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Adoption of Digital Payment System in the Era of Demonetization at Bank of Baroda with special reference to Patna

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Abstract: *The Demonetization in India is considered as a major economic reform introduced to combat black money, forged currency, and promote digital transactions. This study analyzes its impact with special reference to Bank of Baroda in Patna, focusing on changes in banking operations and customer behavior. The sudden withdrawal of high-value currency notes led to immediate challenges such as heavy rush, cash shortages, and increased workload for bank staff, whereas it also encouraged higher deposits and a significant shift toward digital banking practices. The findings reflected that though demonetization created short-term disruptions, it contributed to overall long-term improvements in financial inclusion and the adoption of formal banking channels, as reflected in the functioning and customer response at the Bank of Baroda branch in Patna.*

Keywords: *Demonetization, Digitalization, Money supply, Digital Payment, System Unified Payments Interface (UPI), Financial inclusion.*

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Introduction:

"Demonetization was not just a currency change, but a stress test for India's digital future".

The Demonetization in India was announced on 8 November 2016 as a major step to reduce black money, stop the use of fake currency, and encouraged people to use digital forms of payment. Under this decision, ₹500 and ₹1000 notes were suddenly withdrawn from circulation, which created a huge impact on daily life. People had to visit banks to deposit or exchange their old notes, leading to long queues and temporary cash shortages. While the decision caused inconvenience in the short run, it also pushed many people to open bank accounts and start using digital payment methods.

This study focuses on the impact of demonetization with special reference to Bank of Baroda in Patna. Banks played a very important role during this period as they handled large volumes of cash deposits and customer queries. The branch in Patna experienced increased workload, operational challenges, and changes in

customer behavior. At the same time, it also saw a rise in deposits and greater use of banking services.

Literature Review:

The Indian economist's have analyzed both the theory and application of demonetization of Indian currency which includes studying both its pros and cons on banks, as well as the interaction between demonetization and digitalization. In this context, relevant studies on demonetization and digitalization have been reviewed to identify gaps in the literature.

IOSR (2017) investigated the impact of demonetization on digital banking services and concluded that demonetization acted as a catalyst for Digital India due to the shortage of liquid cash for transactions. The study found a significant increase in online banking after demonetization, meanwhile ATM usage remained stable. It also identified speed of service and ease of use as key drivers of digital banking adoption.

According to the International Journal of Commerce and Management Research (2017), the Government of India has been encouraging a shift towards a cashless economy through debit/credit cards and electronic payment systems like NEFT and RTGS. The study also highlights increased use of internet and mobile technologies, along with new channels such as websites, social media, and mobile applications, for accessing financial services.

However, most of these studies are general in nature and focus on the overall impact at the national level. There is limited research specifically examining the impact of demonetization and digitalization at the branch level, particularly in the context of Bank of Baroda in Patna, which this study aims to address.

Research Gap:

1. Lack of Branch – Level studies
   Most studies focus on national trends rather than individual bank branches.
   Very little research is done on Bank of Baroda branches in Patna.
2. Limited Study on Long-Term Digital Use
   Research mainly covers the initial adoption of digital payments during demonetization.
   There is less focus on whether post use continuation by people over time.
3. Ignoring Local and People-Related Factors
   Factors like digital literacy, age, and income are not properly studied.
   Issues like poor internet and lack of smart phones in Bihar are often ignored.
4. Lack of Survey-Based Evidence
   Very few studies are based on real customer surveys.
   So, customer problems and bank service effectiveness are not clearly understood.

Objectives:

- To examine consumer behaviour and their adoption pattern of digital payment.
- To analyse the growth of digital payment system in India after the demonetization.
- To study the role of government initiatives (Digital India, BHIM app, UPI).
- To detect challenges and barriers in digital payment adoption.
- To provide policies for developing digital financial inclusion to find out how digital literacy affects the work performances of employees.

Research Methodology:

Research Design: This is research design to analyze the adoption of digital payment systems in India during and after demonetization, focusing on both consumer and the bankers perspective.

