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Our Reflections from the Analysis of Data from CUTS¹ on Accessibility & Experience of Digital Payments in India

Anubhuti Singh², Future of Finance Initiative, Dvara Research

Summary:

Consumer Unity & Trust Society (CUTS) conducted a survey on consumers' and merchants' perspectives on the Accessibility and Experience of Digital Payments in Urban and Rural India. The study aims to understand the adoption of digital payments by consumers and merchants across selected Indian states. Through this study, CUTS sought to understand consumers' and merchants' awareness, usage, experience and challenges to adoption of digital payments. In this data brief based on survey data received from CUTS, we present reflections to understand the following questions:

1. Who are the users of digital payment services?
2. Which digital payment services are more used?
3. What are the issues being faced by users of digital payment services?
4. What is the change in the experience of consumers who use digital payment services?
5. What are the key constraints that people face in adopting or using digital payment services?

About Future of Finance Initiative:

The Future of Finance Initiative seeks to identify and address new challenges for policy and regulation in India given the waves of digital innovation currently sweeping financial services. Our work in this initiative studies the impacts of digitisation and technological innovation in Indian finance, leading from the consumer perspective on these issues. Our research agenda is focussed on issues that impact particularly lower income individuals as a result of

- the disintermediation of financial services,
- the large scale investment in public infrastructure for digital finance and
- the increased use of consumer data and analytics in finance.

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1. Introduction: Consumer experience of digital payment modes

Digital transactions have witnessed a massive spurt in India. Post-demonetisation in India in November 2016, a transaction volume surge has been noted across Immediate Payment Service (IMPS), mobile-based wallets and debit and credit cards (Pani, 2018). Compared to 2013, digital transactions have increased by 34.7 transactions per capita in 2020. Yet, per capita transactions in India are much lower when compared to other BRICS countries with China at 97 transactions, Brazil at 149 transactions, Russia at 179 transactions and South Africa at 79 transactions (Reserve Bank of India, 2019; Deb, 2019). In recent times, the COVID-19 pandemic and the related measures of locking down entire cities and countries disrupted everyday lives and processes. This increased the gaps in the existing digital payment ecosystem as well as the vulnerability of low-income citizens being unable to access cash to sustain their day-to-day activities.

Countries across the world have seen an increase in financial inclusion, particularly over the past decade (World Economic Forum, 2019). However, it has been noted as a significant disadvantage for people with lesser access to digital technologies which could have cascading effects. As more services move towards digital forms of payment, people who have already been on the back foot with regards to adoption and usage of digital technologies might become even more marginalised (World Economic Forum, 2019). The Global Findex Report 2017 published by the World Bank indicated that India was only second to China with regards to an unbanked population of 190 million. It reports that 90% of Indian adults have an account in a financial institution (Ananth & Bull, 2018). Close to 48% of the bank accounts in India were found dormant. In 2017, only 5% of Indians accessed a financial institution account either from their phone or through the internet, and only 2% of the surveyed Indian population owned a mobile money account (Sanghera, 2018).

It is in this context that the Consumer Unity & Trust Society (CUTS) conducted a survey on consumers' and merchants' perspectives on the Accessibility and Experience of Digital Payments in Urban and Rural India. The study aims to understand the adoption of digital payments by consumers and merchants across selected Indian states. Through this study, CUTS sought to understand consumers' and merchants' awareness, usage, experience and challenges to adoption of digital payments. From these findings, the study aims to formulate suitable reforms for deepening digital payments among Indian consumers and merchants. Their findings, which were also presented to the Reserve Bank of India's High-Level Committee on Deepening of Digital Payments, is available [here](#). This brief focuses on the consumer survey findings.

The survey was conducted in five Indian states between January - March 2018. CUTS generously provided the data from their survey to Dvara Research. We had a chance to look at the data and draw some insights given our work in financial inclusion and the impact of digital payments to enhance the same. The findings from this data set are relevant in providing a landscape of the adoption and use of digital payments in India.

In this data brief based on survey data received from CUTS, we present reflections to understand the following:

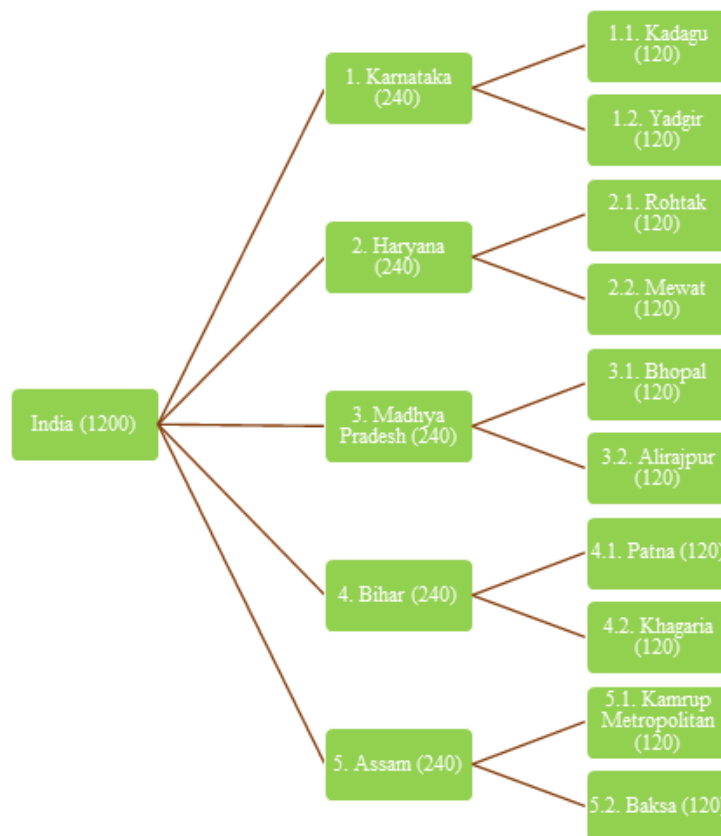
1. Who are the users of digital payment services?
2. Which digital payment services are more used?
3. What are the issues being faced by users of digital payment services?
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1.1. Sampling methodology and demographics

