

Project Report

ONE AMONG MANY? EXAMINING THE EFFICACY OF MOBILE MONEY IN INDIA'S REMITTANCE CORRIDORS.

Prof. Mridula Goel, Amrit Pal

For the Institute for Money, Technology and Financial Inclusion.

November 2014

Acknowledgements

The study was generously funded by The Institute for Money, Technology and Financial Inclusion at the University of California, Irvine. IMTFI's pioneering effort in bringing together a diverse set of researchers in a frontier research field has undoubtedly set an indelible mark for future research. I'm tremendously grateful for the unfettered support extended by Professor Bill Maurer. Prof. Maurer's advice and insights on mobile money continue to inspire a growing community of researchers, industry and curious minds. The study would be unimaginable without Jenny Fan at IMTFI and her kind words of support during stressful times.

I'm also indebted to Professor Mridula Goel, Head of Economics at BITS Pilani Goa Campus, for her support through the earliest research papers that matured into this study. The study required us to coordinate across countries and rapidly changing policies and I remain grateful to Prof. Goel's kindness in seeing the study through with unflinching patience.

I'm also incredibly grateful to the staff at the Finance Department, and at the Research, Consultancy and Education Development Division (RCEDD) at BITS Pilani Goa Campus for their swift clearances. Without them, we wouldn't be focused on the study.

Amrit Pal,

BITS Pilani Goa Campus.

(This page intentionally left blank)

List of figures

Figure 1: Estimated Rural to Urban Migration in India, 2001-2011, by Indian Institute for Human Settlements

Figure 2: An Eko outlet in Bhiwandi, Mumbai, India

Figure 3. Number of migrant and permanent residents

Figure 4: Number and percentage of bank account

holders Figure 5: Occupation of respondents

Figure 6. A hardware store in Gurgaon, India functioning as a banking correspondent

Figure 7: Ways to withdraw cash at the receiver

Figure 8: Most common transaction sizes

Figure 9: A remittance store in Mumbai, India with competing providers.

Figure 10. A screenshot of Eko's Android-based interface for initiating remittances.

Figure 11: An Airtel money store in Bangalore, India

Figure 12: A remittance outlet with two competing service providers, in Gurgaon, India

Figure 13: Preference for remittance service providers.

Table of Contents

Acknowledgements

List of Tables

List of Figures

Acronyms

1. Introduction

The demographics of migration in India 6

The banking correspondent model 9

2. Research design and methodology

Focus regions and remittance corridors 10

User profile, methodology and sampling 12

Research Questions 17

3. Results and findings

The electronic money loop 20

Size of transactions 23

Hyper-commoditization 25

India announces payments banks 32

Conclusion 34

Bibliography 35

Introduction

India's remarkable but sporadic growth story has resulted in the creation of nodes of economic prosperity, but with states like Bihar and Uttar Pradesh shunted out of the development narrative. According to the 2011 Census of India and geo-spatial surveys¹ the top 10 cities account for 8% of India's population and are responsible for almost 15% of economic output, but occupy only 0.1% of total land area. Such a skewed growth equation propels domestic migration from rural to urban areas across India, estimated to be 300 million per year (?). Migrants are a source of cheap labor to industries and send significant portions of their income to their native states. Deshingkar & Akhter (2009) estimate that domestic migrants contribute 10% to India's GDP. Tumbe (2011) estimates that over Rs.45,000 crore (~\$10 billion) in household remittances are transferred annually.

The demographics of migration in

India

A study of the four high-volume remittance corridors by the Centre for Microfinance (Gopinath, Oliver & Tannirkulam 2010) indicates that around 57% of migrants¹ are accustomed to using informal channels like *hawala*, post offices, and friends for remittances. In the last two years however, there has been a strong urge from regulators and the market to adopt formal bank-enabled channels that provide better, faster, cheaper and trustworthy remittances (Tiwari, et al., 2011). The two remittance corridors that are subject of this study account for an

¹ "Urban India 2011: Evidence" by Indian Institute of Human Settlement

<http://www.iihs.co.in/wpcontent/themes/education/resources/IUC-Book.pdf> accessed October 10, 2012

overwhelming share of total domestic remittances. According to 2007-08 estimates by Tumbe (2011), Bihar and Uttar Pradesh account for nearly one-third of the total remittance market (See Table 1). Unfortunately, data on state-to-state transfers is not publicly accessible. round 70% of domestic remittances are channeled through the informal sector. A gradual shift towards digital remittances will generate contextual data.