Data Collection

1. Primary Data: Consumers: A structured questionnaire used to assess consumer awareness, perceptions, adoption levels, challenges, and behavioral responses towards digital payments.

Bankers (e.g., Bank of Baroda): A separate set of structured questions and interviews was conducted to understand how banks facilitated digital payment adoption, their challenges in implementation, and their perspective on security issues.

2. Secondary Data: Sourced from journals, books, reports, and online resources on demonetization, digital payment adoption, banking practices, and consumer behavior in India.

Sampling

Population: Consumers using digital payment methods in India. Bank officials involved in promoting or managing digital payment systems.

Sampling Technique:

Consumers: Convenience and purposive sampling (targeting active users of digital payments).

Bankers: Purposive sampling (focusing on officials in Bank of Baroda as a case study).

Sample Size: Around 100–150 consumers.

Around 1 bank (Bank of Baroda) from different branches with employees as respondents.

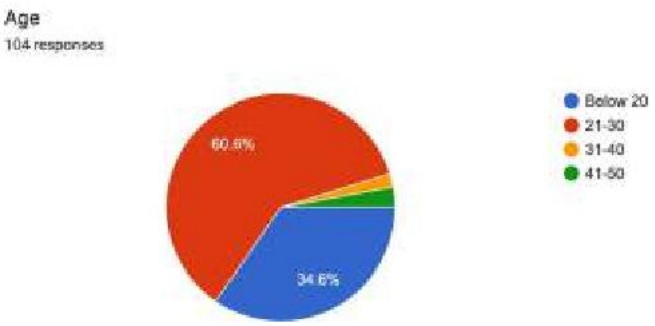
Data Analysis

Consumers: Descriptive statistics summarize awareness, adoption rate, and usage frequency.

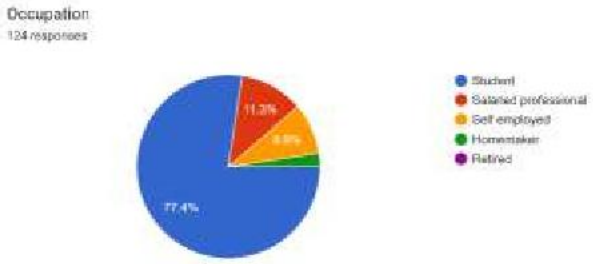
Bankers: Thematic analysis of open-ended responses from interviews to identify strategies, challenges, and perspectives on consumer adoption.

Descriptive statistics where applicable (e.g., percentage of customers adopting digital payments, transaction volume growth)

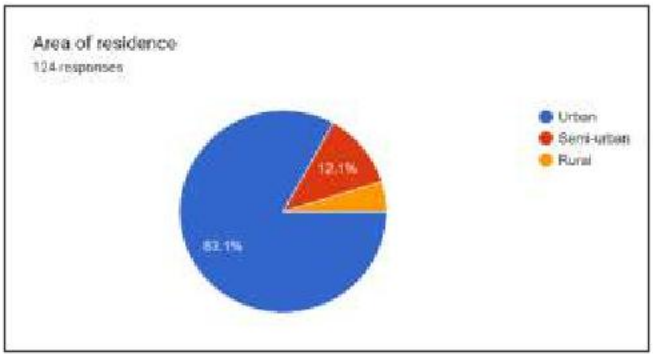
Research Findings (Consumer Perspective)



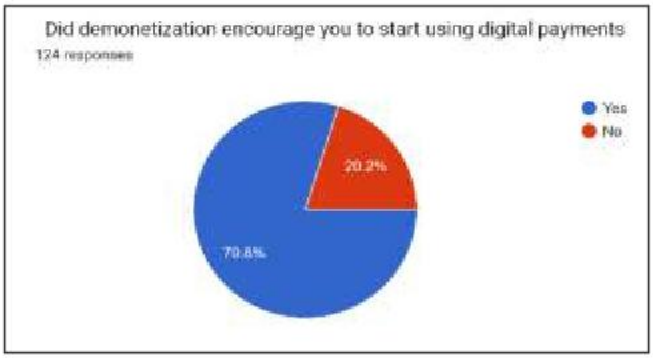
According to 104 survey participants, 63 respondents, or 60.6% of the sample, are between the ages of 21 and 30. The age group below 20 makes up the second-largest percentage, 34.6% (36 responses), indicating a high representation of younger people. About 3% of respondents are between the ages of 31 and 40, and only 1.9% of respondents are between the ages of 41 and 50.



