

IS CASH THE KING OR DO DIGITAL PAYMENT SOLUTIONS LACK ADEQUATE ENGAGEMENT OF POTENTIAL USERS?

AN ETHNOGRAPHIC APPROACH TO UNDERSTAND THE MOVEMENT OF CASH AND DIGITAL TRANSACTIONS AMONGST MICRO-SCALE BUSINESS COMMUNITIES

Principal Investigator: Shilpa Pandit

Researchers: Preethi Kannan, Ankur Gautam, Vedika Inamdar, Praveen

Technical Writer: Deepti Kc











About CATALYST

CATALYST is a user-centric 'digital finance innovation platform' for the underserved last mile. The initiative is funded by USAID under the mSTAR Program, through funding provided to FHI 360. Housed within IFMR LEAD, the initiative aims to expand digital payments and financial inclusion in India.

CATALYST identifies, develops, and validates solution frameworks and business models in collaboration with facilitating government agencies and participating industry solution providers to responsibly transition small business ecosystems (i.e. merchants, consumers, suppliers) from an inefficient cash economy to digital payment platforms, and further onto broader digital finance solutions. CATALYST has also launched a new business incubator, 'Fintech for the Last Mile,' to promote entrepreneurs focused on developing innovative digital finance solutions for traditionally underserved segments.





CONTENTS

	Execu	tive summary	6				
1	Introd	uction	8				
1.1	Re	esearch Methodologies	9				
2	Who w	vere the Target Merchants?	10				
2.1	Fi	xed Retail Stores and Service Providers	11				
2.2	St	reet Vendors (Fixed and Roving Vendors)	15				
2.3	Н	ome-based Business Owners	17				
3	Cash v	versus Digital Payments	18				
3.1	Cash is King						
3.2	Ticket Size Matters						
3.3	Power of the Social Network						
3.4	Cases of Digital Payment Made Available to Customers						
3.5	Unawareness of Digital Payment Solutions						
3.6	Women Customers Seldom Use Cards						
3.7	Cost and Benefit of Cash Versus Digital Payments						
3.8	Di	gital Payment Awareness and Readiness	20				
3.9	Tr	iggers and Motivations of the Digital Payment Adopters	24				
	3.9.1	Motivating Triggers	24				
	3.9.2	Risks and Drivers of Digital Payment	24				
	3.9.3	Value-added Services	25				
4	Recon	nmendations	26				
4.1	А	Ladder Approach: Providing Handholding Support	27				
4.2	А	Coffee Shop Approach: Providing Advisory Support	27				
4.3	Le	eadership and Social Aura Approach: Creating Social Leaders and Influencers	28				
4.4	Сι	ustomer-centric Approach	28				
5	Annex	res	30				
	Annex	A: Description of the Market Context	31				
	Annex B: Business Characteristics						



ash is culturally accepted for both business and personal transactions in privately-held micro-enterprises. Given the high frequency and volume of unrecorded transactions in such micro-enterprises, many argue that digitization of transactions is essential to achieve inclusive financial growth in India. However, despite the introduction of different modes for the digitization of transactions such as shop-based terminals, agents, Point of Sale [PoS] terminals, cash remains the predominant mode of transaction.

Thus, the bigger debate today is if cash is truly unsurpassed or do digital payment solution providers lack awareness of the relevant solutions due to inadequate engagement leading to limited perceived benefits amongst potential users. Using a story-telling approach, this report summarizes anecdotal insights that address the issue.

Using ethnographic and in-depth qualitative interview research methods, the study was conducted in market clusters of Jaipur, India, where awareness of digital technology and payment solutions is low and dependence on cash transactions high. Additionally, to understand the scope of digitalization of transactions among micro-enterprises, we selected three different types of enterprises:

- i) Fixed retail stores and service providers,
- ii) Street and roving vendors, and
- iii) Home-based micro-enterprises

The key learning points are summarized below:

- The merchant's social-economic class, gender as well as customer segment play a significant role in the awareness level of the benefits of digital payment solutions.
- 2. Two key factors influence merchants' decision to adopt digital payment options: ticket size per transaction and frequency of transactions (daily sales).
- 3. From the users' (merchants') perspective, three interlocked barriers hinder the adoption of digital payments:
 - Lack of awareness about the availability and functionality of appropriate digital payment solutions,
 - b. Limited perceived benefits from digital payment solutions, and
 - c. Lack of willingness to be transparent about the business process due to fear of social comparison and relative 'prosperity'
- 4. From the solution providers' perspective, the fast-changing business and regulatory landscape are the main barriers to adoption.

Based on these key learning points, the report recommends three channels of intervention — each appropriate for merchants that are classified into three categories based on their literacy and daily sales levels (used as proxy for income). The interventions are:

- A ladder approach to provide handholding support to those merchants who are at the bottom of the pyramid due to their lower levels of awareness about digital payment solutions
- 2. A coffee shop approach targeting those merchants who are aware of digital payment solutions but do not trust the solutions. To convince this group, digital payment solutions must be bundled with a service that is perceived to add value to their business growth, thereby increasing their business volume, revenue, and profit
- A leadership and social aura approach for those merchants who care for their social status, by providing them with a platform to be social influencers

Lastly, if merchants' and customers continue using cash, sustained adoption and use of digital payment solutions becomes unviable. This may warrant a series of customer-centric studies to understand customers' needs and requirements. In addition, it may be useful to mount customer-targeted digital awareness campaigns and digital literacy training programs using different local media channels, government and nongovernment organizations, financial institutions, and other agencies to facilitate the transition.

1 INTRODUCTION

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INTRODUCTION

Using ethnographic and in-depth qualitative interview approaches, the study attempts to discern the scope for adoption or non-adoption of digital payments by micro-enterprises from a market cluster in Jaipur.

Given the high frequency and volume of unrecorded transactions in micro-enterprises, many argue that digitization of transactions is essential to promote transparency and achieve inclusive financial growth in India. In the past five years, the Government of India has been pushing for a digital and more cashless economy by introducing different modes for digitization of transactions as well as regulatory interventions.

Nonetheless, cash still remains king.

Therefore, before rolling out future innovations for digitization of transactions it is crucial to recognize which systems would be best suited for micro-enterprises, by understanding how users perceive digital transactions as a complementary tool in terms of: speed, convenience, and reliability, the pace of uptake, the level of acceptability and trust among users, and whether regulatory and policy innovations and existing infrastructure support the needs of the users.

This study used ethnographic and in-depth qualitative interview approaches to find answers to these questions by understanding and documenting the movement of cash and digital transactions in detail, for selected enterprises in the market clusters of Jaipur, where awareness of digital technology and payment solutions is low and dependence on cash transactions high.