Receiving State	% Share of All-India	% Share of All-India Remittance	Total
	Remittance (Urban)	(Rural)	% Share
Bihar	14.5	5.2	12.5
Uttar Pradesh	21.5	13.2	19.7

.Table 1: Shares of Bihar and UP in domestic Remittances (Tumbe 2011)

An investigation into the proverbial ‘heat zones’ of remittances provides a unique lens to study issues of mobile money adoption, loyalty, and opportunity costs, as well as competing formal alternatives to mobile money. Previous research in this domain has focused primarily on comparative landscapes, fielding formal, bank-enabled channels against informal channels. However, within the ambit of these bank-enabled electronic transactions, there is a need to understand the various interfaces that facilitate remittances. These are comprised of USSD-based feature phones², GPRS or Bluetooth enabled mobile apps (applications)³, smart cards and Internet kiosks. It is yet to be investigated which among these channels will satisfy needs *at scale* and will become the most preferred conduit for delivery of financial services. Indeed as

² Eko maintains a network of Business Correspondents, with USSD-based technology to facilitate remittances.
<http://eko.co.in>

³ FINO’s ‘MITRA’ applications are used for Customer enrollment, remittances, savings, authentication and KYC

Tiwari, et al. (2011) state, “Whether or not, BCs (banking correspondents) and ‘Tiny’ kiosks with no amenities will help resolve this dilemma, and spur other BC models in both cities and villages, is an open question” (page 1)

The mobile phone emerges as a strong contender when we examine the supply side of the equation. As banks start to compete with informal channels to attract more remittances, their infrastructure is cracking at the seams. Out of the 23,723 urban and 34, 572 rural bank branches³, only a miniscule percentage are connected to the core banking system (CBS) and are impeded by lack of power supply (Thorat & Jones 2009). With growing demand, long queues in banks are inadvertent. Consumers waste precious working hours standing in queues, time which could otherwise be spent earning wages, while bank employees are overloaded during work hours. The situation worsens during festivals. The mobile phone is an always-on, always-connected device, making traditional impediments to availability and connectivity redundant. The mobile phone is well poised to tackle these impediments *at scale*.

	Branches					ATMs		
Type of bank	Rural	Semiurban	Urban	Metros	Total	On-site	Off-site	Total
Public Sector	20,387	15,978	13,569	12,277	62,211	29,795	19,692	49,487
Nationalized	14,185	10,561	10,154	9,398	44,298	15,691	9,145	24,836
Total	34,572	26,539	23723	21675				

Table 2: Trends and progress of banking in India: Reserve Bank of India

Publication, 2011

The banking correspondent as a last-mile remittance provider

To ease congestion and provide round-the-clock services, banks appoint banking correspondents (BCs). Eko maintains a network of small *kirana* (mom and pop) stores as BCs with a feature phone as the transactional medium. It uses a USSD⁴-based interface to interact with Eko's servers that are intertwined with the bank's Core Banking System. A customer approaches, or is directed by the bank branch, to visit the nearest Eko counter, known as a *customer service point* (CSP). The charge levied is 2% of the transaction amount, subject to a minimum of Rs.25 (\$0.4) and a maximum of Rs.100 (\$2) and is even available to customers without a bank account. However, it remains to be seen whether customers are willing to pay a premium for saved time and minimal KYC (know your customer) requirements. It is an open question if mobile money in its current form has unique advantages compared to formal channels or if it is one among many channels that will co-exist or be consolidated in an ecosystem.