Consumers across the five states of Assam, Bihar, Haryana, Karnataka and Madhya Pradesh were surveyed for this study on the level of access and the experience attached to digital payments. These states were selected based on their level of financial inclusion. The level of financial inclusion was ascertained based on CRISIL Inclusix, the financial inclusion index issued by the CRISIL in 2015³. One state from each of these categories – high financial inclusion (Karnataka), above-average financial inclusion (Haryana), below-average financial inclusion (Madhya Pradesh) and low financial inclusion (Bihar) – was selected using the purposive random sampling method⁴. Assam was selected to cover the north-eastern region of India.

In each of these five states, two districts with the highest and the lowest financial inclusion index score were selected for the primary study. In the selected districts, 1 urban and 1 rural block/village cluster were identified. From each of these 20 block clusters⁵, 60 consumers (with equal gender ratio, i.e. 30 male and 30 female respondents) were surveyed. Thus, the study sought to survey a total of 1200 consumers.

Figure 1: State-wise Count & Distribution of Respondents



³The financial inclusion index issued by CRISIL took into account three aspects, (i) **Bank Penetration (BP)** measuring the number of bank branches per lakh of population, (ii) **Credit Penetration (CP)** measuring the number loans, small borrower loan accounts as defined by RBI and number of agricultural advances per lakh population and (iii) **Deposit Penetration (DP)** measuring the number of saving deposit accounts per lakh of population (CRISIL, 2015).

⁴Purposive sampling is a non-probability sampling technique in which the selection of the units is based on particular characteristics of a population that are of interest. This purposive sampling enables addressing the research question in a focussed manner. Samples selected using this method are small and usually not representative of the population (Laerd, 1999).

⁵((1 urban area + 1 rural area) * 2 districts per state * 5 states)

Along with surveying consumers in each of the selected states, 80 merchants in the selected districts were also surveyed using a different questionnaire, resulting in a total of 800 merchants being surveyed. The demographic characteristics of the 1200 consumers surveyed are as follows:

- i. **Gender:** 53% and 47% of the respondents were male and female, respectively.
- ii. **Age:** The median age of the sample is 33 years, while the average age is 35. In the sample, 48.16% of the respondents were in the age group 30-50, followed by 34.97% of the respondents in the age group 18-30. 14.9% of the respondents were between 50-70 years of age, while the remaining 1.7% of the respondents were below the age of 18.
- iii. **Education:** The highest proportion of the sample surveyed has up to secondary level of education (26.37%). 17.78% of the respondents were illiterate and 14.17% of the sample had studied till graduation or beyond.
- vi. **Occupation:** The occupations of the respondents are as given by the table below.

Occupation	Percentage
Homemaker	37.51%
Student	10.31%
Cultivator/farmer	8.68%
Self-employed	8.35%
Salaried	7.69%
Business/shop Owner	7.04%
Non-agricultural Labour	5.48%
Skilled Worker	4.58%
Agricultural Labour	3.43%
Unemployed	3.03%
Unskilled Worker	2.04%
Retired	1.63%
<i>Not specified</i>	0.16%

1.2. Questionnaire

The questionnaire contains close-ended questions with options for open responses. The questionnaire was designed to record demographic indicators of the consumers (respondents) such as their gender, age, income group, occupation, educational qualification et cetera. It also covered different kinds of digital payment services like internet banking, mobile wallets, SMS, Aadhaar, credit and debit cards. Additionally, in alignment with the objectives of this study, the questionnaire contained questions relating to:

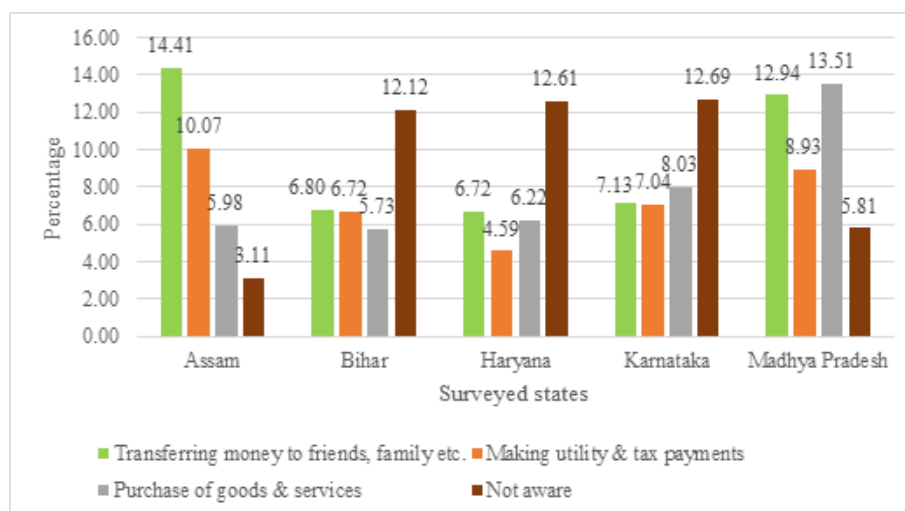
- i. consumers’ access to digital payment services;
- ii. consumers’ awareness and use of digital payment services;
- iii. the physical infrastructure required for the usage for digital payment services;
- vi. the purposes for which consumers use different digital payment services, and
- v. the kind of barriers consumers face while using their choice of digital payment services.

