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Digital Transformation in Banking: A Case Study of E-Banking Services in Aligarh District during the Covid-19 Pandemic

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ABSTRACT

This study examines the transformative impact of e-banking services during the Covid-19 pandemic in Aligarh District, Uttar Pradesh. Through a structured questionnaire and statistical analysis, we explored usage patterns, challenges, and motivations among residents. Key themes include the surge in e-banking adoption, demographic influences, advantages, operational challenges, and preferred e-banking services. Our findings offer valuable insights into the evolving landscape of digital banking and respondent's behaviour during unprecedented times. The research employed statistical measures, including simple percentage analysis, averages, and the Pearson's Chi-square test for independence to address questions about the factors influencing e-banking usage. This nuanced understanding contributes to a comprehensive view of the changing dynamics of digital banking in Aligarh District.

Keywords: E-Banking, Covid-19, Digital Transformation, Financial Services, Chi-Square, Digital India

In the midst of the Covid-19 pandemic, e-banking has emerged as a game-changer, transforming the traditional banking landscape. Services such as ATMs, internet banking, smart cards, credit cards, and mobile banking have not only made transactions more convenient but have also become a lifeline during lockdowns. Facing reduced capacities due to the pandemic, banks are urging customers to embrace digital payments, emphasizing the use of mobile and internet banking to minimize physical contact.

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As a result, e-banking has shifted from a convenience to a necessity, offering a safer alternative to traditional cash transactions.

The global impact of Covid-19 has accelerated the adoption of e-banking services. With people adhering to social distancing measures, the reliance on these apps has skyrocketed, allowing users to manage their finances without leaving the safety of their homes. Despite economic challenges and bank mergers, the use of e-banking remains robust. Banks have streamlined mergers, ensuring that users continue to enjoy uninterrupted services. Branches have adapted by reducing hours, encouraging customers to explore the convenience of e-banking. In the face of currency depreciation worldwide, digitalizing banking services has played a pivotal role. Online banking, with its array of features and lower costs, has become a beacon during these challenging times. E-banking provide users with anytime, anywhere access, aligning seamlessly with social distancing guidelines. As the Covid-19 pandemic continues to shape our world, Aligarh District serves as a case study. People are not just adapting to e-banking; they are embracing it for its safety, convenience, and real-time financial insights. The shift towards a digital-first approach is not just a trend; it's a fundamental transformation in how we perceive and engage with banking services.

LITERATURE REVIEW

Navigating through the challenges of the COVID-19 pandemic involves more than just maintaining distance and adopting healthy habits. As we seek ways to protect ourselves, a noticeable shift towards contactless payments is emerging. The World Health Organization (WHO), in 2020, suggests replacing traditional currency, debit/credit cards, and touch screen terminals with contactless technology during these trying times.

In the realm of electronic banking, Daniel (1999) defines it as a way for banks to share information and services with customers through various platforms like personal computers and mobile phones. This digital revolution, as pointed out by Robinson (2000), allows banks to build and strengthen their relationships with customers. No longer bound by time and place, banking, according to Karjaluto *et al.* (2002), now provides customers across the globe with easy 24/7 access to their accounts. Taking a step back, Yibin (2003) looked at the broader picture of e-banking, discovering not only improved access to finance but also better and more competitive rates. Recent studies suggest that changing consumer behavior, partly due to increased spare time, is characterized by individuality, mobility, and flexibility in using financial services (Seitz and Stickel, 2004).

Shifting focus to India, Khan *et al.* (2009) evaluated the quality of internet banking services, finding general satisfaction with reliability, accessibility, privacy/security, responsiveness, and fulfillment. Yet, there's room for improvement in user-friendliness. Overcoming barriers to adoption, Rahmath *et al.* (2011) found positive influences of perceived usefulness, ease of use, and risk perception on internet banking use.

In the Indian context, Kesharwani and Gajulapally (2013) identified seven factors influencing internet banking adoption, including benefits, risk considerations, and social influence. Meanwhile, Kariyawasam and Jayasiri's (2016) study in Sri Lanka highlighted challenges, such as a lack of knowledge and inadequate facilities, contributing to a hesitant attitude towards e-banking.

In this dynamic landscape, where technology meets finance, the literature suggests not just a trend but a transformative shift towards digital-first banking, especially when the need for safety and convenience has never been more crucial.