2. Research design and methodology

Focus regions and remittance corridors

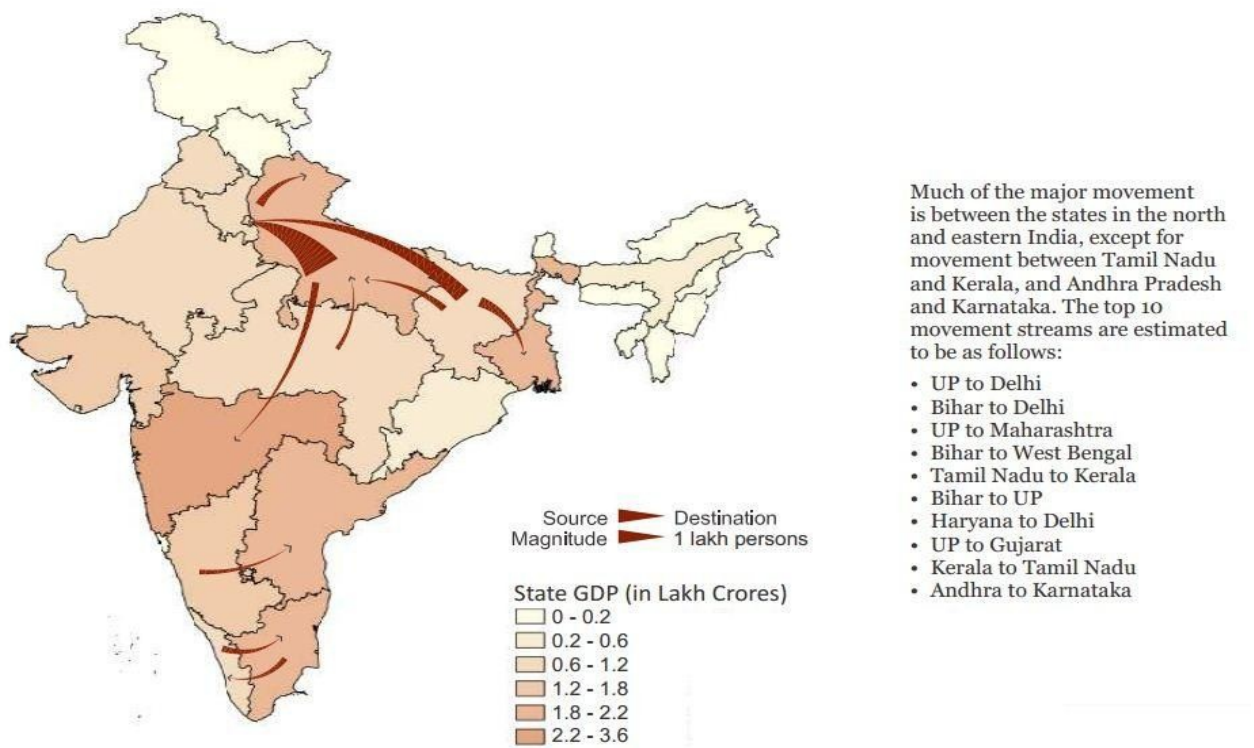


Figure 1: Estimated Rural to Urban Migration in India, 2001-2011 by Indian Institute for Human Settlements, December 2013

The study focused on two prominent remittance corridors.

From Mumbai to Uttar Pradesh:

Research demonstrates that nearly one out of every five migrants to Mumbai city is from Uttar Pradesh (Prasad, et al. 2009). As with all migratory trends, demand for unskilled labor is a major

cause. Unskilled labor includes industrial warehousing, driving taxis and rickshaws, and housekeeping. As indicated in figure 1, Uttar Pradesh to Mumbai accounts for the third largest net migrant flow from rural to urban regions. Most migrants are slum dwellers (Singh 2006) and are shunted out of the formal financial system. Recent interventions like mass enrolment in no-frills accounts⁴ and the introduction of *tatkal*⁵ remittance services by the State Bank of India (SBI) have improved formal financial inclusion. SBI facilitates *tatkal* remittances through ZERO⁶ and Eko, the latter of which setup its first CSPs in Mumbai in April 2012.

From Delhi-National Capital Region to Bihar:

It is estimated that if Bihar were a country in Africa, it would have the second largest population and second lowest GDP (Dichter n.d.). Bihar is the second largest source of migrants to Delhi (see figure 1 above). Migrants in Delhi, like Mumbai, are engaged in unskilled labour as rickshaw pullers, household workers and street vendors. Traditionally, they've used informal channels such as hawala. Recently, there has been a strong shift towards formal bank-led channels, including the *tatkal* from SBI (Tiwari, et al. 2011). Eko has been operational in Delhi since 2007, but it was the *tatkal* remittance service that kick-started its exponential growth (Lahiri & Mehta 2011)

⁴ Also known as the Reduced-KYC Account

5. *Tatkal* (Hindi for 'immediate') is a model pioneered by the State Bank of India, India's largest bank. SBI directs customers who want to deposit money in a non-home branch to its banking correspondents. Money is remitted to the recipient after reconciliation with the BC's account. BCs can be based on Mobile, smart card or Internet-enabled kiosks.

