Beyond Cash: Why India Loves Cash and Why that Matters for Financial Inclusion

Methodology for Merchant and Consumer Research

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This document describes the methodology used in the quantitative and qualitative research conducted by Dalberg on behalf of USAID in 2015 to gather insights on the barriers to, and opportunities for, expanding the utilization of digital payments by retail merchants and consumers in India. The top insights from this research are available in the report *Beyond Cash*. The document is organized into four sections:

A. **Common definitions:** This section elaborates on the definitions of some common terms used in the research.

B. **Quantitative research methodology:** The second section elaborates the methodology used in the 2,500 respondent quantitative survey.

C. **Qualitative research methodology:** The third section is focused on the human-centered design (HCD) based ethnographic research.

D. **A note on analytical techniques:** This section describes some of the distinct analytical techniques (e.g. normalization) used in the quantitative research.

A. Common Definitions

We have utilized the following definitions in our research and analysis:

Consumer Research

Term	Definition
Debit card non-holders	Respondents who do not own a debit card, and do not use some else's debit or ATM card
Debit card holders	Respondents who own a debit card, or use someone else's debit card
Active card users	Debit card holders who have used their card in the last ninety days
Active ATM users	Debit card holders who have used their card in the last ninety days exclusively for withdrawing money
Active card payment user	Debit card holders who have used their card in the last ninety days to pay for goods or services, either online or at a physical store
Mobile money/wallet non-user	Respondents who have never used a mobile money/wallet service
Mobile money/wallet user	Respondents who have ever used a mobile money service
Online/ mobile bank transfer non-user	Respondents who have never used bank transfers online or on a mobile phone
Online/ mobile bank transfers user	Respondents who have ever used bank transfers online or on a mobile phone
Active digital payment user	Active card payment users, mobile money/wallet users, or online/mobile bank transfer users

Active digital users	Debit card holders, mobile money/wallet users, or online/mobile bank transfer users. This definition was used as part of the sampling criteria
Inactive digital users with active bank accounts	Respondents who held a bank account which had been used in the last ninety days, but were not active card users, or were mobile money/wallet or online/mobile bank transfer non-users
Inactive digital users with no/inactive bank accounts	Respondents who were mobile money/wallet or online/mobile bank transfer non-users, and had not used their bank account and debit card in the last ninety days, or did not use a bank account and debit card
Digital income	Respondents whose primary source, or largest secondary source of income was through direct transfers into a bank account, micro-finance account, or a mobile money account were classified as those having a digital income
Socio economic classification (SEC)	Socio-economic classification of Indian consumers on the basis of parameters such as the education and occupation of the chief wage earner in the household, the type of house, and the number of consumer durables owned by the family. Click here for more details on SEC classification.

Merchant Research

Term	Definition
Digital payment acceptor	Merchants who accept payments via a debit card, mobile money, or bank transfers
Store size definitions used for sampling*	
Kirana	
Small store	No employees
Mid-sized store	Owner and a maximum of two employees
Large store	Owner and three or more employees
Clothing/footwear and medical stores	
Small store	Owner and a maximum of one employee
Mid-sized store	Owner and two employees
Large store	Owner and three or more employees
Mobile/electronic stores and dairy stores	
Small stores	No employees
Mid-sized store	Owner and a maximum of one employee
Large store	Owner and two or more employees
Restaurants	
Small stores	Less than five tables served
Dairy stores	
Small stores	No employees
Mid-sized/large store	Owner more than one employee

Petrol pumps	
Small stores	Less than four handles
Mid-sized/large store	More than four handles
Store size definition used for analysis (by self-reported revenue)	
Small stores	Revenue less than INR 50,000 per month
Mid-sized store	Revenue between INR 50,000 and 1,00,000 per month
Large store	Revenue more than INR 1,00,000 per month

*Note – For the purpose of sampling, physical characteristics of size, such as number of employees, and number of tables served were used to classify stores as small, medium or large. However, since these factors were not directly comparable across different categories of merchants, their self-reported revenue was used as a metric of size in the analysis.

B. Quantitative Research Methodology

The USAID India Digital Payments Quantitative research was conducted by IMRB International, a global market research agency. The survey research included 1,648 consumers and 900 merchants, and was carried out between 19th August and 30th September 2015. The geographies focused on, sampling criteria, and interview approach have been described below. The full data-set and questionnaires can be found here.

1. **Geographical Focus:** The research was conducted in six locations covering the urban-rural spectrum in India – large, urban metropolitan areas of Mumbai and Hyderabad, the smaller cities of Kota and Vishakhapatnam, and villages around Guntur and Jaunpur. The geographical selection process began with an analysis of bank account penetration and market size, and attempted to sample both northern and southern locations. The final locations were selected based on conversations with various Partnership stakeholders.