The CATALYST study was conducted in April-August 2017, focusing on the following three areas:

- I. Economic/Business Sense: Is it economically feasible for merchants to adopt digital payment solutions that are available in the market?
- II. Transition Sense: Are current solutions appropriate for use by low literacy groups?
- III. Adoption Sense: What is the role of value-added services for small-scale merchants who adopt digital payment solutions?

1.1 Research Methodologies

Ethnographic approach: By being a passive observer without active engagement in merchants' day-to-day business, we spent time in their normal settings which helped us observe the physical aspects of daily transactions with key stakeholders and understand what their experiences and activities mean to them. These observations were ultimately treated as data.

In-depth qualitative interviews: In-person interviews with more than 70 merchants were conducted. Interviews were tape recorded with consent from the respondents; otherwise, field notes were maintained.

Data triangulation: Not all merchants were willing to share information about their financial transactions. Hence, we employed a triangulation methodology to estimate daily receipts/revenues by interpreting merchants' answers on the number of customers (converted, not mere walk-ins), products bought by these customers; and the ticket size. Our calculation is illustrative in nature and in no way indicates exact figures to the decimal point.





WHO WERE THE TARGET MERCHANTS?

The three merchant segments come from different sets of demographics, which impacts their capacity to adopt digital payments solutions.

To understand the dynamics of a cash-based economy and the scope of digitization of transactions among micro-enterprises, we selected three different types of enterprises:²

or convenience store owners. We observed that women customers preferred cash payment and they visited shops carrying a budgeted amount of cash only. If a male family member accompanied the woman, the male member made the payment, using cash or card. Cards were used only by men and only in instances where the purchase value overshot the budgeted amount of cash.

- Fixed retail stores and service providers, i)
- ii) Street and roving vendors, and
- iii) Home-based business owners



Last month, only one or two customers made a demand for digital payment, mainly men."

A cloth merchant

If my daily sales were more than INR 7,000 I could afford the charges on a card machine. Unless rental is free, we will never go digital."

- A merchant selling electronic products

Customers negotiate, and we prefer them to pay by cash when there is a thin margin. We do not want to pay transaction cost when the profit margin is low."

- A bangle seller

2.1 Fixed Retail Stores and Service Providers

21 fixed retail stores merchants

Description of the business: Electronics, suiting shirting, readymade women's wear, purses and bags, bangles, computers/LED TVs, mobile phones, sweets and namkeen, medicines, handloom textile, optician services, convenience items

Transactions with customers and suppliers: Most customers in the study area came from the vicinity. Almost all transactions were made in cash; digital transactions with credit/debit card were observed only in a few cases, when the ticket size was large (more than INR 500). We did not find credit being offered to any customer, nor did we observe home delivery calls, even with merchants such as chemists

Most fixed shop merchants with a bank account had received a Point of Sale (PoS) terminal free. Rental fee of PoS terminals was a concern for some merchants, whose daily business volume was between INR 5,000-7,000. Merchants reported their preference for PoS terminals after daily volumes crossed INR 4,000-5,000. They also accepted push from customers and reported that if more than three of 10 customers demanded a digital payment mode, they would actively start using this platform.

We observed customers frequently bargaining or demanding discounts even in general kirana stores. Profit margins achieved after customers' negotiation played an important role in the merchants' decision to use digital payments solutions. For example, merchants discouraged customers from making payments digitally if the final negotiated price resulted in a thin profit margin. Merchants often either tried to pass the digital payment transaction cost to customers or asked customers to arrange cash.

Most fixed shop merchants had an established supply chain and the number of suppliers varied based on the volume and nature of the business (a minimum of four to five suppliers was common and a few merchants with large businesses had 18-20 suppliers). Established merchants chose suppliers based on price, quality, and variety; used multiple suppliers; and stocked products for up to one-and-a-half months. New merchants, who had not built relationships with suppliers, visited the suppliers (some even traveled to different cities) whereas supplies were delivered directly to the shops of similar business if established merchants ran them.

During field visits, we observed that records of supply transactions were made either on paper or on computers. Payments to suppliers were made in cash or by cheque. Larger business owners reported bank transfers on stock procurement if the amount was more than INR 20,000. While we did not observe suppliers offering credit, some merchants who have been in business for several years reported of their suppliers extending credit to them. For example, a merchant reported that he bought stock for three months on credit, for which he pays one-third each month.

Inventory and stock: Merchants reported that booking of inventory and stock management depended on the size and nature of the business, daily sales and monthly turnover. While electronics and mobile phone merchants could afford to maintain stocks for a longer period, those in the fashion and clothing industry could not. Very few merchants kept mental accounts of their daily workflow; a few had computer-based accounts. Some merchants could not afford to manage stock.

I have not established my business yet. I still travel to buy supplies as I need to be aware of the latest fashion trends that meet the needs of my customers."

- A merchant running a women's apparel shop

If the amount is larger than INR 100,000, my supplier prefers a bank transfer. Otherwise, cash or cheques work with suppliers."

- An electronics merchant

Billing and invoicing: Billing was done for larger ticket sizes and/or when customers demanded bills. We observed that customers demanded bills only when these bills had economic value or could be used for reimbursement. Repeat customers did not ask for bills; new customers asked for bills just in case of a future conflict such as return of the purchased product.



Digital awareness: Almost all fixed shop merchants had heard of wallets and bank transfers whereas knowledge about the Unified Payments Interface (UPI) was low. Researchers also found that outreach of and engagement with UPI was non-existent in the study area at the time of the interview resulting in very low knowledge about it.

Only merchants that sold technology- or electronics-based products and services had higher awareness of digital transactions. If customers demanded to transact through digital payment modes, merchants preferred to use PoS terminals. However, small-sized ticket transactions were not viewed as card appropriate. After being made aware of the UPI service, some merchants began to view UPI as appropriate for supply-side transactions.



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On average, 20–25 buyers visit the shop every day, of which 10 buyers purchase products with large ticket sizes (minimum ticket size is INR 250 and maximum is INR 1,500). I buy in credit for a month from known suppliers. Supplier takes 80 percent money in cheque and 20 percent in cash. I deal with as many as 15–20 suppliers from the local textile industry and I change suppliers based on need. Suppliers are selected based on the rate, regularity, variety, and the level of trust that I have developed in them over time."

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The PoS terminal was installed for free by the bank. I do not mind merchant discount rate or rental charge if there is an increase in customer demand for digital payment."





2.2 Street Vendors (Fixed and Roving Vendors)

18 street vendors whose nature of business required large amounts of petty cash as they sold products with price tags ranging from INR 5 (a cup of tea) to INR 70–80 (mud pots). Hence, business focused on small ticket sizes and higher frequency of transactions.