⁶ www.alittleworld.com/htmls/zero/features.html

User Profile, Methodology and Sampling

In this study qualitative and quantitative methods were used to understand some of the macro and micro, as well as causal and effectual factors indicating the efficacy of mobile money remittances through formal channels. Methods included interviews with customers and interviews with CSP agents. There are two reasons for this target population sampling. First, CSPs that are closer to busy bank branches are likely to receive more customers. Second, migrant populations tend to be assimilative and are more likely to transact from CSPs close to their homes and places of work.

After shortlisting 5 CSPs in each city, a weekly schedule of visits was planned out. The time of each visit corresponded to non-peak hours to avoid interruption or interference with customer service activities. In cases where CSPs did not consent to daily interviews, we collected weekly summaries of the number of transactions recorded. A typical CSP is a mom-and-pop store, catering to households nearby. A snapshot of a typical CSP can be seen below in figure 2.



Figure 2: An Eko outlet in, Bhiwandi, Mumbai, India

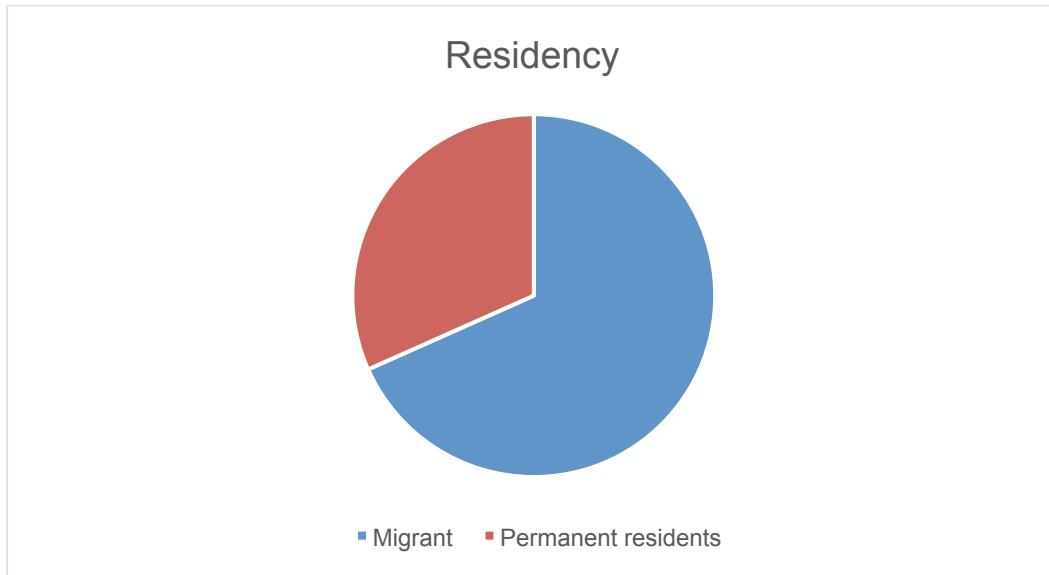


Figure 3. Count and percentage split number of migrant and permanent residents