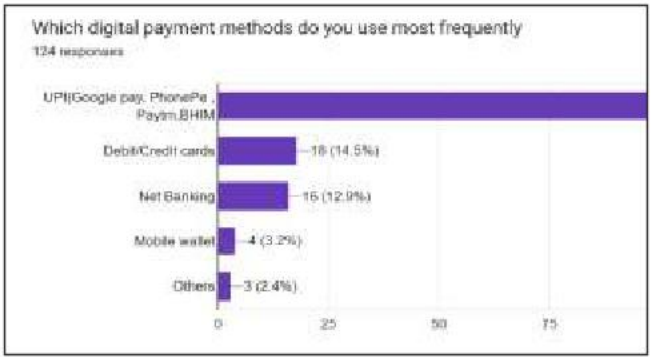
According to 104 respondents it is shown, Student: Of the 78 responders, 77.4% said they were students. This overwhelming majority suggests that the survey's target audience is mainly made up of people who are pursuing academic goals, perhaps with an emphasis on education or young people. Form 11.3 for Salaried Professionals



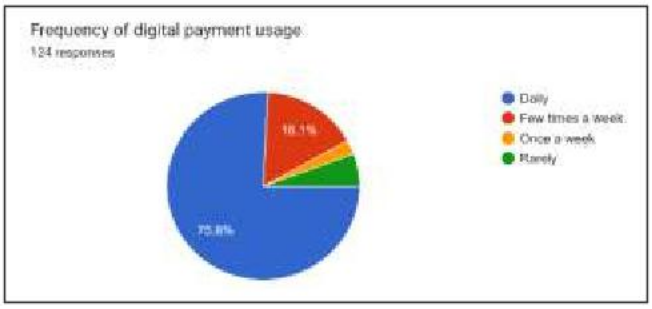
According to 104 survey participants areas of residence is shown that, The majority of participants, 83.1% (84 responses), are from urban regions. The semi-urban category has the second-highest percentage, 12.1% (15 respondents), indicating a moderate representation from developing areas. Roughly 4.8% (5 respondents) of the sample are from rural areas, making up the smallest percentage.



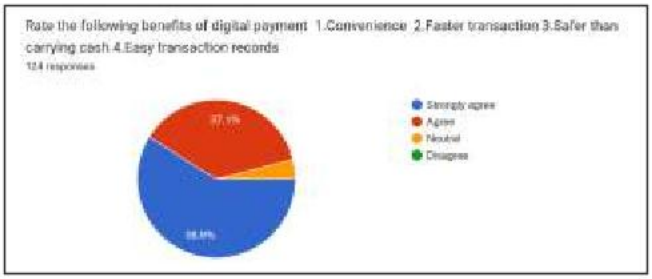
The respondents' opinions on whether demonetization prompted them to begin using digital payments are seen in this graph. After demonetization, a significant majority of respondents (79.8%, or 84 people) indicated that they were inspired to utilize digital payment methods. Twenty respondents, or 20.2% of the total, selected "No," indicating that a smaller portion of the population was unaffected by the incident.



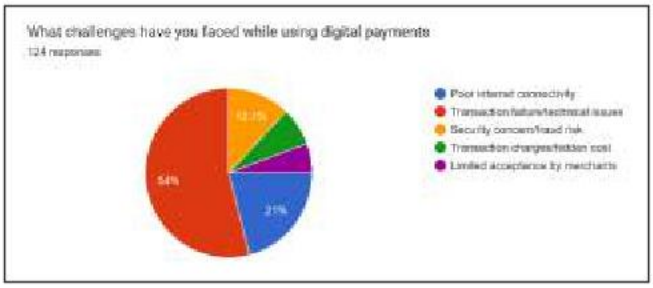
According to 104 respondents most popular digital payment methods is UPI is by far the most popular method of doing digital transactions, as evidenced by the 91.9% (114 respondents) who reported using UPI services like Google Pay, Phone Pe, and Paytm. With 14.5% (18 respondents), debit/credit cards make up the second-largest group. Net banking comes in second with 16% (12.9 respondents).