Nature of the business: Tobacco/paan shops, poha/chaach/rabri sellers, maps/earphone sellers, tea/sugarcane juice sellers, vegetable/fruit sellers, clay pot sellers

<u>Transactions with customers and suppliers</u>: The merchants did not have a fixed time of operation and operated when their target customers were available on the streets. During summer, these street vendors operated in the evening as customers stay indoors during the day whereas, in winter, since customers spend time outdoors, these vendors reported that they operated throughout the day. On average, the ticket size for each cash transaction was less than INR 100. Only one merchant reported use of an e-wallet to receive payment from customers.



Most of these merchants did not have established supply chains and traveled to the suppliers daily (or when required) to get their supplies such as food, vegetable, and fruits. We observed street vendors making cash payment to suppliers. Merchants kept a part of the cash earnings to purchase fresh stock for the next day, indicating that cash management had been adopted out of necessity.

No merchant cited the usage of digital payments to suppliers. Only one merchant, who was a map-seller, reported that he visited a bank to transfer money to his supplier's bank account as the supplier was from another city.



Inventory and stock:

Most of these vendors sold products with low shelf life (for example fruits and vegetables), hence they did not need to stock products beyond four days. Two street merchants, both dealing in stationery such as maps and notebooks maintained stocks for a month. Their daily earnings were usually used to procure stock for the following day. In some cases, we observed suppliers contacting merchants when fresh stock was available. For example, a fixed street merchant selling earthen pots was contacted when suppliers had fresh stock available for him. We did not observe merchants maintaining regular records of daily supply transactions; they relied on mental accounting.

Billing and invoicing:

Since the ticket size for each transaction was low, we did not observe billing once the product was sold. Merchants did not demand bills from suppliers either, unless they had provided supplies on credit.

Digital awareness:

A few merchants were aware of wallets, but did not know how to use them. Very few used Paytm and bank accounts for specific business purposes. In general, their exposure to digital payment solutions was limited. However, researchers did meet one or two street vendors (very unique cases) who had adopted digital payment solutions. For example, a tea seller had running accounts that customers cleared on a monthly basis (INR 600–1,000). His customers, particularly younger male customers, paid him via Paytm.





Nature of business: Gift item and stationery shop, hobby center, student hostel for paying guests, *sari* fall and picot center, home-based beautician, math tuition center

Home-based business owners had regular customers who knew about these businesses and paid in cash. We observed that women who ran these businesses outsourced work to other women. For example, most tailoring (sari fall and picot) units were run by women who had a loyal customer base, and these women hired other women — who were all paid in cash. The gross profit for such women merchants included the cost to a subordinate and owner's other costs.

We learned that strong patriarchal, cultural, and economic factors influenced the women's decision to not use banking

services, despite having access. Even women from middle-class backgrounds primarily used cash as their preferred mode of payment for business and personal transactions. Occasionally, when they did conduct bank transactions, it was with the help of male members of the household, may be adolescent children or husband.

We concluded that even though women wished to have control and autonomy over their money, they: (i) felt inhibited while interacting with male staff at the banks; (ii) felt they needed to consult with men and older male children in the household to make financial decisions; and (iii) were unaware of banking products and services available to them.

3 CASH VERSUS DIGITAL PAYMENTS

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CASH VERSUS DIGITAL PAYMENTS

Ticket size per transaction, frequency of transactions, customer choice, gender, and lack of awareness are the main factors that influence the decision to use cash or adopt digital solutions.

3.1 Cash is King

Merchants' perception of usefulness of digital payment solutions varies based on the type of enterprises and the ticket size of transactions. For example, street vendors, service providers, and home-based merchants perceive digital payment solutions as having low usefulness due to

small ticket sizes that their business entailed and, thus, they elected to remain outside the digital payment ecosystem. Fixed store merchants saw the usefulness of PoS terminals for moderate to large ticket size transactions.

3.2 Ticket Size Matters

Two key factors influenced merchants' decision to adopt digital payment options: ticket size per transaction and the frequency of transactions (daily sales). Considering these two key factors, we noticed four settings that affected merchants' decision to select cash transactions rather than explore digital payment solutions:

High ticket size, low number of customers:

This was particularly relevant to fixed shops, where very few customers purchased products with large ticket sizes (more than INR 1,000). Even when customers preferred using cards, we noticed merchants discouraging the trend so as to increase the net margin.

High ticket size, high number of customers:

This was relevant to fixed shops. If the ticket size was large (more than INR 1,000) and the number of customers was also higher (more than 50 per day), merchants felt that they would be able to afford PoS terminal installation and rental if their customers were willing to use digital modes of payment.

Low ticket size, low number of customers:

The merchants (mainly street vendors or home-based business owners) could not contemplate transactions beyond cash.

Low ticket size, high number of customers:

Daily sales perceived as high by one group of merchants, due to a high number of customers, were perceived as low by another group. For example, if the ticket size was below INR 300 and the number of customers was above 50 per day, daily sales were considered 'high' by a street vendor, but low by a fixed shop merchant. While the street vendor could think of using wallets in this scenario, the fixed shop merchant could not consider using a PoS terminal, as he perceived it to be expensive.

On the question of what ticket size would convince the merchants to start using digital solutions (PoS machines or wallet) over cash transactions, the answer varied on the type and size of business as shown in Table 1.

Table 1: Type and size of business

	If each ticket size (in INR)	If daily sales (in INR)
Fixed store	>500-1000	5,000 and above
Street vendors	100-150	No response, specifically because they reported they need cash for fresh supplies every day
Home-based business	>700-800	Women merchants felt they did not have the capacity to use digital payment solutions due to lack of knowledge

3.3 Power of the Social Network

We observed that a close-knit network of merchants helped each other with loose change of cash whenever required. Cash management was specifically easier for street vendors, as they reconciled daily business procurement and expenses by the end of the day. Only in some instances was cash transaction difficult: mainly in the mornings when business had not picked up and merchants did not have enough loose change to return to customers. Yet almost all merchants, particularly street merchants, reported that using cash was convenient and inexpensive — mainly due to their easy access to ATMs and their social network. In addition, they did not fear theft of cash as these merchants did not handle a large amount of cash

3.4 Cases of Digital Payment Modes made Available to Customers

The option of digital payments was made available only when demanded by customers. While we did not notice any merchant proactively encouraging his or her customers to opt for digital payments, there were some cases when digital payments were used by merchants:

 When a customer purchased a large-sized ticket item, but did not have sufficient cash for the payment, instead of sending the customer away the fixed shop merchant proactively promoted a mode of digital payment,