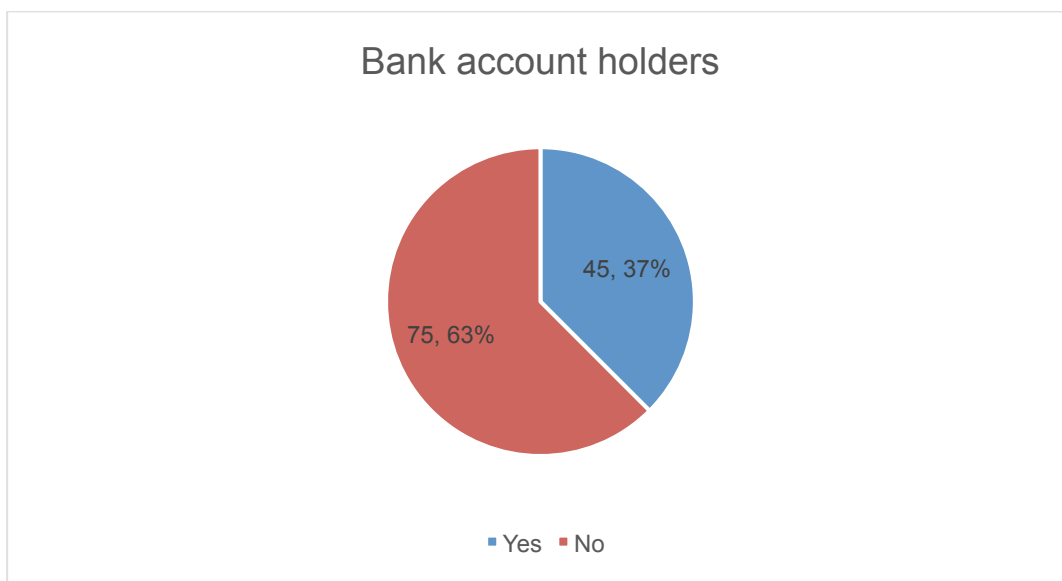


Figure 4: Count and percentage split number of bank account holders

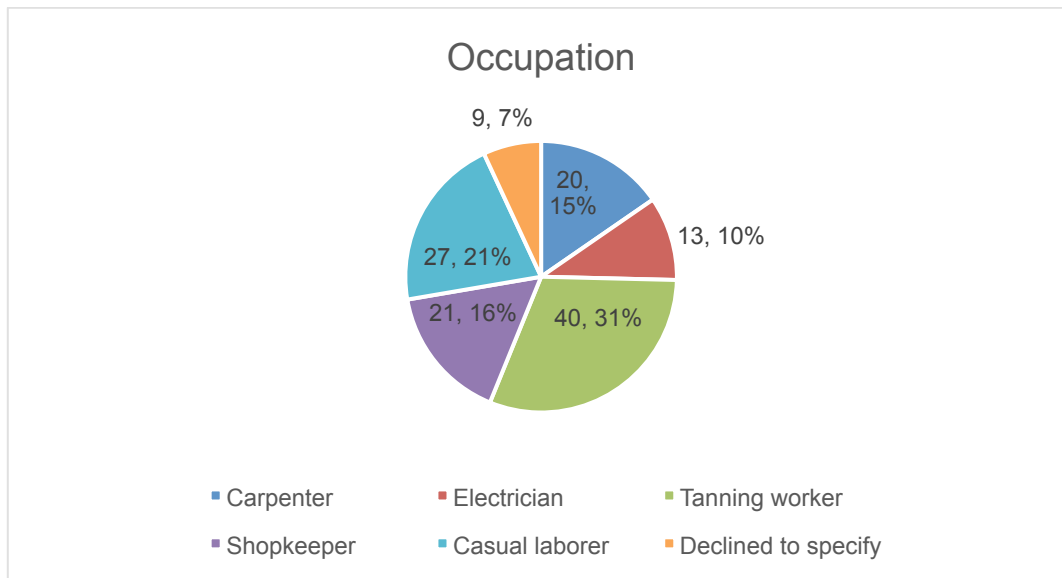


Figure 5: Occupation of respondents



Figure 6. A hardware store in Gurgaon, India functioning as a banking correspondent

Research Questions:

Customer background and access to a financial ecosystem: Do the senders possess bank accounts? Do their financial lives rest on a diverse ‘ecosystem’ or do they prefer specialized products from multiple providers? In what ways can the mobile be rails for rolling out financial products in the future?

Need and opportunity costs: In what situations do senders prefer the mobile phone as a formal alternative to traditional financial services. Does the real-time nature of mobile remittance transfers suggest other uses, beyond emergency scenarios, for the average consumer?

Differentiation amongst formal alternatives: What are the unique advantages and disadvantages of mobile remittance channels? Which amongst the many avatars offered by BCs (smart cards, mobile phones, internet kiosks) is the preferred choice?

The e-money loop: How is the remittance withdrawn by the receiver? What is the breakup of cash-to-ATM, cash-to-branch and cash-to-mobile type remittances?