OBJECTIVES OF THE STUDY

1. To study the usage of e-banking services during Covid-19.
2. To find out the difficulties faced by the respondents due to Covid-19.
3. To assess the issues respondents are facing when using e-banking services.
4. To understand why people use e-banking and how it helps them.

HYPOTHESIS

Ho: There is no significant relationship between socio-economic variables and e-banking services during Covid-19.

H_1: There is significant relationship between socio-economic variables and e-banking services during Covid-19.

DATABASE AND METHODOLOGY

1. Study Population: The study focuses on primary data collected through a structured questionnaire. The data collection period spans from December 2021 to February 2022, with an emphasis on understanding the usage patterns of e-banking services among the residents of Aligarh District, Uttar Pradesh.

2. Data Collection Tools: Amidst the challenges posed by the Covid-19 pandemic, we employed Google Forms as a tool for collecting primary data. A meticulously crafted structured questionnaire was disseminated to the populace of Aligarh District through various channels, including WhatsApp, LinkedIn, and email.

3. Sample Size and Selection: Out of 1500 individuals to whom the questionnaire was distributed, 544 responses were received. However, after a thorough review of completeness, only 300 questionnaires met the criteria for inclusion in the analysis. Random purposive sampling was the chosen method, ensuring a diverse yet targeted representation of the population.

4. Geographical Context: Aligarh District, Uttar Pradesh, serves as the geographical focus of the study. The district, with a population of 36,73,889 of which 19,51,996 are males and 17,21,893 are females, stands out in terms of population density, urban-rural distribution, and socio-demographic characteristics.

5. District Highlights - 2011 Census: Aligarh District, ranked 19th in Uttar Pradesh, stands out with distinctive features. With 33.1% urban population, it exceeds the state average, reflecting a notable urban presence. The population density of 1,007 persons per square kilometer surpasses the state average, portraying a concentrated community.

However, challenges emerge in the sex ratio, ranking 46th with 882 females per thousand males. This calls for a closer examination of gender dynamics. The literacy rate, at 67.5%, positions Aligarh at 41st, slightly below the state average, emphasizing the continuous pursuit of educational advancements.

In essence, the 2011 Census encapsulates Aligarh's dynamics—urban prominence, population density, gender considerations, and educational landscape. These insights form a crucial backdrop for understanding the context in which the study on e-banking adoption in Aligarh unfolds.

5.6 Statistical Analysis: The data collected underwent rigorous statistical analysis, employing measures such as simple percentage analysis, averages, and the Pearson's Chi-square test for independence. These methods were instrumental in drawing meaningful insights and testing hypotheses related to e-banking usage in the specified context.

This meticulous approach, incorporating the latest data collection tools and robust statistical methods, ensures the reliability and relevance of the findings in understanding the dynamics of e-banking adoption during the specified timeframe and geographical setting.

ANALYSIS AND RESULT

Table 1: Demographic Profile of the Respondents

Variables		**Frequency**	**Percentage**
Gender	Male	180	60.0
	Female	120	40.0
Age	Below 25	75	25.0
	25-35	162	54.0
	35-45	25	08.3
	45-55	24	08.0
	Above 55	14	04.7
Education	Below High School	32	10.7
	High School	12	04.0
	Intermediate	22	07.3
	Graduate	65	21.7
	Post Graduate	151	50.3
	Doctorate	18	06.0