- A service provider running an internet café paid electricity or internet bills online but did not encourage his customers to make digital payments as the transaction size was low (INR 30 per hour for internet surfing), except in cases when he offered e-wallet payment to customers when they did not have enough cash,
- Two street vendors strongly endorsed the usage of e-wallet as they believed e-wallet would help them save more (because of its safe storage and being not as easily accessible as cash). Yet, since their customers preferred to pay in cash, they did not want to push for digital payments,
- Due to a strong social network with other shopkeepers, street merchants did not see an urgent need to keep loose change (only one merchant kept change),
- Almost all merchants had bank accounts, but they were not active users of banking services, and

After we demonstrated how wallets work, only one street
merchant showed an interest in using a wallet as he
perceived that money would be secure and he would be
able to save. However, he was not using a wallet at the time
of the interview as he did not know how to use it before we
demonstrated the process.





e-wallets were perceived to be more user-friendly across all business types; however, even though merchants preferred e-wallets for small-sized ticket purchases, they interestingly preferred using wallets for personal rather than business use. In fact, e-wallets did not have a dedicated design interface for business use at the time of the interview.

Such merchants understood the benefits of using digital payments in terms of convenience and saving of time, yet concerns about the cost of PoS terminals deterred them from going digital.

3.6 Women Customers Seldom Use Cards

The merchants made some interesting comments about gender playing a large role in the mode of payment adopted by customers. For example, male merchants — whose main customer-base was women — felt that they could not opt for digital payments, as many women customers do not have access to debit or credit cards or do not know how to use them. These merchants reported that some women customers visited shops with limited cash provided to them by the male head of the household, and they preferred to use budgeted cash only.

Even among educated women merchants from higher socio-economic demographics, usage of digital payments was low. For example, one such woman merchant said that, despite her son's encouragement to adopt digital payment solutions for her business, she had not done so due to lack of awareness. Additionally, these women merchants were apprehensive about losing money if they made a mistake while using digital solutions. Some merchants (particularly women merchants) reported that since their children were well-versed in digital payment solutions, they would be willing to adopt if their children encouraged and taught them to use the solutions.

3.7 Cost and Benefit of Cash Versus Digital Payments

We prompted some of the merchants to list costs and benefits associated with cash and digital transactions in their businesses. Table 2 provides a summary of their perceptions.

Table 2: Cost and benefit of cash versus digital payments

	Cost	Benefit
Cash transaction	Additional cash beyond earnings is not required and merchants restrict supplies or expenses based on cash earned the previous day	Additional cash beyond earnings is not required and merchants restrict supplies or expenses based on cash earned the previous day
Digital transaction	Risk of losing money and faulty transactions due to network issues	Saves time and is easy to use
	Time consuming	Automatic recording of transactions
	No demand from	
	customers and suppliers	Useful in cases of conflicts over
	Irrelevant for small businesses	transactions

3.8 Digital Payments Awareness and Readiness

In order to understand the relevance of each digital solution, we used a flash card kit method, displaying each option and asking merchants to pick a card based on their preferences. We first asked if merchants were aware of some of these solutions; this was followed by researchers explaining the attributes of each digital payment solution such as wallets, PoS terminals, UPI, and Unstructured Supplementary Service Data (USSD) in detail. After the explanation, we asked merchants to pick a card based on their preferences and current understanding.



Table 3: Understanding digital payments awareness and readiness

Advocacy

	UNIVIED PAYMENTS INTERFACE			(((=))))
	UPI	PoS Terminal	Wallets	USSD
Attractive and clear terms of engagement	Vague awareness Fuzzy understanding	Highest rating among fixed merchants and users	High rating among fixed merchants Moderate or mixed awareness among fixed, street, and roving merchants Poor awareness amongst home-based women merchants	No awareness at all
Handholding and demonstration	No handholding and demonstrations reported	Highest rating among fixed merchants and users	Paytm often sends its functionaries to the market though demonstration is not done for each case	

Initiation

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	UNIFIED PAYMENTS INTERFACE			(((=))))			
	UPI	PoS Terminal	Wallets	USSD			
Ease of use	In general low awareness even though some transferred money to suppliers using back accounts. Some were aware of the UPI pin, etc.	Easy to use, but penalties for end-of-day reconciliation were mentioned	Highest rating				
Relevance to business	Fixed merchants perceived relevance for the supply side Not perceived as relevant by other merchants	On the customer side, after a cut-off daily or monthly volume of INR 5,000	Highest ratings for small-sized ticket purchases and personal payments across sectors				

Business sense

	UNIFIED PAYMENTS INTERFACE			(((+99#))))
	UPI	PoS Terminal	Wallets	USSD
Installation and recurring costs	Highest rating due to no costs (as explained in our demo)	Overall, poor rating Concerns about transaction costs	Highest rating	
Documentation requirements	Only two mentioned the UPI PIN	Current account holders provided better rating. Non-fixed merchants had no awareness despite having savings accounts	Highest rating	
Benefits, if any (higher limits)	Concerns about transfer cap on BHIM	Concerns about banks' penalty for low transactions	Two merchants complained of transaction cap	

Transition sense

	UNIFIED PAYMENTS INTERFACE			(((199#))))
	UPI	PoS Terminal	Wallets	USSD
More members of social group accepting	Cannot say	Highest rating	High ratings for personal purchases	
the solution			Not significant for business among all merchant cohorts	
Regular follow up	Cannot say	Highest rating		
Prompt grievance redress	Cannot say	Mixed ratings — some were happy (BoB, Canara, Axis)		

3.9 Triggers and Motivations of the Digital Payment Adopters

We conducted an in-depth interview with 15 merchants (fixed shop) who had adopted digital payment solutions at the time of the study. Three specific questions asked were:

- i. What are the triggers for them to adopt digital payment solutions ahead of their cohort in the market?
- ii. What are their perceived risks and incentives towards using digital payment solutions instead of cash payments?
- iii. What are the value-added services required to link their business growth and income with the use of digital payment solutions?

3.9.1 Motivating Triggers

Merchants shared three key motivating triggers for adopting digital payment solutions:

Structural push (demonetization)

Ten merchants reported that the cash crunch due to demonetization triggered their move towards adopting digital payment solutions. Nonetheless, the merchants said that this structural push was ineffective and adoption was not sustainable because as soon as cash came back into the market, digital payment by customers decreased. Demonetization, it appears, was idiosyncratic and damaging to learning new adoption behavior. It did not prepare merchants as well as customers for learning new behavior, resulting in unsustainable adoption of digital payment solutions by both merchants and customers.