2. Our reflections from the CUTS Consumer Survey

As researchers, we were invited to look at the data collected as part of their survey, and we are grateful for CUTS to have opened their data set on a subject that is so pertinent to the payments and financial sector in India. In this section, we provide reflections from the data shared with us.

2.1. Who are the users of digital payment services?

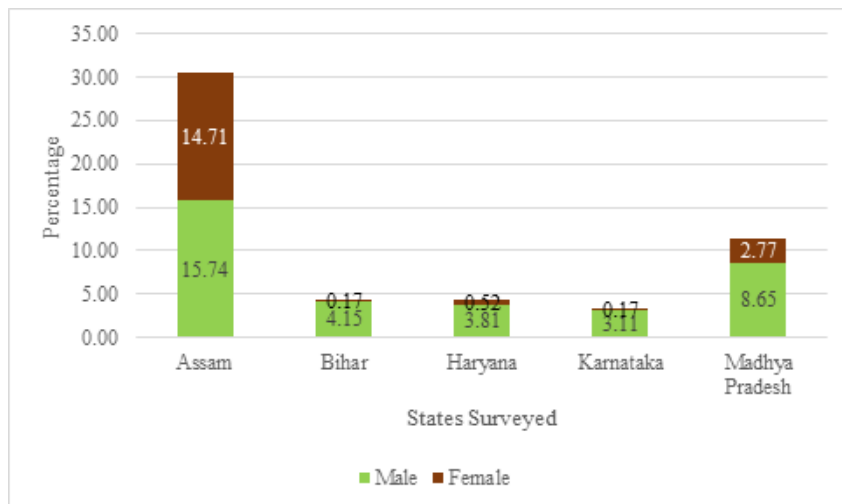
Graph 1: State-wise distribution of awareness of at least one use-case of digital payment services



Of the 1221 consumer respondents, only 53.64% of the respondents (655 respondents) were aware of at least one stated use of digital payment modes. Only these respondents were questioned on the usage of digital payment modes.

In Graph 1, we see that there are high levels of unawareness about any of the stated uses of digital payment modes in samples of Bihar, Haryana and Karnataka. Level of awareness about the stated uses of digital payment modes is relatively high in Assam and Madhya Pradesh. Overall, there appears to be higher awareness about the use of digital payment modes for transferring money to family and friends and purchasing of goods and services. Awareness about the use of digital payments for making utility and tax payments was negligible.

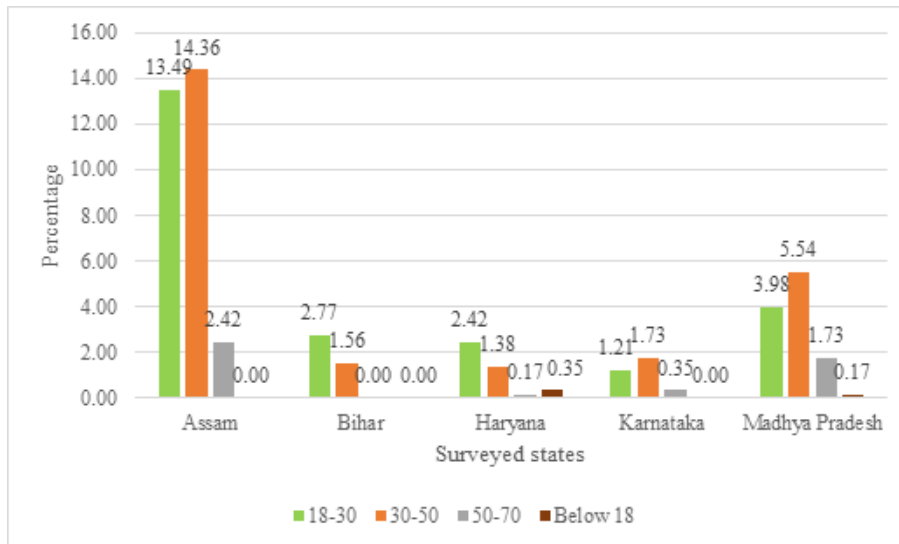
Graph 2: Usage of digital payment services between genders



Of the 655 respondents to the questions “Have you used digital modes (of payments)”, it can be seen in graph 2 that in all states except for Assam, the number of male respondents is significantly higher than female respondents when it comes to the usage of any digital payment modes.

We also note that the highest number of those respondents who were aware of digital payment modes were from the north-eastern Indian state of Assam, while the lowest number of those respondents were from Karnataka.