2. **Sampling criteria:** The survey focused on low-income consumers and small merchants. Note that the research was not intended to be nationally representative. Instead, the goal was to obtain statistically significant samples of different segments that were identified as high-potential by Partner organizations. In particular, we had to oversample for users of digital payments, both consumers as well as merchants. For consumer groups, we restricted ourselves to adults between the ages of 15 and 45, and oversampled for working men and women, a target group of particular interest to our Partners given their relative financial autonomy. We also oversampled for users of digital instruments. For merchants, we were heavily focused on small merchants, and oversampled for digital payment accepters. It is therefore incorrect to interpret our sampling criteria as representative of the actual incidence of these segments in the population. Moreover, it is also incorrect to extrapolate the findings of this survey to India as a whole. Below, we describe the sampling criteria for the quantitative survey:

   a. **Consumers**

Employment Segments	Percentage sampled

Working males	41%
Working females	20%
Housewives	17%
Male students	13%
Female students	8%
Unemployed	1%

Centers	Percentage sampled
Urban	55%
Semi-urban	27%
Rural	18%

Digital readiness	Percentage sampled
Active digital users	28%
Inactive digital users with active bank accounts	44%
Inactive digital users with no/inactive bank accounts	28%

Urban SEC	Percentage sampled
SEC B2	15%
SEC C/D/E1	77%
SEC E2	8%
Rural SEC	**Percentage sampled**
SEC R1	13%
SEC R2/R3	77%
SEC R4	10%

Additionally, the following categories were purposefully sampled:

Segment	Sample size
Smart phone users	797
Self-help group members	180
Mobile money users*	67
Jan Dhan account holders	282
Migrants	16
DBT recipients	592

*Note – Due to the low penetration of mobile money/mobile wallet users, it became necessary to boost the number of mobile money users, using a snowball sampling method.

b. Merchants

Store type	Percentage sampled
Kirana /Grocery stores	31%
Clothing and footwear	19%
Mobile/electronic	16%
Medical	15%
Small restaurants	10%
Dairy	5%
Petrol Pumps	4%

Centers	Percentage sampled
Urban	37%
Semi-urban	39%
Rural	24%

Digital readiness	Percentage sampled
Digital acceptors	23%
Digital non-acceptors	77%

Store size (In terms of self-reported revenue)*	Percentage sampled
Large stores	40%
Mid-sized stores	21%
Small stores	40%

*Note – For the purpose of sampling, physically evident characteristics, such as number of employees, and number of tables served were used to classify stores as small, medium or large. However, as these factors may not directly correlate with the merchant's financial ability, their self-reported revenue was used for the purpose of analysis

3. **Interview approach and methodology**

Below, we describe our approach to the quantitative survey interviews. The survey instruments are available here.

a. **Sampling for consumer module:**

During the first three weeks of fieldwork, simple random sampling was used. In the first stage, urban centers were divided into four zones and in each zone, research began at an equal number of starting points so as to obtain a good geographic spread across the city. For rural centers, 21 villages which were at a distance of 30 – 50 km from the main city were selected. Within each village, a maximum of 10 in-person consumer interviews were carried out. Unless an outright refusal occurred, interviewers made up to two attempts to survey the sampled household. To increase the probability of contact and completion, attempts were made at different times of the day and, where possible, on different days. If an interview could not be obtained at the initial sampled household, a simple substitution method was used. After each successful interview, two households were skipped.

After three weeks of field work, the actual sample achieved was tracked against the desired sample size and field work thereafter was conducted using an area purpose methodology. Areas for boosted interviews were chosen on the basis of the incidence of consumer segments from the random exercise. For example, if more male students were found in areas 1, 2 and 3 of the 11 areas surveyed, these areas were re-approached to complete quotas on that segment. Due to a shortfall in the mobile money users required, boosters were also carried out specifically to achieve higher numbers. These boosters were completed using snowball sampling, where existing study subjects recruited future subjects from their acquaintances.

b. Sampling for merchant module:

The sampling methodology used for the Merchant Module was area purposive. For urban centers, key areas with a higher presence of targeted merchant categories were identified (keeping in mind a uniform city spread as well) and interviews were conducted in these areas. For rural centers, 21 villages which were at a distance of at least 30 – 50 km from the main city were selected. Within each village a maximum of four merchant interviews were carried out.

C. Qualitative, "Human-centered design" Research Methodology

Human-centered design research involves deep immersion into the research context to uncover nuanced insights about attitudes, habits, behaviors, and constraints using a variety of research tools that range from unstructured conversation, interactive exercises, to sustained passive observation of the context by the research team.

Recognizing the importance of this approach to uncovering deep insights about people's financial habits and attitudes, Dalberg carried out extensive HCD research in Mumbai, Maharashtra; Kota, Rajasthan; and Guntur, Andhra Pradesh.