Customer demand, nudging, and cohort influence

Two merchants reported that their decision to adopt was based on demand from customers and they were encouraged by their peers. Nonetheless, merchants reported that there was not a huge demand from customers for digital payments. In general, one or two customers a day (or 10–15 customers a month) asked to use their debit or credit cards, depending on the ticket size. In general, if the price of the product was

lower than INR 500, customers preferred to pay in cash. Merchants also suggested that youth and men demanded to use digital payment modes when cash was not available while women and the elderly rarely did. Two other merchants reported that banks provided the PoS terminals in their shops. Additionally, they reported that a Paytm marketing person visited the shop and nudged them into adopting Paytm.

Self-driven aspiration

Only one merchant mentioned that he adopted digital payment solutions on his own when he started his business five years ago. He felt that the market would eventually evolve in such a way that all payment options should be made available to his customers, and thus decided to adopt earlier than others did.

3.9.2 Risks and Drivers of Digital Payments

We asked merchants to categorize their perceived risks and drivers for adopting digital payments. We specifically defined 'risk' as a situation when the merchant would revert to using cash and 'driver' as any incentive that would encourage him to embrace digital payment modes. Table 4 provides a summary of risks and drivers of digital payments as shared by the merchants.

Table 4: Risks and drivers of digital payments

	Small	Medium	Large
Risks	Customers' lack of awareness No internet in the shop, poor data, or server problem		High transaction or hidden charges Low business volume
Drivers	Use of digital payments to pay utility bills No worries about the exact change to the customers Desire to grow business No need for mental accounting Suppliers' preference If GST mandates	If it increases the volume of business If it helps in managing multiple businesses Increase in customers' awareness	Self awareness and willingness Convenience and easy management Customer 'willingness' Government regulation (demonetization and GST)

3.9.3 Value-added Services

We asked merchants about the value-added services linked to their business growth that would induce them to use digital payment solutions. Merchants' business concerns and their experiences in dealing with the gaps in present solutions are highlighted below.

Integration of online technology in supply/value chain

One suggestion was to integrate players in the supply value chain into a common online platform that would improve business growth, cut down costs, and increase digital payments.

I have tried digital marketing in various avenues, including Facebook, Google, and Just Dial. I have many products in my store, which come from various suppliers who visit my shop and sell products at different prices. I can track neither my products nor the current value of my supplies. If suppliers have an online portal, I can order products online, pay for them digitally, and track the products that I buy. In terms of having products online, most shopkeepers are worried that they might lose their competitive advantage as others can see all the products they have available for sale. That's the mentality."

- A hardware fixing shop merchant

Digital payment solutions support GST compliance

Almost all merchants were vocal about their apprehensions and discomfort with the compliance requirements of the Goods and Service Tax (GST). They reported that the compliance had increased their workload, paper work as well as their reliance on accountants as they could not file the GST online on their own due to the consequences of small errors in filing. If digital payment solutions could help in GST compliance, merchants perceived a significant business value in adopting digital payment solutions for their businesses.

Dynamic listing and inventory

A few merchants had taken their first steps into digital marketing. These merchants were exploring opportunities to further ramp up the business process onto the digital platform. Nevertheless, unwillingness of their peers to be transparent about their business and inability to buy all

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If doctors start updating prescriptions online for each patient, link it to medical stores like mine, then it is easy for me to attract more customers. Once business grows, it is easier to adopt digital payment solution. Additionally, I can think of a home delivery service. Customers can pay using digital payment platform and they do not need to visit my shop as I will deliver what doctors have prescribed to their home."

- A chemist running a medical store

4

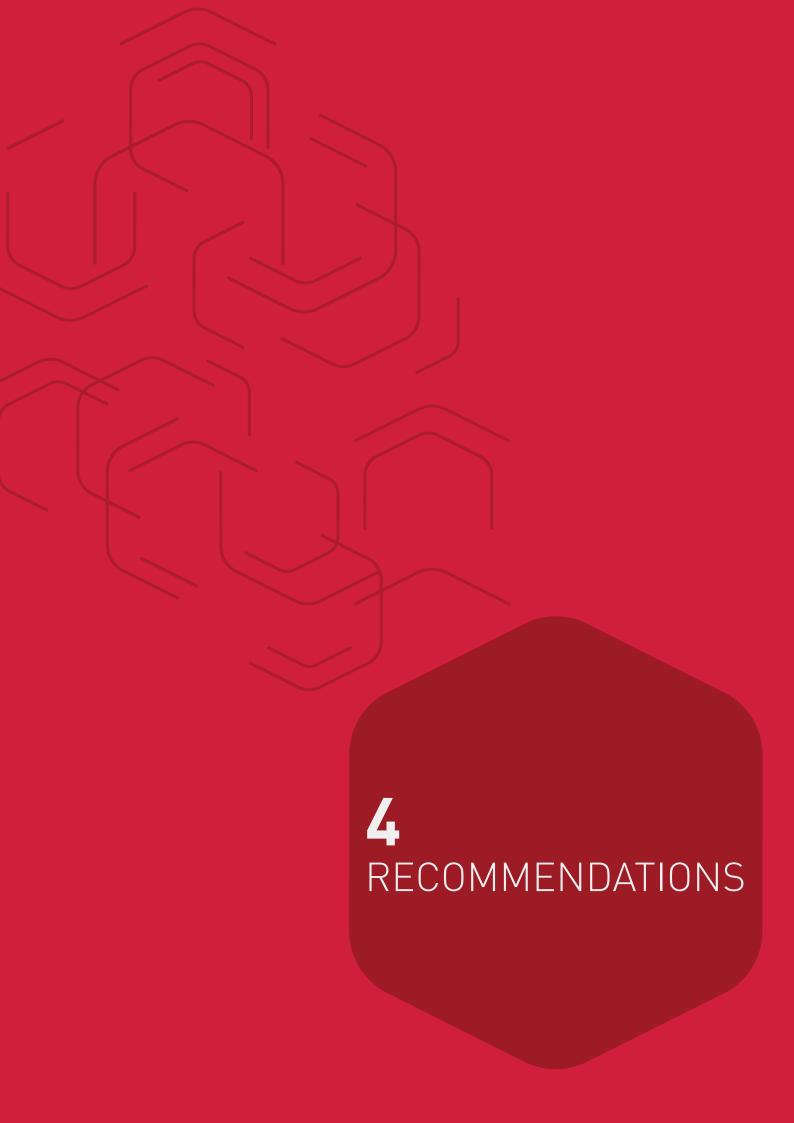
Link to suppliers via a digital platform is possible if you run a franchise. I have different suppliers that keep changing. There is a website called Udaan, which is a digital platform for wholesalers to advertise their products online. Retailers can purchase and place an order online. However, I have faced problems with the quality of the products after purchasing. There is no guarantee that the size and quality of the product will be the same as seen online."