Graph 3: Usage of digital payment modes across different age groups

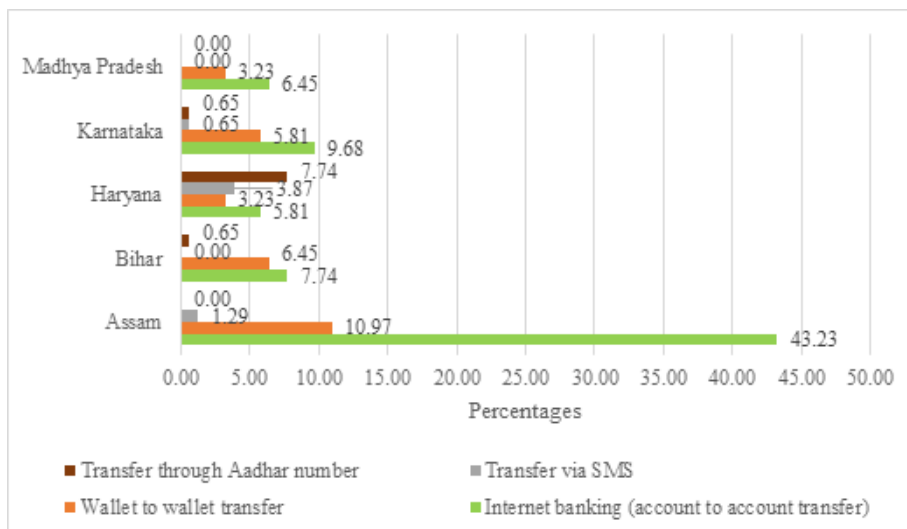


Graph 3 presents an age-wise breakdown of users who are aware and have reported to use digital payment services. The most active users of digital payment modes belong to the age groups of 18-30 and 30-50 years across all states. This finding should be viewed from the perspective of respondents in different age groups.

2.2. Which digital payment services are more used?

In this section, the popularity of different digital payment modes is explored for (i) transferring money to family and friends within and outside the state, (ii) making utility and tax payments and (iii) purchasing goods and services.

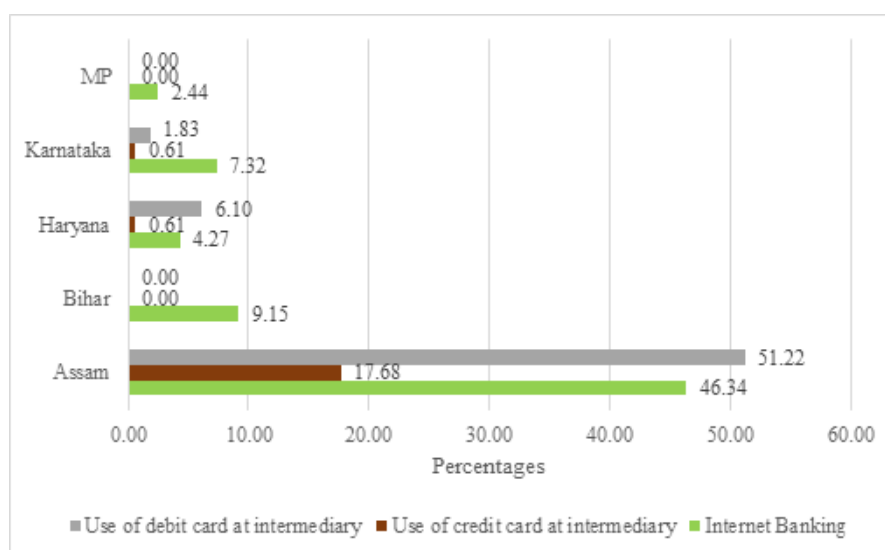
Graph 4: State-wise distribution of usage of digital modes of payment for transferring money to family and/or friends



In graph 4, the percentages represent the usage of different modes from the 155 respondents (12.69% of the sample) who use digital modes to transfer money to family or friends within or outside of the state. This graph presents a state-wise distribution of the same.

Across the states, account-to-account transfer via internet banking seems to be the most popular mode for transferring money to friends and family. Wallet-to-wallet transfer (PayTm) appears to come second, while transfer via SMS is the least popular mode preferred.

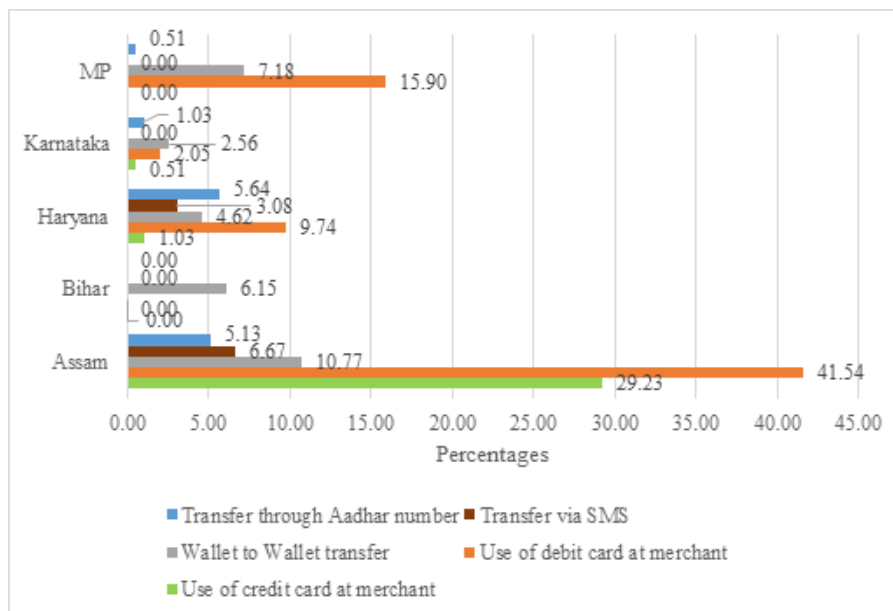
Graph 5: State-wise distribution of usage of digital modes of payment for utility & tax payments



In graph 5, the percentages represent the usage of different modes from the 164 respondents (13.43% of the sample) who use digital modes to make utility and tax payments. This graph presents a state-wise distribution of the same.