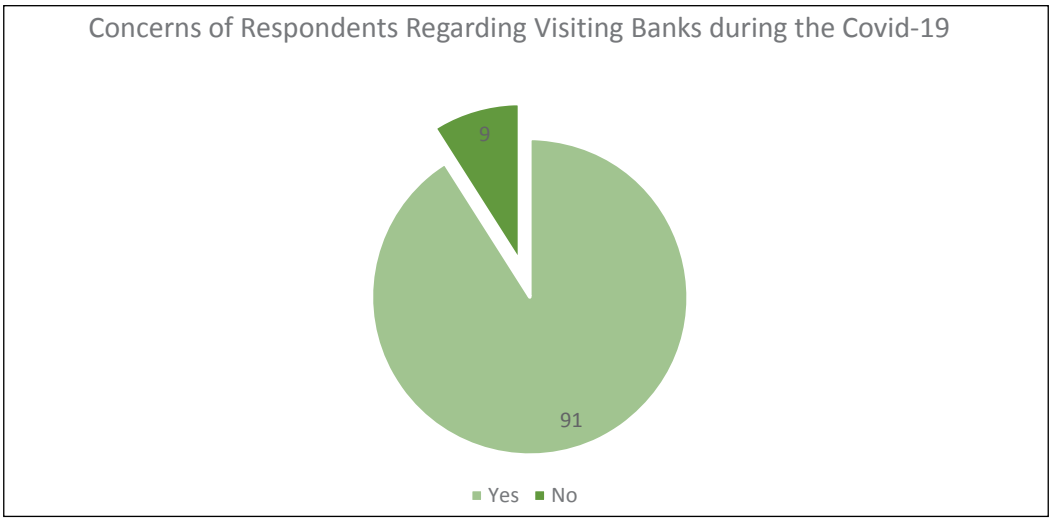
Occupation	Service	97	32.2
	Business	32	10.7
	Self Employed	20	06.7
	House Wife	16	05.3
	Student	135	45.0
Income	Below 20,000	154	51.3
	20,000-40,000	93	31.0
	40,000-60,000	25	08.3
	Above 60,000	28	09.3

Source: *Primary Data.*

Table 2: Usage of E-Banking Services

E-Banking Usage	Frequency	Percentage
Yes	254	84.7
No	46	15.3
Total	300	100.00

Source: *Primary Data.*



Source: *Primary Data.*

Fig. 1: Concerns of Respondents Regarding Visiting Banks during the Covid-19 (In Percentage)

The presented concerns highlight the apprehensions of respondents when considering physical visits to banks amidst the ongoing pandemic. As outlined in Fig. 1, a substantial 91 per cent express feelings of

insecurity regarding the risk of contracting Covid-19 during visits to the bank. This heightened concern acts as a driving force, compelling customers to pivot towards the adoption of E-Banking services as a safer alternative to traditional in-person banking.

To gauge the shift in consumer behaviour, Table 2 outlines the utilization of E-Banking services during the Covid-19 period. A notable 84.77 per cent of respondents embraced E-Banking services as a response to the pandemic, citing safety concerns associated with physical banking visits. However, 15.3 per cent of respondents did not resort to any E-Banking services during this period, reflecting diverse attitudes and adoption patterns.

Table 3: Type of Account, Relationship with Bank Period and Usage of E-Banking Services

Type of Account		
Type of Account	**Frequency**	**Percentage**
Saving Account	225	75.00
Current Account	31	10.33
Salary Account	29	09.66
Recurring Deposit Account	09	03.00
Fixed Deposit Account	06	02.00
Total	300	100.00
Relationship with Bank Period		
Period		
>1 Year	32	10.66
1-3 Years	82	27.33
3-5 Years	41	13.66
5-7 Years	38	12.66
7 Years <	107	35.66
Total	300	100.00
Usage Period of E-Banking Services		
Usage Period		
>6 Months	11	03.66
6 Months – 1 Year	07	02.33
1- 2 Years	12	04.00
2-3 Years	37	12.33
3 Years <	233	77.66
Total	300	100.00

Source: *Primary Data.*

In examining the financial background, a significant proportion of respondents, constituting 75 per cent, primarily held savings accounts. Followed by current accounts, salary accounts, recurring accounts, and fixed deposit accounts, each contributing to the varied banking tapestry.

To understand the relationship between account types and the adoption of E-Banking, a deeper exploration into the duration of respondents' banking affiliations became imperative. Notably, a substantial 35.66 per cent of respondents maintained a banking relationship for over seven years, underscoring a significant degree of customer loyalty. Additionally, 27.33 per cent had maintained such relationships for 1 to 3 years. This stability among long-term customers emphasizes the importance of fostering enduring relationships.

The data highlights the varying durations of engagement with E-Banking services, with a majority 77.66 per cent having a usage period exceeding three years. Such insights into both account types and E-Banking usage periods provide a nuanced understanding of customer behaviours and pave the way for strategic considerations in the ever-evolving financial landscape.

In order to foster enduring relationships and retain a customer base, the study suggests that banks should continually innovate, offering a spectrum of services including credit cards, internet banking, ATMs, and mobile banking. These strategies align with the demands of a dynamic customer base and contribute to the overall stability and growth of the banking industry.

