaigns targeting these individuals, particularly through younger, more tech-savvy individuals who already engage in e-banking activities, can help bridge the gap and facilitate adoption.

While innovation may face challenges in rural environments, banks can introduce innovative practices through their websites, seminars, and loyalty programs to enhance the e-banking experience and encourage adoption.

Familiarity plays a crucial role in rural adoption of e-banking, and efforts should be made to familiarize users with the various channels, methods, and benefits of e-banking to increase their comfort and confidence in using these services.

Banks can increase awareness and trust among rural users by delivering on promises, ensuring data security, and providing reliable support, thereby encouraging higher levels of adoption and usage.

While perceived usefulness varies among rural users, efforts should be made to highlight the convenience, cost-effectiveness, and time-saving aspects of e-banking to encourage greater usage.

Attitudes towards e-banking are influenced by perceptions of commercial benefit, safety, and convenience. Government and banking institutions should segment their target markets and tailor their messaging to address the specific needs and concerns of rural users to foster positive attitudes towards e-banking.

Bankers should be encouraged to embrace e-banking as a complement to traditional branch banking rather than viewing it as a threat. Clear communication about the coexistence of e-banking and branch banking and the potential benefits of increased transaction efficiency can help alleviate concerns and promote long-term adoption.

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