Across the states, it appears that the use of internet banking is prominent when making utility or tax payments. The use of a debit card at the intermediary is also consistently popular. In Assam, the use of a credit card is considerably high, as opposed to Haryana and Karnataka. This is in line with a relatively higher proportion of ownership of credit cards in Assam than that in other states (19 respondents, or 1.56% of the total respondents, as opposed to 0.74% in Karnataka or 0.16% in Haryana).

Graph 6: State-wise distribution of usage of digital modes of payments for purchasing goods & services



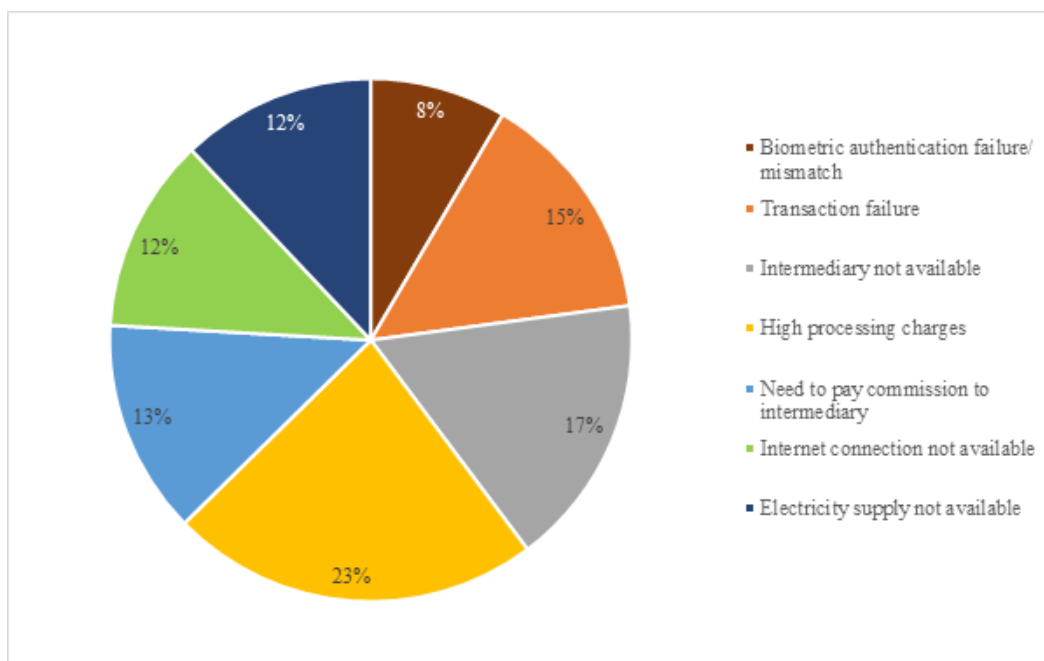
Finally, in graph 6, the percentages represent the usage of different modes from the 195 respondents (16% of the sample) who use digital modes to make payments to merchants. This graph presents a state-wise distribution of the same.

As per the findings from this data, most digital payment mode users across the states (except Bihar) favour the use of a debit card at the point of sale (PoS) with the merchant. It has been reported that India has been a primarily debit card market (Bhakta, 2019). In Bihar, the respondents report only the usage of a mobile wallet when purchasing goods and services. In Haryana and Assam, transferring funds via SMS to merchants has a significant number of users.

2.3. What are the issues being faced by the users of digital payment modes?

In this section, we go over the main challenges that users of different digital payment modes experience with those modes.

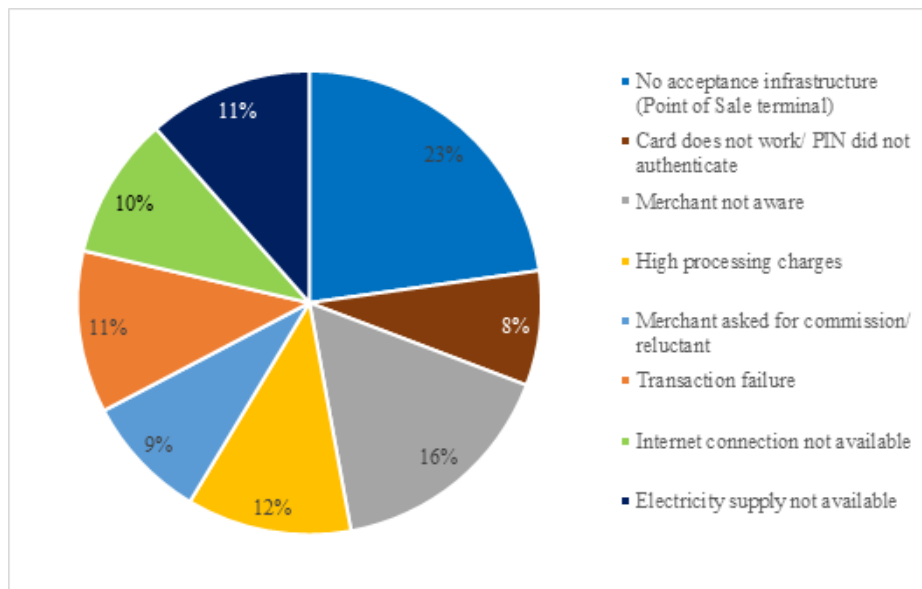
Graph 7: Key challenges experienced with Aadhaar-based payment mode



As seen in graph 7, of the 139 users who used Aadhaar-based payment mode (across any stated uses), 23% of the users find the high processing charge associated with making a transaction challenging. Additionally, an associated concern of needing to pay commission to an intermediary stand at 8%. Some of the Aadhaar-based payment specific challenges such as biometric authentication failure or mismatch are highly reported at 12%, while 15% of the respondents reported a transaction failure being a significant challenge to the use of this mode.