Table 5: Result of Pearson Chi-Square testing

Variable tested	Pearson Chi-Square Value	Degree of Freedom	Significance
Gender X E-Banking usage	3.120	1	.077
Age X E-Banking usage	49.411	4	.000
Education X E-Banking usage	70.200	5	.000
Occupation X E-Banking usage	33.165	4	.000
Income X E-Banking usage	14.647	3	.002

Source: *Primary Data.*

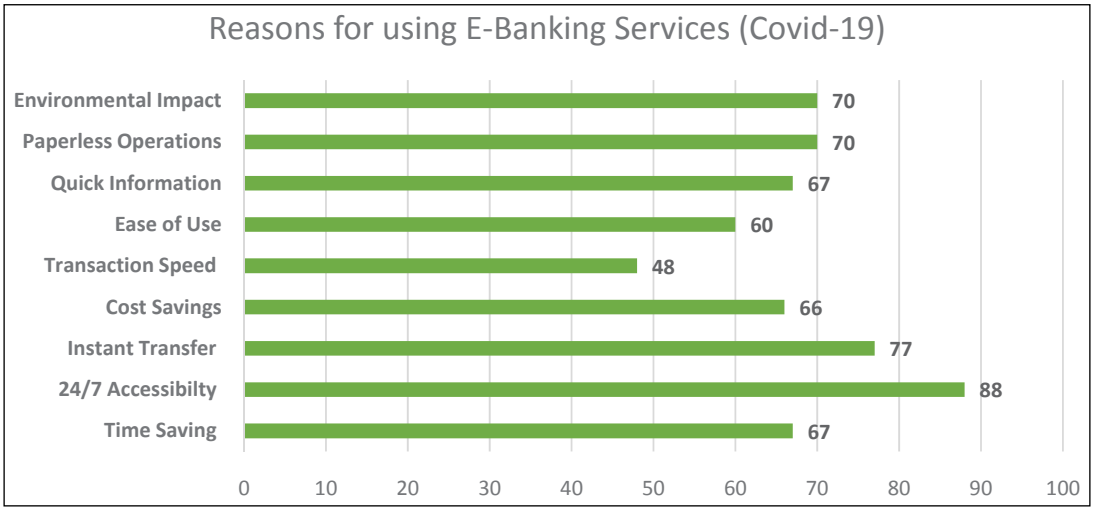
(Ho1): There is no significant relationship between the gender of respondents and E-Banking usage. The Pearson Chi-Square result is $X^2 = 3.120$, $df = 1$, $P = 0.077$, which is greater than the 0.05 significance level. Therefore, we cannot reject the null hypothesis. This implies that there is no significant relationship between gender and the utilization of e-banking services. E-banking modes are used irrespective of gender.

(Ho2): There is significant relationship between the age of respondents and E-Banking usage. The result is $X^2 = 49.411$, $df = 4$, $P = 0.000$, indicating a significant relationship between age and cashless usage. Consequently, we reject the null hypothesis at a 5% significance level. Specifically, the age group of 25 to 35 exhibits a higher likelihood of engaging in e-banking transactions, as evidenced by an expected count less than the actual count.

(**Ho3):** There is significant relationship between the education of respondents and E-Banking usage. The result $X^2 = 70.200$, $df = 5$, $P = 0.000$, indicates a significant relationship. Consequently, the null hypothesis is rejected as the p-value is less than 0.05. Graduates and postgraduates are more likely to engage in e-banking services, as reflected by an expected count lower than the actual count.

(Ho4): There is significant relationship between the occupation of respondents and E-Banking usage. The result $X^2 = 33.165$, $df = 4$, $P = 0.000$, signifies a significant relationship. Thus, we reject the null hypothesis. Service personnel, businessmen, and students are more likely to engage in e-banking services, supported by an actual count higher than the expected count.

(Ho5): There is significant relationship between the income of respondents and E-Banking usage. The result $X^2 = 14.647$, $df = 3$, $P = 0.002$, indicates a non-significant relationship. Therefore, we cannot establish a significant relationship between income and e-banking usage. However, the income group above ₹ 20,000 shows a higher likelihood of engaging in e-banking services.