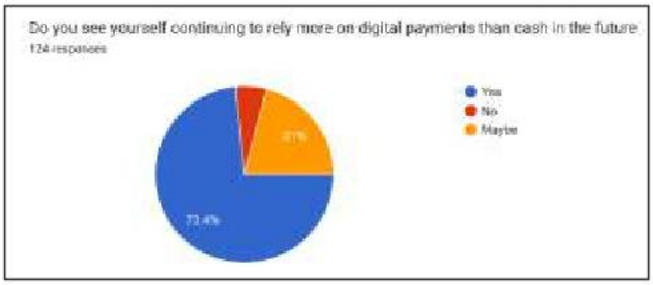
According to the survey, respondents use digital payment methods which shows in this graph. The fact that 75.8% (84 respondents) said they used digital payments every day shows how commonplace digital transactions have grown in their daily lives. Thirteen respondents, or 16.1% of the total, reported using digital payments a few times a week. The least regular users, 3.6% (3 respondents), use digital payments seldom, while a lesser percentage, about 4.8% (4 respondents), reported using them once a week.



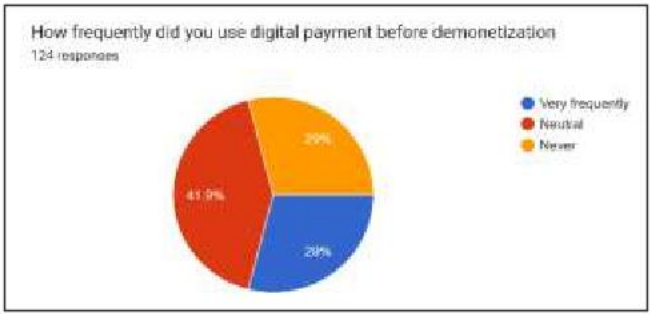
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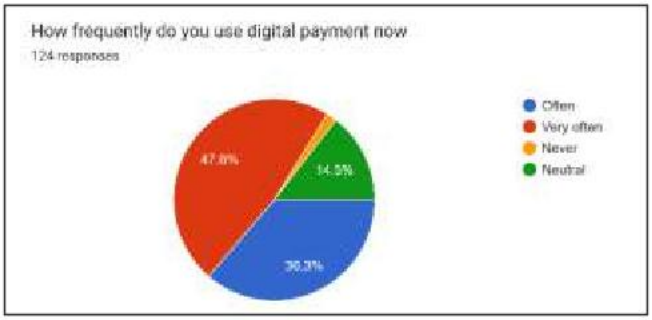
The difficulties that respondents encountered when utilizing digital payments are shown that, The most frequent challenge was transaction failures or technical problems, which were mentioned by 54% (56 respondents). Poor internet connectivity was cited by 21% (24 respondents) as a significant obstacle. 12% (11 respondents) were impacted by transaction fees or hidden costs, and 13% (7 respondents) mentioned fraud threats or security issues.



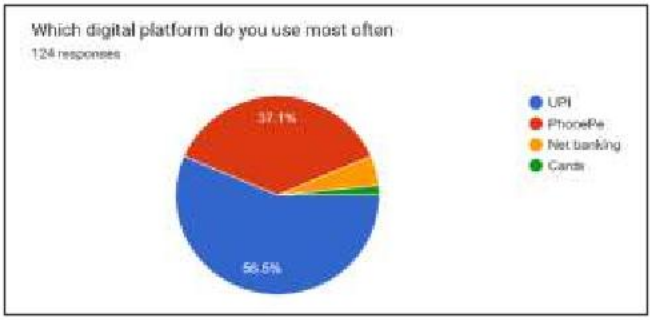
According to the respondents opinions about whether they anticipate using more digital payments than cash in the future the 72 respondents, or 73.4% of the sample, selected "Yes," showing that a sizable majority anticipate growing reliance on digital transactions. 21% (18 respondents) selected "Maybe," indicating that several users were unsure.