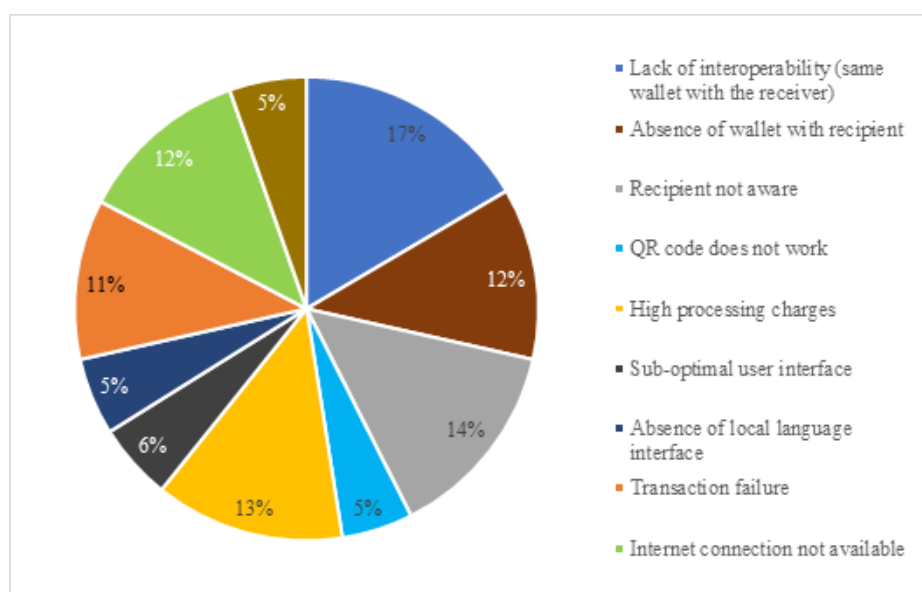
Insights on more than 7 million Aadhaar-enabled Payment System (AePS) transactions between December 2014 and December 2018 from a study by the Digital Identity Research Initiative (DIRI) at the Indian School of Business (ISB) finds that one-third or 34.03% of the AePS transactions fail. Of these, 17.03% of the transaction failures happen due to a biometric mismatch, while 3.71% of the transactions fail due other technical reasons such as bank system failures, poor internet connectivity etc. (Balasubramanian et al., 2019).

Graph 8: Points of failure experienced for card-based payment mode



Of the 196 card users, graph 8 shows that 23% of those users reported the lack of acceptance infrastructure at the point of payment to be a key hurdle for using cards as modes of payments. A similar and second-highest reported concern is the lack of awareness by the merchant, which may also contribute to not having acceptance infrastructure. Once again, like Aadhaar-based payment mode, 12% of the users reported high processing charge as a challenge. Access to prerequisite infrastructures such as internet connection and electricity supply are reported as challenges by 10% and 11% of the users, respectively.

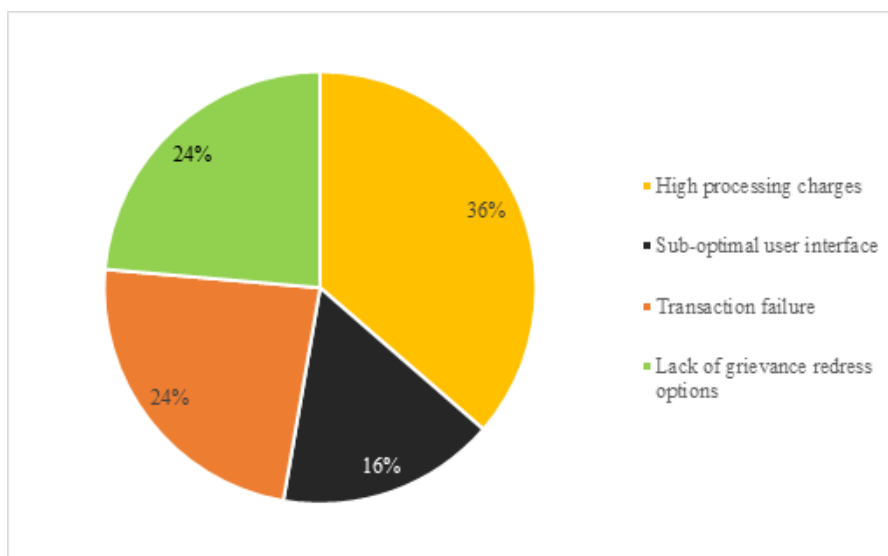
Graph 9: Points of failure experienced for wallet-based payment mode



Graph 9 shows the larger set of concerns that are faced by the 166 mobile wallet users. The challenges range from lack of interoperability between the different mobile wallet services (reported at 17%) to non-operability of the QR code, absence of a local language interface and transaction failure (all reported at 5%).

Other highly reported concerns associated with mobile wallets include non-awareness of the recipient party (14%), high processing charge (13%) and lack of internet connection (12%).