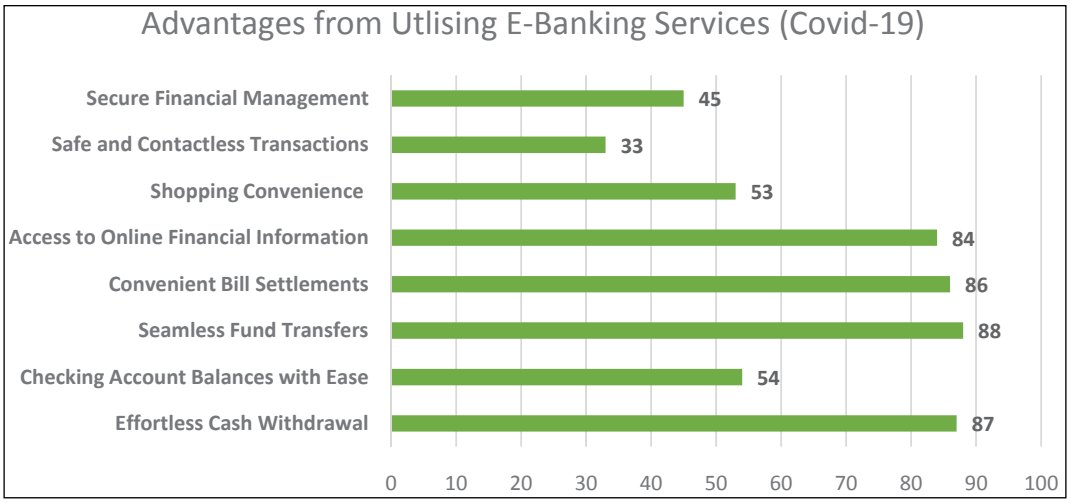


Source: *Primary Data*

Fig. 2: Reasons for using E-Banking Services Covid-19 (In Percentage)

Fig. 2: Reasons for Using E-Banking Services: A comprehensive analysis of the motivations driving the utilization of E-Banking services has been conducted, as depicted in Fig. 2. The findings reveal that 24/7 banking stands out prominently as a key motivator, with 88% of respondents emphasizing its significance. Other significant drivers include Instant Transfer (77%), Environmental Impact and Paperless Operation (both at 70%), Quick Information and Time Saving (67%), Cost Savings (66%), Ease of Use (60%), and Transaction Speed (48%).

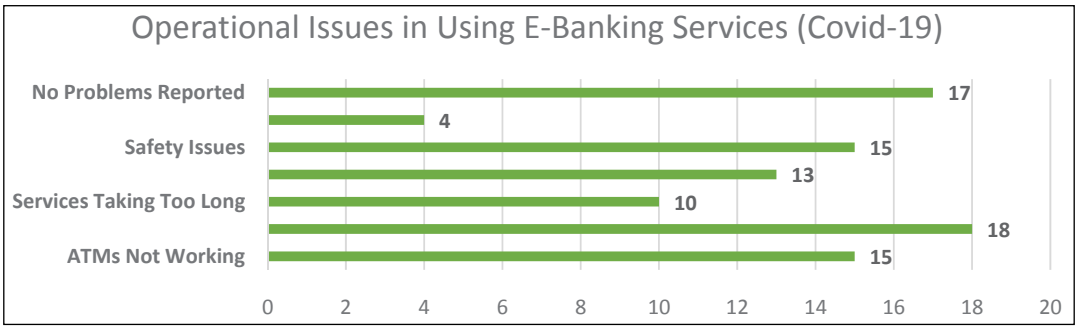
Fig. 3 highlights the advantages accrued by individuals utilizing E-Banking services during the Covid-19 pandemic. Notably, 88% of respondents find seamless fund transfers to be a prominent benefit, closely followed by convenient bill settlements at 86%. Effortless cash withdrawal, checking account balances with ease, access to online financial information, shopping convenience, safe and contactless transactions, and secure financial management also contribute positively to the user experience.



Source: *Primary Data*

Fig. 3: Advantages from Utilising E-Banking Services - Covid-19 (In Percentage)

The results indicate a positive correlation between the benefits customers derive from these services and the enhancement of service quality. Additionally, the probability of customer satisfaction is expected to increase with the growing array of advantages offered by E-Banking services.