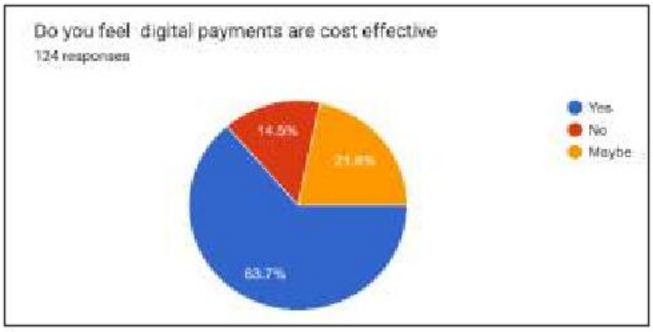
The frequency with which respondents used digital payments prior to demonetisation is depicted in this graph. "Neutral" was chosen by 41.9% (46 respondents), indicating moderate or infrequent usage at that time. Thirty-two respondents, or 29%, said they frequently used digital payments. A quarter of people had never used digital payment methods prior to demonetisation, as indicated by the 29% (26 respondents) who said they had never done so.



The respondents currently use digital payments is depicted in this graph. The greatest percentage, 47.6% (51 respondents), said they used digital payments frequently. "Often" was chosen by 36.3% (34 respondents), indicating widespread use. The smallest percentage, 2% (3 respondents), said they had never used digital payments before, while 14.5% (16 respondents) remained neutral.

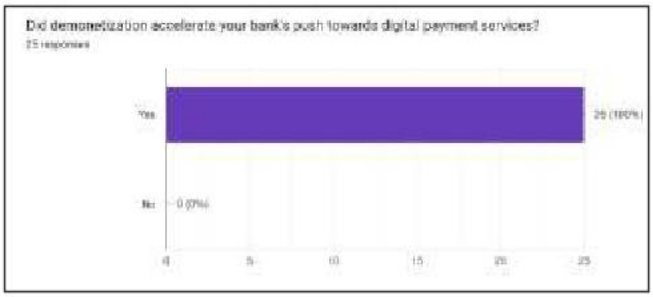


According to survey, respondents uses UPI more and it is the most popular choice, with 56.5% (56 respondents) choosing it as their main platform.41 respondents, or 37.1%, said Ponape was their preferred platform. 5.4% (6 respondents) selected net banking, but only 1% (1 respondent), or the smallest percentage, utilized cards most frequently.

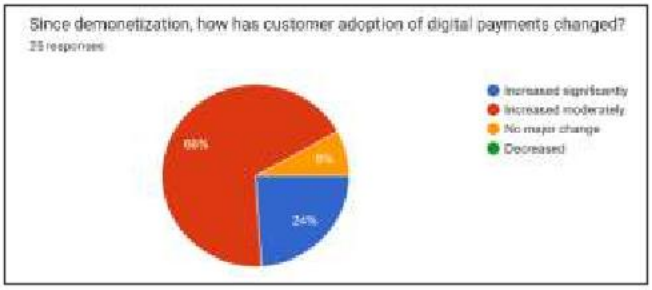


The opinions of the respondents regarding the cost-effectiveness of digital payments are depicted in this graph. The majority of respondents thought digital payments were cost-effective, as seen by the 63.7% (67 respondents) who selected "Yes." "Maybe" was the response given by 21.8% (24 respondents), indicating doubt about the cost-benefit ratio. Thirteen respondents, or 14.5% of the total, selected "No," indicating a smaller.