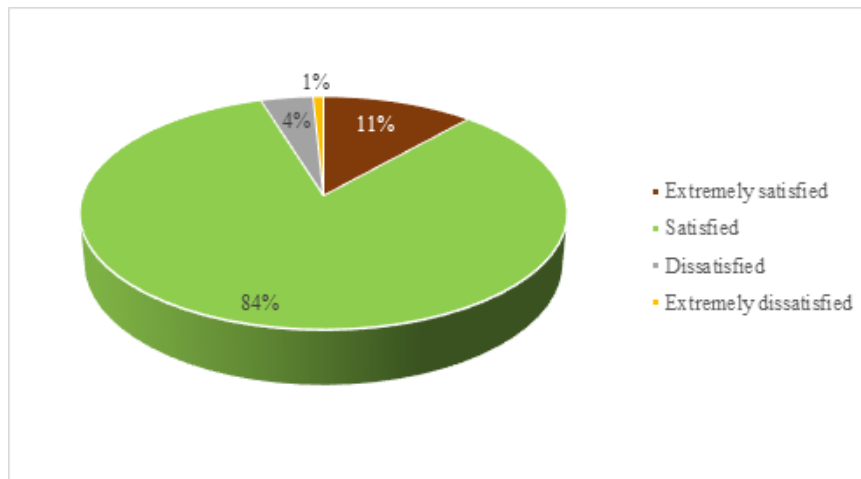
Graph 10: Points of failure experienced for SMS-based payment mode



While SMS-based payment mode users are not high (134 users), it appears that the challenges faced by its users shed light on its take-up. While 36% of the users report high processing charges as a challenge to using this mode, a significant 16% of the users report that the user interface is sub-optimal. Also noteworthy is the fact that 24% of the users reported the lack of grievance redress options as a major concern with using SMS-based payment modes.

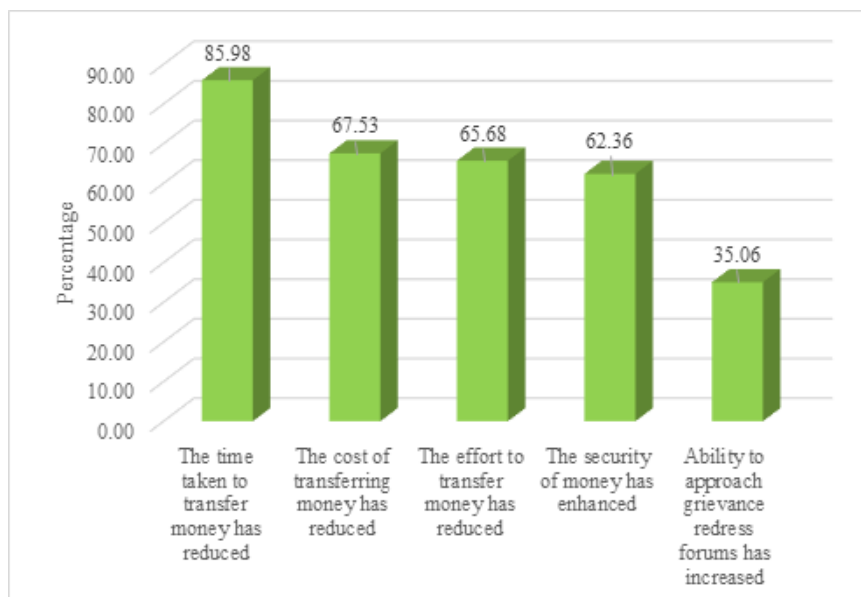
2.4. What is the change in the experience of consumers who use digital payment modes?

Graph 11: Satisfaction of consumers with the available digital modes for transferring money



Of the 250 respondents who use digital payment modes for the purpose of transferring money to family and friends, most of them reported that they were satisfied with the available digital payment modes (84%). 11% of the respondents reported being extremely satisfied with the payment modes, while only 5% of the respondents reported being dissatisfied with the payment modes available.

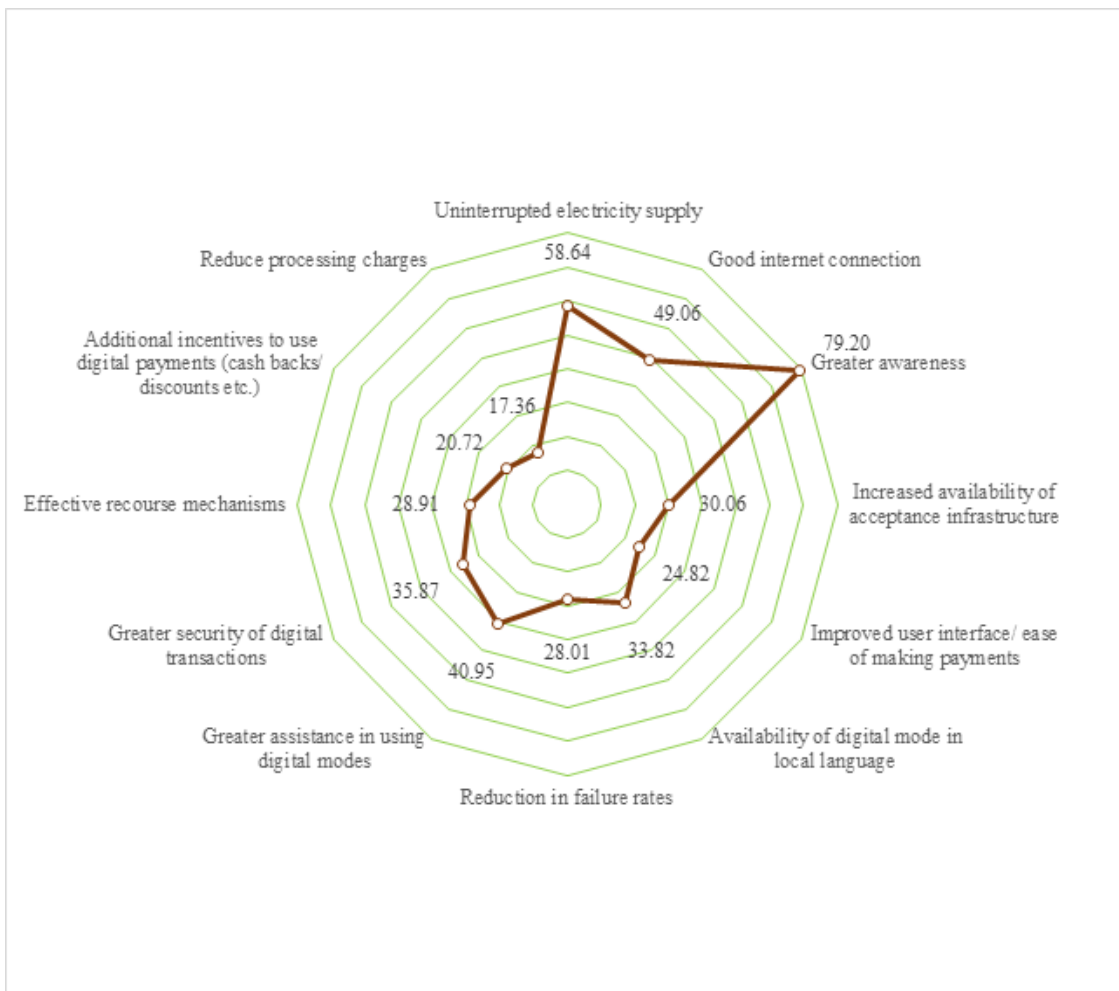
Graph 12: Improvements reported by respondents following the use of digital modes of payments for transferring money