-A cloth merchant

supplies online directly from the suppliers were some of the challenges these initiators were facing.

Digital payment history as credit history for easy access to loans

Some merchants indicated that their digital payment history could be used as a proxy to evaluate their credit history and enable them to get loans. Such merchants also indicated a need for a credible rating of assets and business value that could be helpful during the loan application process.



4

RECOMMENDATIONS

Targeted engagement as well as handholding, advisory, and awareness-building programs involving governmental and nongovernmental organizations are required to promote digital payment platforms.

From the users' (merchants') perspective, researchers observed three inter-connected barriers that hinder the adoption of digital payments in our target market:

- Lack of awareness about the availability of appropriate digital payment solutions,
- 2) Limited perceived benefits of digital payment solutions, and
- 3) Lack of willingness to be transparent about the business process due to fear of social comparison and relative 'prosperity.'

From the digital payment solution providers' perspective, the fast-changing business and regulatory landscape is the main barrier to adoption. For example, demonetization was a big nudge to adopt digital payments; nonetheless, adoption was not sustainable as cash was available in the market within a few months. Another example is merchants' palpable unpreparedness for GST, even though implementation of GST was not as sudden as demonetization.

Socio-economic class, gender, and customer choices play a significant role in the awareness levels of the benefits of the digital solutions. Therefore, we have classified merchants into three levels, based on their literacy and daily sales levels (proxy for income), and accordingly provided recommendations for three channels of interventions.

4.1 A Ladder Approach: Providing Handholding Support

In our study, street vendors and home-based women business owners were at the bottom of the pyramid due to their low literacy and income levels. Their small businesses were a source of day-to-day income and sustainable livelihoods rather than profit. It is also important to understand that this segment of merchants is discouraged from adopting digital payment solutions by those that are more privileged in their supply chain such as agents and contractors, and those who benefit from their ignorance. Additionally, even though cost of cash is high, merchants have not realized its implications, as the cash culture is prevalent in their ecosystem and they have no comparison point to understand the benefits of adopting digital payment solutions. Hence, this segment of merchants from the lower socio-economic strata requires robust handholding support that is more human-interfaced. Some viable intervention recommendations targeting this segment are presented below:

 Bringing small businesses under an umbrella of a structured and legal entity: Given that these small businesses (monthly average business volume of INR 30,000-60,000 and monthly average income of INR

10,000-30,000) are not legally registered entities nor have the capacity to be so, we recommend that they could be associated or federated, possibly as a nongovernmental organization (NGO). A flat fee subscription model could be appropriate as membership fee. We found that fixed store merchants already had such associations of which several merchants were members (membership fee INR 75 per month). However, street vendors and homes-based business owners did not have access to such an entity. We found that street vendors were willing to pay up to INR 15-20 per month to be members of such a legal entity if the entity could provide certain services such as protection from constant harassment from the municipality, make available a common storage place for their supplies (researchers noticed that three or four street vendors procure supplies together), or help open bank accounts.

- Once their businesses are represented by a legal entity, it would be easier to mobilize them through awareness campaigns, financial literacy training, and handholding support that they require to adopt digital payment solutions as well as link them to financial institutions for business loans.
- Digital payment solutions at throwaway price points for small ticket sizes: For small-sized ticket purchases, a digital solution provided at a throwaway price point may promote digital payment adoption. An example that comes to mind is that of shampoo sachets, which disrupted the consumer industry in their time. Payment by using wallets is one viable option. Nevertheless, this might still be a steep ask for the target population, as it lacks digital literacy, smartphones, and active bank accounts.
- Handholding business capacity building support: Robust handholding business-related support should be provided to merchants who aspire to move up the ladder from running a business to sustain livelihoods to making a profit (particularly those whose daily business volume is around INR 2,000 and who have a true business appetite). These merchants are ready to transition upward and can be mentored.

In conclusion, this base would benefit the most from transparency and fundamental awareness about the values that digital payment solutions can bring to their businesses; the interventions should focus on providing information and training to encourage usage.

4.2 A Coffee Shop Approach: Providing Advisory Support

Most of the interviewed fixed store merchants run small-scale businesses in a volatile and saturated market. Several merchants reportedly shifted their shops from one locality to another or to other clusters; some tried several businesses with different products; some shifted from jobs to business and back — all these examples reflect the unfulfilled

aspirations of merchants dealing with intense competition with limited or no business growth. These merchants are in the middle of the pyramid as they move up and down (profit and loss) over the years with no breakthrough.

While this segment of merchants can be the group that can be encouraged to adopt digital payment solutions, it strongly believes that shifting from cash to a digital platform would not help in achieving business goals and aspirations. In order to convince this group, digital payment solutions must be bundled with a service that is perceived to add value to the growth of merchants' businesses in terms of volume, revenue, and profit.

Business advisory and handholding support: Some merchants enquired about credit, stating that lack of credit was a key obstacle for business growth. Apart from credit, these merchants require handholding support on the pre- and post-credit due diligence process. They can be provided with an option to opt for the fee-based membership of an organization that provides a platform to link them to business advisors on matters of operational expense and credit. Additionally, specific benefits of various digital payment solutions such as access to broader financial services need to be communicated to the merchants. Such an advisory program can also focus on demonstration training. For example, a complete supply chain can be demonstrated with digital payment solutions to show its real-time impact on the business process. Or, since most fixed store merchants use cheques, the training can focus on demonstrating the benefits of specific digital payment solutions, such as UPI.

Leverage merchants' social network by building trust and enhancing user experience: Merchants in the middle of the pyramid are also those who have high potential to adopt digital payment solutions. Their resistance to digital payments is based on transaction costs of rental and installation of PoS terminals and fear of losing their existing profit margins. Addressing their concern about the transactional and hidden costs with information to enhance their user experience could be a sufficient trigger for adoption of digital payments by this group. Service providers should focus on building trust with a group of merchants (possibly those who influence others) from this segment to create positive word-of-mouth marketing in this closely-knit community. For example, installation of PoS terminals should come with customized training that specifies best practices that merchants can follow to minimize the risk of not receiving money and enhance their user experience. This set of merchants that has an excellent experience with digital solutions would encourage others to adopt the technology. Additionally, providers should also be transparent about hidden or informal costs (if any).

4.3 Leadership and Social Aura Approach: Creating Social Leaders and Influencers

We observed some merchants with established businesses did not wish to reveal financial information due to their lack of willingness to be transparent about the business. Such merchants preferred dealing in cash rather than using digital payments to avoid revealing information about their finances to a third party, including the government. While demand from customers could be a motivational trigger for adoption, we noticed that this group had established businesses where they can demand that customers pay in cash. Hence, the fear of losing customers by not offering digital payment solutions was unfounded on fact.