(Bankers Perspective)

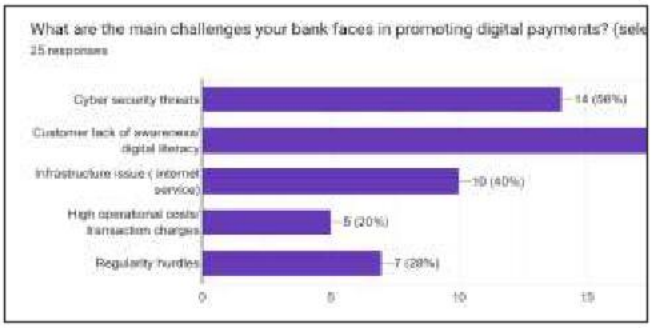


25 responses to the question of whether demonetization hastened banks' transition to digital payment services are shown in the pie chart. Demonetization significantly accelerated banks' efforts to adopt digital payment channels, as indicated by the 100% of respondents who chose "Yes. “Demonetization was a significant catalyst for digital projects, as indicated by the fact that 0% of respondents selected "No." Overall, the results indicate that demonetization played a significant role in changing banks' approaches to encourage digital payments.

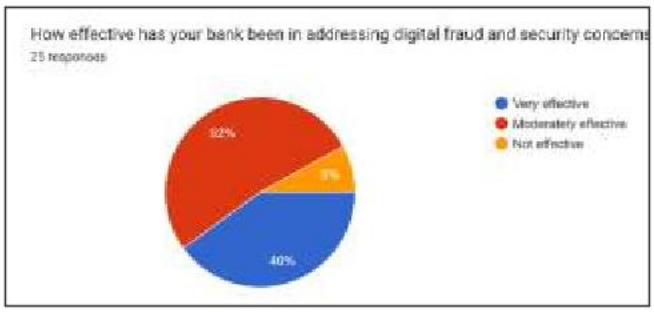


25 responses regarding shifts in the use of digital payments following demonetization are depicted in the pie chart:-

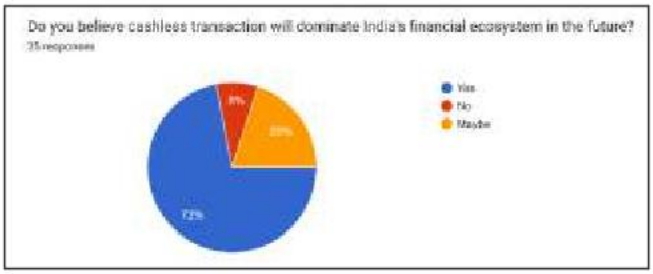
- A moderate increase in the use of digital payments was indicated by 68% of respondents.
- A notable rise in adoption was noted by 24% of respondents.
- None saw a decline, and 8% reported no significant change.
- In general, demonetization greatly increased the use of digital payments.



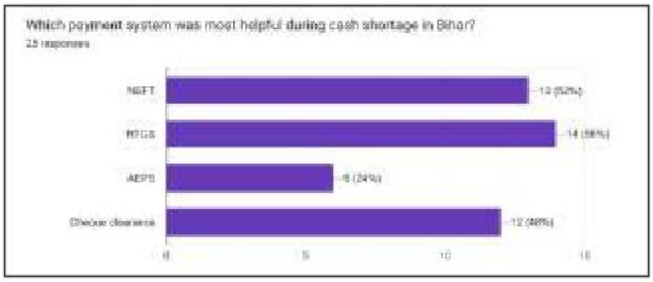
The bar chart represents 25 responses on challenges faced by banks in promoting digital payments. Customer lack of awareness was the biggest challenge, reported by 72% (18 respondents). Cybersecurity threats were identified by 56% (14 respondents). Infrastructure issues affected 40% (10 respondents). Regulatory hurdles and high operational costs were reported by 28% and 20%, respectively.



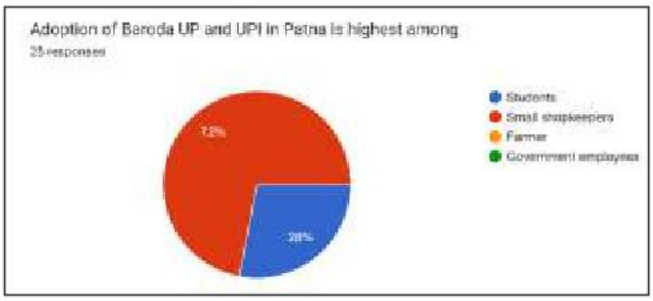
This pie chart shows 25 replies regarding how well banks handle security and digital fraud issues. According to 52% of respondents, banks' security procedures are adequate but might be improved. A high degree of faith in banking security procedures is demonstrated by the 40% of respondents who believe banks are extremely effective. Users are not entirely satisfied, as evidenced by the modest percentage of 8% who believe banks are ineffective. Overall, the results indicate that banks are generally successful in handling digital security, but ongoing enhancements are required.