Frequency and scope: Are remittances sent to single or multiple recipients over time?

Location and loyalty: In regions where banks are in the vicinity, is the mobile phone nonetheless tempting as an alternative? Do users stay loyal to a single medium or switch media according to their immediate needs?

Trust: How trusted is mobile money as a remittance tool and how is trust consolidated beyond digital and paper receipts? (Mas & Morawczynski 2009)

Policy implications: How has the historic mandate from central policy makers affected adoption of mobile as an instrument for saving, remittance conduit or both? How has the promotion of multiple channels by policy makers affected access for the poor by ‘freeing or unfreeing them, as defined by Kleine (2011).

Category	Question	Probes
Background	Do you have a bank account?	■ Examine if a remittance product satisfies their financial needs or do they use products from different providers?
	If yes – why are you using a BC instead of the Bank?	■ Competition from other formal channels like Smart cards, biometric devices and feet-on-street BCs.
	What is your occupation?	■ Understand economic and social background
	Are you a resident or a migrant?	■ Split of usage between migrant and resident remitters.
Needs and opportunity costs	How far do you travel to visit the CSP?	■ Understand value proposition and cost justification.
	How does the receiver withdraw money?	■ Measure the breakups of cash-to-mobile, cash-to-ATM, cash-to-branch type transactions.
	What purposes do you send money for?	■ Understand periodic versus urgent remittances and if mobile plays a pivotal role in the latter.
	Which remittance service provider do you use to send money?	■ Understand tendencies amongst users to hedge between BCs for cheaper pricing

Frequency and transaction size	How frequently do you send	■ Understand seasonal trends in mobile remittances.
	What is the amount you normally send?	■ Understand the psychological risks with larger sums of
	When does the receiver withdraw the money?	■ Estimate the time length of the e-money loop.
Word of mouth	How did you hear about the service?	■ Understand the viral effects for remittance, if any.
	Have you recommended this service to someone else?	
	How many recipients have you sent money to?	■ Examine if remittances are one-to-one or one-to-many.
Customer service	Have you ever sent money to the wrong account? Were you able to reconcile it?	■ Examine trust in mobile as a remittance tool. Examine the quality of customer service.
	Have you encountered remittance failures due to technical issues?	■ Examine the robustness of mobile infrastructure,

Table 3: Questionnaire

Results and Findings

Timeline

September 1-21	Literature review, preparation of interview Materials, CSP list and questionnaire for Mumbai regio
September 21-24	Field trip, identification of geographies in Mumbai.
October 1-7	First round of interviews in Mumbai.
October 8-28	Second round of interviews in Mumbai.
November 1-7	Data compilation and refining in Bangalore
November 8-14	Preparation of round I report
November 15-30	Preparation for next round of research
December 1-10	Presentation of semi-annual report at IMTFI conference
December 10-31	Work suspended due to holiday season
January 1-31	Work suspended due to holiday season
February 1-28	Round II of interviews in Mumbai
March 1-30	Data compilation and refining from round II
April 1-30	Meetings with industry experts
May 1-30	Final report presentation and submission

Table 4. Timeline

The electronic money loop

The velocity of transactions is defined as the average frequency at which a unit of money is used. Simply stated, it is the number of ways a sum of money can be used. Classically, the velocity of cash is measured in the number of transactions that a unit of currency goes through between being withdrawn from a bank and returning to a bank a—framework defined by Irving Fisher.

Mbiti & Weil (2013), refer to the electronic equivalent as the ‘e-money’ loop. The length of the loop is defined as:

$$\text{Loop length} = \frac{2 \times \text{transfers}}{(\text{deposits} + \text{withdrawals})}$$

By their very design, remittances in India tend to have a very short length. To prevent money from circulating in the informal economy, the central regulator in India mandates that cash out transactions can be only be performed using a bank account. A new category of ‘Payment Banks’ is expected to increase the distribution of such cash-out points, although achieving widespread and ubiquitous scale requires time and investment. The mandate directly affected the conversation with our respondents, who reported that 76% of remittance recipients own a bank account. As an extension, 12% of all recipients with bank accounts may occasionally use a nearby ATM to withdraw the remitted cash. The savvier bank account holders in our sample also reported using internet banking services provided by their banks to further use the money to pay suppliers or relatives. This practice, albeit costlier compared to cashing-out was prevalent among the merchants and business owners that were interviewed.