Nonetheless, these merchants cared for their status in society and any opportunity to make them look influential and significant could appeal to them.

- Creation of social influencers: The service provider should focus on creating social influencers and digital rainmakers by boosting established merchants as social leaders in their community. Alliance building with regulators, banks, and high-profile social influencers could evoke interest amongst this cohort of merchants at the top of the pyramid. One option is to bring high-profile influencers to the market for social events. These influencers could speak about the benefits of digital payment solutions and recognize those merchants who have successfully adopted digital solutions.
- Revamp BHIM app for business: According to some
 of the merchants we interviewed, BHIM app is known
 as Sarkaari Dheela app a name given due to its
 uselessness for their business model. BHIM caps daily
 bank transfer. Those running businesses worth above
 INR 10,000 per day purchase supplies worth more than
 INR 200,000-300,000. BHIM app does not allow money
 transfer of such large amounts. Additionally, it does not
 have features that are important for scheduling money
 transfer to suppliers, employees, and utility bills.

4.4 Customer-centric Approach

If customers continue to use cash, it become unviable to sustain adoption of digital payment solutions. Therefore, using different local media channels, the government, or financial institutions should push awareness campaigns to reach the masses. Additionally, there should be some incentives for customers to adopt digital payments, for example, credit

Mobilizing digital awareness campaigns targeting customers:

masses. Additionally, there should be some incentives for customers to adopt digital payments, for example, credit points that customers can use in the future. Additionally, there should be sustained advocacy, targeting suppliers, contractors and government departments.

Stakeholders could emphasize the efficacy of digital awareness, financial literacy programs, business advisory platforms, linkages of merchants to government schemes, and banks (micro-loans to purchase smartphones) and bank and phone usage for business purposes to encourage greater onboarding by merchants. Since CATALYST alone cannot implement handholding on its own, a large part of this handholding support should be linked with the government programs, NGOs, banks and institutions that are perceived as bureaucratic and opaque by the target segment.



5 ANNEXES

Annex A: Description of the Market Context

Barkat Nagar

Barkat Nagar is a middle-income marketplace with more than 500 fixed stores on either side of a 1 to 1.5 kilometer long road. The study covered 40 individual merchants from Barkat Nagar in all three categories (fixed store merchants, street vendors or mobile merchants, and home-based businesses). Home-based businesses run by women in Barkat Nagar focused on additional household income; hunger for profit and survival was missing. At the time of the interview, Indian summer was at its peak and the market had recently dealt with demonetization. Hence, most merchants reported a plunge in business volumes.

- Many merchants in Barkat Nagar had adopted digital payments in the wake of demonetization, however, lack of demand from customers and an additional cost associated with the PoS mode were emerging as key barriers to sustain the adoption,
- Fixed store merchants perceived the benefits of digital payment solutions in terms of saving on time, automated records of transactions, and ease of operations;
- Adoption was low amongst fixed street merchants, roving merchants and home-based businesses due to lack of awareness and low digital literacy,
- Merchants such as street vendors and home-based women merchants perceived digital solutions as being for 'others' (such as big businesses, more educated, or younger people), not for them, and
- Merchants' perception was that digital adoption is underpinned by smartphones, and the price point for the purchase of smartphones was cited as the reason that digital payment solutions being for 'others'. Further, even though data was cheaper due to Reliance Jio, this cohort of merchants used data for browsing and listening to music — recreational rather than business use.

Shastri Nagar-Sanjay Nagar/Bhatta Basti

Shastri Nagar is largely inhabited by lower middle-class to working-class households (migrant workers, domestic workers, and traditional artisan/craft workers, *Bandhej* workers and bangle makers) with a substantial geographical area comprising slums, hovels, and settlements. The poor living conditions of Shastri Nagar are a stark contrast to the middle-class area of Barkat Nagar. The roads are narrower, public spaces are congested, and public sanitation is non-existent (for example, we walked on roads with open-drainage on either side, or those made of mud bags to soak up the moisture).

The fixed shops in Shastri Nagar are different from Barkat Nagar's due to the nature and volume of the business and the profile of customers. Fixed stores are family-based enterprises, with husband and wife managing two or more micro-enterprises (including the fixed shop) to sustain their livelihoods. The business costs (both capital and recurring) as well as revenues were at a lower end of the continuum.

In this cluster, we collaborated with Self-Employed Women's Association (SEWA), a reputed development organization that works towards economic empowerment of women focusing on women's agency and work. SEWA's work in Shastri Nagar-Sanjay Nagar/Bhatta Basti is more aligned towards financial inclusion of women and facilitating access to entitlements and benefits for women.

- While fixed store merchants had 'heard' about digital payment solutions as a broader phrase, adoption was non-existent at the time of the interview. Very few had opted for online bank transfers/cheque transfers for procurements. There were cases of fixed shop merchants refusing to provide invoices/bills even on demand. Customers in this market cluster were mostly unaware of digital payment solutions,
- Home-based women business owners in this area comprise manufacturers/artisans, who are contracted by agents. The agents/middlemen provide raw materials, fix the per unit cost, and deliver finished products supplied by the women to the market. The working-class, predominantly Muslim, households in Shastri Nagar have all members working to sustain livelihoods from different sources (with elderly members managing childcare),
- Awareness of banks, linkage with government benefits, and possession of documentation required to access entitlements were abysmal. Women had access to microfinance institutions and money lenders for consumption expense-driven loans. Most women we interviewed did not own a phone and relied on the family-owned phone, and
- Smartphones were observed as a gaming device, used mostly by men

Manasarovar Madhyam Marg and Tagore Path

The expansive Manasarovar market cluster includes upper middle-class, middle-class, and working-class neighborhoods. We focused our research on Madhyam Marg and Tagore Path that have both working-class (Tagore Path) and middle-class markets (Madhyam Marg) adjoining the road.

The shop sizes among fixed stores are larger, the customers come upper middle-class backgrounds and are digitally aware. The fixed street stores comprise large vegetable and fruit stalls and flower sellers (not found in Barkat Nagar and Shastri Nagar). There is a predominance of snack shops and restaurants in this location, whereas, Barkat Nagar market has a dominance of book shops and Shastri Nagar/Bhatta Basti market a dominance of meat/butcher shops. Fixed shops of mechanics, such as motorbike service providers, found here were absent in other two markets.

Merchants, both fixed retail and street merchants, have heard about digital technology platforms and fixed retail merchants use digital payments for personal use. Almost all large fixed stores have PoS terminals. Some fixed street vendors use wallets for their personal as well limited business use.