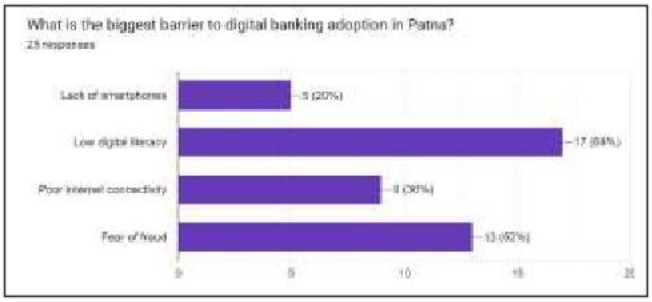
The pie chart shows 25 responses to the question of whether India's financial environment will be dominated by cashless transactions. According to 72% of respondents, cashless purchases will become the norm. Twenty percent are unsure about the future. Just 8% think that cashless transactions won't take over. This shows great hope for India's transition to a cashless economy.



The bar graph shows 25 replies about the best payment method for Bihar's cash crisis. 52% (13 respondents) said NEFT was the most beneficial. Though to a lesser degree, other digital payment methods also made a contribution. The results emphasise how crucial electronic fund transfer networks are in times of financial instability.



The group with the highest uptake of Baroda UP and UPI in Patna is depicted in this pie chart based on 25 replies. Small business owners are the main users, according to 72% of respondents, indicating a high adoption among regional retailers. Students are indicated by 28% of respondents, indicating a modest yet noteworthy user base in the student group. Farmers and government workers have very little or no representation on the chart, which reflects their low adoption rates.



The bar chart represents 25 responses regarding the major barriers to digital banking adoption in Patna. Low digital literacy was identified as the biggest barrier by 68% (17 respondents). Fear of fraud was reported by 52% (13 respondents) as a significant concern. Poor internet connectivity affected 36% (9 respondents). Lack of smartphones was considered a barrier by 20% (5 respondents).

Suggestions:

Bank of Baroda: Creates campaigns for their customer and create increased digital literacy programme and level of customer awareness through improved banking education method, user friendly mobile banking app for seniors and ruler customers, strengthened cyber security practices with periodic reminder of security breeches or alerts to their customer, vast customer services through chat-bots and toll-free number and improve infrastructure through what semi-urban and rural communities in order to increase access to point-of-sale (POS) machines and internet service.

- The Government: Government continue promoting both Digital India and Government financial inclusion programs; By creating incentives and subsidies for micro and small enterprises to adopt digital payment system; establish digital skills education and training programme within school and Colleges all over the country.
- Consumers: practices safe and double security when making transactions digitally and create increased public awareness.(i.e. one-time passcodes (OTPs), fraudulent activities, phishingetc.); encourage the use of a variety of electronic payment systems, including the wallets, cards and UPI, switch their habitual cash-based consumptive practices to the more convenient/easier to use,secure method of electronic banking transactions.

Conclusion:

Indian digital payment have increased very quickly because of banking technology and government efforts . processes like NEFT, RTGS, IMPS and UPI have ensured that financial transactions are very quick safer and convenient for people.

The 2016 demonetization help inspire consumer and businesses to use digital payment programs and to contribute to an increase in the use of cards,UPI,digital payment across India.

Bank such as Bank of Baroda have sponsored this migration by improving their digital offering and promoting mobile banking . cities like patna the uses of digital payment is on the rise but not without challenges and difficulties such as digital literacy and server issues understanding the consumer adoption of digital payment has assessing long run consequences of demonetization and effectiveness of government initiative that are pushing India towards becoming a cashless economy and modern India.

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