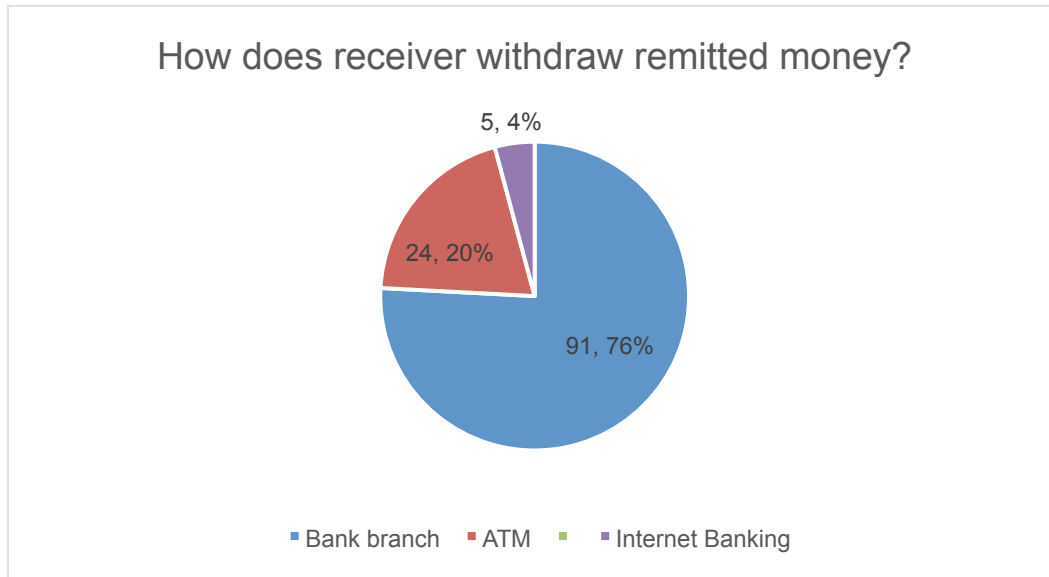


Figure 7: Ways to withdraw cash at the receiver

In essence, the problem of availability of funds is only partially solved at the point of cash-in. The convenience of e-money is drastically reduced due to lack of equally available cash-out points. Bank branches therefore continue to dominate as cash-out points.

The lack of a vibrant CSP ecosystem contributes to a disproportionate preference on the part of end-users for bank branches and ATMs. Tiwari, et al (2014: 1) observe that “Field work reveals that only 7% of the villages have transaction ready CSPs; only 4% have CSPs available to transact every day. A little over 2% of the appointed CSPs are doing more than 10 transactions a day, and less than 4% are earning more than Rs. 2,000 a month; with a median monthly income as low as Rs.1,500 – and so quite likely to quit the business soon.” CSPs, and by extension, banking correspondents, have failed to find a sustainable business model. It is not clear if marginal economic incentives have inspired scale for CSPs. The often-quoted success story of M-PESA in Kenya hinged on the ubiquitous availability of a cash-in, cash-out agent network. The business model benefitted agents, the most profitable of which substituted their primary line of business with an M- PESA agency. Anecdotally such examples are visible in the

Indian ecosystem, but their distribution is more diffuse, meaning a select few CSPs account for the majority of profits; most CSPs barely earn enough to survive.

The asymmetry of cash-in and cash-out agents exacerbates the problem. Cash-in agents are not subject to the same regulatory framework as cash-out agents. By regulation, banking correspondents and CSP networks are not allowed to own ‘wallets’, meaning they lack control of the end-to-end customer relationship. In many respects, the asymmetry between cash-in and cash-out points is a point of friction between banks and CSPs. It is unclear which agent should invest in building relationships with the customer who is remitting funds. While CSP networks invest in marketing and out-competing rival CSPs, **they have no visibility at the receiver’s end.** For the receiver, the interface is the bank branch, the bank’s ATM, or the bank’s Internet banking system. It is obvious that an innovative and vibrant business model is hard to develop if access to the customer is stifled during the remittance lifecycle.