Of the 271 respondents, in terms of changes experienced by consumers who use digital modes of payments for transferring money, close to 86% of the respondents reported that the time taken to transfer money had reduced. A close second change reported was that of the cost and the effort to transfer money had reduced. Only 35% of the respondents reported that grievance redress had enhanced with the use of digital payment modes in the context of transferring money.

3. Conclusion

Graph 13: Reported constraints (in %) by the respondents which must be addressed to ensure higher adoption of digital modes of payments



Our main reflections from the data provided by CUTS as part of their study are as follows,

1. 53.64% of the respondents (655 respondents) were aware of at least one use-case of digital payment modes. Of those respondents aware, only 41.37% of the respondents (271 respondents) reported that they used digital payment modes for at least one use-case. Overall, less than a quarter of respondents were users of digital payment services.
2. Across states, a relatively higher proportion of respondents were aware that digital payment modes could be used for transferring money to family and friends.
3. The highest proportion of respondents used cards (196 respondents) and reported the key point of failure to be the lack of acceptance infrastructure at the point of payment.
4. For most respondents, the key improvement noted after they started using digital payment modes for transferring money to family and friends was that the time taken to transfer money had reduced.

Graph 13 present the constraints reported by respondents that must be addressed to ensure higher adoption of digital modes of payments. 79.2% of the respondents said that greater awareness of digital payment modes would improve its take-up. This corroborates with the reflection from this dataset, wherein the awareness about the uses of digital payment modes was low across four out of the five surveyed states. Uninterrupted electricity supply and good internet connection were reported as a prerequisite by 58.6% and 49.06% of the respondents, respectively.

Lack of prerequisite infrastructure such as electricity supply and stable internet connection not only proves as a hindrance for consumers to use digital payment modes but at a broader level, poor infrastructure may also off-sets various other points of failures such as no response from the settling institutions (due to non-receipt of instructions) and payment requests timing out due to a higher than usual response time. Sometimes, this not only results in weakening the confidence and trust of first-time consumers on digital payment modes, but also in loss of money coupled with egregious consumer redressal mechanism. As noted in terms of AePS, there was a significant surge in their transactions as COVID-19 induced lockdowns in India began. Due to disruption of service of regular bank branches, as well as Aadhaar routed government relief transfers, migrants, daily wage labourers and other informal sector workers moved towards AePS to access cash for everyday activities. However, due to a multitude of reasons ranging from biometric failures and transactions timing out, the average percentage of AePS transaction failures was 39% in April 2020 (Raghavan & Shah, 2020). In graph 13, a significant 28% of the respondents also reported that failure rates must be reduced to enhance the uptake of digital payment modes.

There has been increasing support for enhancement of digital payments from the Government as well as the financial regulator. This can be seen from the various policy movements and documents being released by the Indian Government. In 2019, the Report of the High-Level Committee on Deepening of Digital Payments chaired by Nandan Nilekani was released. This report provided a landscape of digital payments in India and further provided recommendations to increase the use of digital payment modes. The motivations of this report were also observed by the Payment and Settlement Systems in India Vision 2019-21 which sought to address the hurdles faced by Indians in the adoption and usage of digital payments by consumers and merchants alike (Singh, Chugh, & Raghavan, 2019).

While most efforts and the recommendations for the same focus on reducing costs for consumers and merchants, it is also important to divert some thinking on making such technologies more accessible for Indian users, most of who do not have access to smartphones and are first-time users of technology. As CUTS recommended in their [findings](#) to the Reserve Bank of India's High-Level Committee on Deepening of Digital Payments, interventions must follow a customised, user-centric approach given that different users and user groups face divergent challenges when using digital payment modes (Kulkarni & Gupta, 2019). This may be the case due to tactile reasons such as availability of and access to prerequisite infrastructure to something more abstract such as the influence of cultural norms. For instance, it has been found that women have less access to mobile phones in general, and where they might have some form of access, this may be through a shared device and with a device that may have much fewer features than smartphones (Sonne, 2020). There are advantages of using digital payment modes over cash, but this confidence has to be relayed on to the user base by addressing fundamental problems of intuitive user design and building trust on digital payment modes.

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