Source: *Primary Data.*

Fig. 4: Operational Issues in Using E-Banking Services-Covid-19 (In Percentage)

Examining operational challenges during the Covid-19 period, Fig. 4 sheds light on specific issues encountered by users of E-Banking services. Noteworthy concerns include ATMs not working (15%), server problems (18%), services taking too long (10%), risk of losing money (13%), safety issues (15%), lack of information (4%), and a significant portion (17%) reported no problems. These insights contribute to a holistic understanding of the E-Banking landscape, recognizing both the motivations and challenges faced by users during the pandemic.

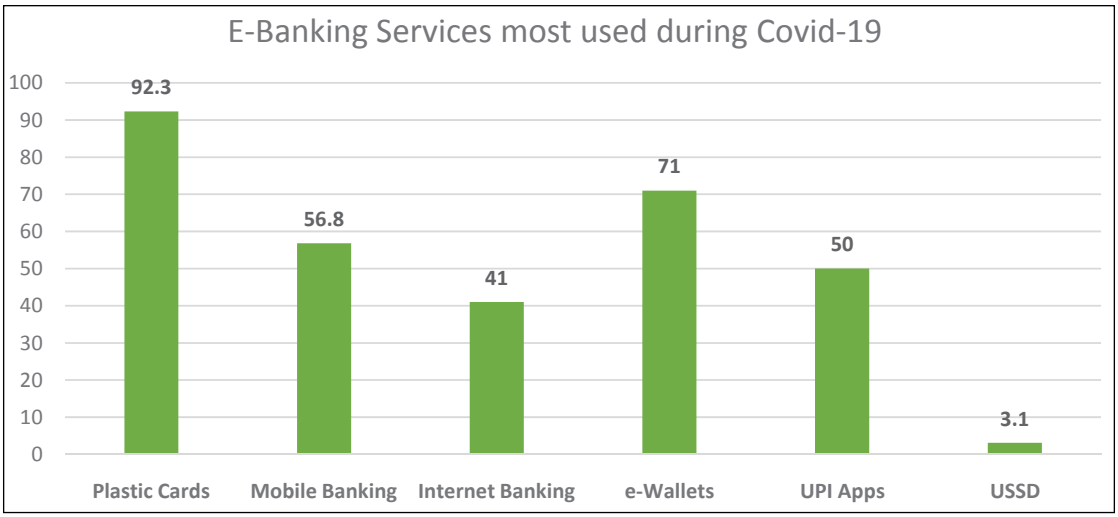


Fig. 5: E-Banking Services most used during Covid-19 (In Percentage)

Fig. 5: Amid the unique circumstances posed by the Covid-19 pandemic, respondents exhibit distinctive preferences in the realm of E-Banking services:

- **Plastic Cards:** Demonstrating resilience during the pandemic, plastic cards emerge as the most widely utilized E-Banking service, with a robust adoption rate of 92.3%.
- **Mobile Banking:** Acknowledging the convenience of mobile transactions during lockdowns, 56.8% of respondents actively engage with mobile banking services.
- **Internet Banking:** Despite challenges, 41% of users continue to leverage internet banking services, highlighting its enduring relevance during the Covid-19 era.
- **E-Wallets:** Positioned as a contactless alternative, e-wallets witness increased traction, with 71% of respondents opting for this secure mode of digital transactions.
- **UPI Apps:** Facilitating seamless fund transfers during social distancing norms, UPI apps secure a substantial foothold, embraced by 50% of users.
- **USSD:** With limited adoption, USSD technology accounts for a modest 3.1%, indicating a marginal role in the digital financial landscape during the pandemic.

This nuanced insight into E-Banking service preferences during the Covid-19 era illuminates the adaptability of users and the evolving dynamics of digital financial interactions in response to global challenges.

CONCLUSION

The research underscores the pivotal role of e-banking in reshaping the traditional banking landscape during the Covid-19 pandemic. The study conducted in Aligarh District highlights a significant shift towards digital-first banking, driven by safety concerns and convenience. Demographic factors such as age, education, and occupation influence e-banking adoption, emphasizing the need for tailored strategies. The advantages of 24/7 accessibility, seamless fund transfers, and contactless transactions resonate with users, contributing to sustained adoption. While operational challenges exist, the overall findings suggest a positive correlation between the benefits derived and enhanced service quality. This research serves as a valuable resource for banking institutions aiming to navigate the evolving digital landscape and meet the changing needs of their customers.

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