Annex B: Business Characteristics

Merchant segmentation	Merchant description	Daily revenues/ Receipt per Day (in INR)	Average ticket size/Range of ticket sizes as observed (in INR)	Gross margin range	Customer profile	Number of customers per day						
Fixed Shops: Retail and wholesale	More than 20 merchants met. Description:	Four levels: 3,000–5,000 per day	Electronics: computer, LED TVs — 8,000 and above	20%	Families	25–30						
specialty	electronics, suiting and shirting,	5,000-7,000	Suiting and shirting for men: 700 (average), 250–1,500 (range)	25%	Students/ men	30-40						
	readymade women's wear, purses and bags, computers/ LED, TVs, mobile	7,000–10,000	Readymade (casual) and women's wear: 250 (average), 200–700 (range)	15–20%	Students/ women	15–20						
	phones, sweets and namkeens, medicines, textile handloom, optician services, fashion and matching fabric, and bangle seller per day Purses and bags: 150 (average), 30–500 (range) Mobile phones (purchase, repair, and recharge — with accessories): purchase — 4,000 and above, (5,000–7,000) average, variations in repair and accessories. Recharge —	15–20%	Women/ students	30-40								
		optician services, fashion and matching fabric,	textile handloom, above above fashion and matching fabric,	repair, and recharge — with accessories): purchase — 4,000 and above, (5,000–7,000) average, variations in repair and	35%	Youth, all	50 and more					
				Sweets and namkeens: sweets — 250–700 per kg, namkeen — 50–300 per kg	40-45%	All	50 and more					
										Chemist: all medicines, sanitary, health and hygiene products	15–20%	All
			Textile or handloom: 350 (average), 50–500 (range)	25%	Women/ family	40 and more						
				Optician: frames — 300-3,000, eye testing — 300	30%	All	20					
			Bangles: 300 (average), 150–400 (range)	30%	Women	15–20						

Merchant segmentation	Merchant description	Daily revenues/ Receipt per day (in INR)	Average ticket size/ Range of ticket sizes as observed (in INR)	Gross margin range	Customer profile	Number of customers per day
Fixed Shops: General Store	2 kirana store owners met in Shastri Nagar. Ranges increase significantly in upper-class localities	2 :levels: below 3,000 per day, 3,000–5,000 [unclear, may include seasonal changes], above 5,000 per day	A variety of products: branded and local including local atta, oil, and besan. Range: 50–200. Several products ordered at the same time. Bhatta Basti profile shows dominance of small items/sachets and small-sized ticket purchases of groceries, atta, dal, soap/shampoo, oil, ghee, paan masala, pens, pencils, notebooks, friendship bands, etc. Local toffees and orange golis are fast selling. Not many branded biscuits, local biscuits were seen in the jars.	Varies from 5% to 25% depending on brand/ locally packed and khulla items and product variations	Students/fixed households	20 and above, students, 5–20 fixed households

Merchant segmentation	Merchant description	Daily revenues/ Receipt per day (in INR)	Average ticket size/ Range of ticket sizes as observed (in INR)	Gross margin range	Customer profile	Number of Customers per Day
Fixed Shop: Service	About 8 Service providers, fixed shop	Same as above as in kirana shops from the Shastri Nagar context	Sewing machine repair,	15-20%	Old people/ women	3–5
Provider	Description: sewing machine repair and services, stove repair, auto, and motorbike mechanic, beauty parlor, man's hair saloon, cyber-café, clock, and watch repair		stove repair: 50–150, burner cleaning/ change, pipe change, purchase of stove: 500–1,500 (rare customer)	15%	Migrants/ women	10–15
			Auto and motorbike repair and servicing: 200 (average), 30–500 (range)	25%	Young men	10–15
			Beauty parlor: 200 (average) 50 (eyebrow threading) 1,500 (facial)	15% (higher number of eyebrow threading customers)	Women	20-35
			Men's hair saloon: 150 (average), 50 (shave) 1,000 (men's facial)	15%	Men	20-40
			Cyber café: 30/hour (browsing), 5/page (printing upto 20 pages) 1.5/page (Xerox)	10-15%	All, students	50-75
			Clock and watch repair: 50–150 (fixing the glass, changing the battery, or other repair)		Family	10-20

Merchant segmentation	Merchant description	Daily revenues/ Receipt per day (in INR)	Average ticket Size/ Range of ticket sizes as observed (in INR)	Gross margin range	Customer Profile	Number of Customers per Day
Fixed Street Shop	More than 13 merchants met. Description: Tobacco and paan, poha, chaach/rabri, maps and earphone seller,	3 levels About 200–500 per day	Maps and earphone seller: 20 (average), 20–150 (range)	25%	Students	100–150
		From 500 to 2,500 per day 2,500–3,000 per day	Tea seller: 5/cup	40%	Men/all	150–350
	tea seller, sugarcane juice seller, and clay		Chaach rabdi: 20/glass	40%	Students/ men	150-250
	pots seller		Sugarcane juice: 10/glass	30%	All	100–150
			Clay pots: 30–150 (diyas/gamlas)	25%	Women	100
Street Roving Shop			Poha:10/dish	40%	All/men/ workers/ migrants	100–150
			Vegetables and fruits varies	40%	All/ women	150-250
			Nimbu soda: 15/glass	40%	Students	100-150
		Barf ka gola: 5–15	40%	Students	50-100	

Merchant segmentation	Merchant description	Daily revenues/ Receipt per day (in INR)	Average ticket size/ Range of ticket sizes as observed (in INR)	Gross margin range	Customer profile	Number of customers per day
Home-based merchants: Hobby/ Catering/Fall /Picot	More than 5 home-based merchants were met Description: Hobby center, gift items and handwriting center, student paid guests, fall and picot center, home-based beautician, math tuition center	3 types 1,000 per day and above 5,000–15,000 per month (as subscription for tuitions and hobby centers) 160,000 per month and above (in paid guest accommodation)	Tuition center: Maths: 500 per month for class IX and X, Handwriting and hobby classes: 500 per month Classes are held in groups of 5-7	40% (difficult as the utilities are shared in the household and difficult to parse)	Young families	About 5–10 batches
			Paid guest accommodation service: assuming 20 students, per month from 6,000–8,000 per month	50%	Students/ working women	20–60 at any time
			Fall and picot: 30 fall, 20 picot 75, if fall given by the merchant.	40%	Women	5–15 (depends on festival and marriage season)
Home-based Merchants livelihoods/ bandhej, churi/blue pottery	16 home-based workers were met in Bhatta Basti and Sundar Nagar area	2 levels Below 500 per day 500-1,000 per day				



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H-5, Second Floor, Green Park Extension, New Delhi - 110016 011-49096529 | info@cashlesscatalyst.org | www.cashlesscatalyst.org