Over a 6-week period between August & September 2015, this segment comprised of extended research sessions with 66 consumers and merchants split evenly between individual and group settings. Each research interaction lasted about three hours and was split almost equally into an interview segment, a preference and constraints elicitation segment, and finally a brainstorming segment to uncover opportunities for digital financial services.

Ten areas of inquiry were used to probe various components of the financial ecosystem for the research participants, such as their goals in life, cash handling problems, and financial flows, along with testing some of the concepts with the respondents.

The 66 respondents were evenly distributed between the three geographies and were identified through a rigorous recruitment process by a professional market research agency.

Research session formats

Two formats were used for both merchant and consumer research sessions; one on one, direct interviews, and focused group discussions.

i. **One-on-one sessions:** In each geography, individual research sessions were carried out with five merchants and consumers each. Out of this, at least two merchants and two consumers in each region were digital users, and two were women. Among consumers, an even mix were banked and unbanked, and at least two were students.

ii. **Group research sessions:** In each geography, group research sessions with six merchants and consumers each were conducted for a total of six group research sessions. These also utilized an even mix of the segments in the individual interviews, i.e., gender, demographic profile and digital usage.

For both formats, a variety of HCD tools and techniques were used. Some of these are:

HCD tools

i. **Cue cards:** Physical cards (with an image and a short description) used as a peg to induce reactions and feelings from respondents. For example, we used issued cards for various value added services that could be provided through digital payments to identify those services which excite respondents the most.

ii. **Process templates:** Physical templates which aim to capture the process of an activity. For example, we used process templates to identify the income-storage-expenditure patterns of respondents.

iii. **Storyboards:** Images which illustrate how a service will be provided in real life. For example, we used storyboards to communicate to respondents how different value added services would function, and gauged their level of interest.

HCD techniques

i. **Card sorting:** A participatory design method that is used to explore how participants group items into categories, and how they relate concepts to each other. For example, we used card sorting to identify the key income and expenditure items for respondents, along with identifying the main storage mechanisms.

ii. **User journey maps:** Visual tools that help understand the experience people have when interacting with a product, program or service, so that each moment or touch point can be individually evaluated. For example, we used stakeholder maps to identify various income sources for respondents, and to map them to various forms of storage, and expenditure.

iii. **User experience audit:** Processes that allow the capture of day-to-day experience people have with services or products leading to specific value gaps. For example, we used user experience audits to identify how people feel when the deposit / withdraw money from banks / ATMs.

iv. **Fly on the wall (FOTW) observations:** Passive observation that allows researchers to gather information about respondents and their interactions, with minimal interference. For example, we used FOTW techniques to observe merchant-consumer interactions at the merchant store.

The Table below maps the HCD tools and techniques used to the two formats which were used. The detailed discussion guides, and cue cards and templates can be found here.

HCD tool or technique used	One-on-one sessions	Group sessions
Tools		
Cue cards	✔	✔
Process templates	✔	✔
Storyboards	✔	✔
Techniques		
Card sorting	✔	✔
User journey maps	✔	
User experience audit	✔	✔
Fly on the wall observations	✔	

D. A Note on Analytical Techniques

The analysis required the utilization of a few measures to normalize results, and curb data biases, which have been elaborated on below:

1. **Response indexing:** Many questions were designed to test respondents' perceptions and attitudes, and allowed for multiple responses. However, since each question of this type had a different number of options, it became necessary to normalize the results so as to create a uniform metric for options to be rated against each other. For example, debit card users were given 19 options to choose from, for why they would recommend debit card use. Among active users, the top option was selected by 69% of respondents. On the other hand, non-users were offered 28 options to gauge their reasons for disinterest in using debit cards, the top answer of which was selected by 34% of respondents. To normalize these results, the top ranked answer was assigned a value of 100, and all proceeding options were displayed as a percentage of this option. This was calculated by comparing the number of respondents selecting the option as compared to the number of respondents selecting the top rated option. This allowed for the options to be ranked against each other in the analysis.

2. **Method of ranking consumer and merchant incentives** (Question number MQ21a. for consumers, MQ12f. for merchants): In these questions, consumers and merchants were given 13 factors/incentives that could encourage them to transact digitally, and asked to assign each factor a rating between 1 and 5, 5 being the highest. Subsequently, respondents were asked to choose the top three factors among those they had rated a 4 or 5 in the previous step. When analyzing this two-step rating, each factor was given 3 points for every respondent who ranked it as the top factor in the second step, 2 points for every respondent who ranked it second, and one point for every respondent who ranked it third. Each of the factors now had a comparable total, and were ranked against each other. As with behavioral questions, the answers were then normalized by assigning the top ranked answer a value of 100, and displaying all proceeding factors as a percentage of it.