The asymmetry of interfaces contributes to an asymmetric business model, which, in turn leads to unaligned incentives. The cost of acquiring, onboarding, maintaining, and providing customer support falls primarily on the shoulders of a CSP network with a very limited path to profitability.

Size of transactions

During the research, the size of transactions were recorded by verbal reporting from respondents and cross-checking the receipt issued by the remittance provider. The most prolific transaction tier was between Rs. 5000 to Rs. 10000 (\$83 to \$167). Respondents self-reported their monthly

income, earned through a combination of daily wages or contract positions. Transaction size is naturally affected by the income of remitters, which ranges from Rs. 5,000 to Rs. 15,000 per month (\$83 to \$250). Salaries are difficult to quantify as labor tends to be paid daily wages that can vary drastically depending on seasonality of an industry.

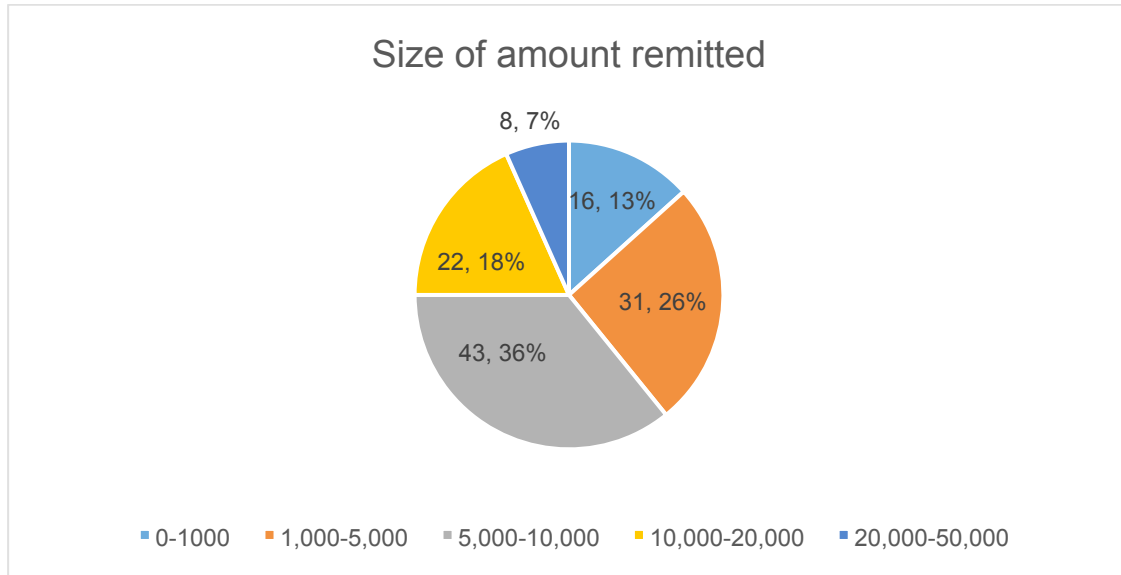


Figure 8: Most common transaction sizes

Amount Remitted (INR)	Charge to customer					
		ITZ Cash	Oxicash	Suvidha	SmartShop (with KYC)	Reliance Money
1000	15	10	10	4.5	6	8.01
2000	30	20	20	9	12	16.02
3000	45	30	30	13.5	18	24.03
4000	60	40	40	18	24	32.04
5000	75	50	50	22.5	30	40.06
10000	100	69.35	50	30	60	80.11
15000	150	69.25	75	45	90	106.82
20000	200	91.75	100	60	120	106.82
25000	250	114.25	125	75	150	133.52
50000	250	NA	NA	75	150	133.52

Table 5: Commission structure for remittance service providers

Hyper-commoditization

As Reimann, Schilke and Thomas (2010) state, commoditization is a consequence of efficient marketplaces. In an industry's lifecycle, a novel product, service or feature comes along and alters the competitive landscape. The novelty starts at a conservative scale, gathers momentum, is often replicated by the competition and then gradually, the novelty gets eroded. Extending this argument, reduced novelty leads to receding margins.. Pertinent examples of the phenomenon are amply available in the Fast Moving Consumer Goods (FMCG) industry, such as detergent, soap and cereal. More recently, digital storage on the cloud has been commoditized. The industry has progressed from the days of 30 megabyte email accounts to virtually unlimited and free storage. It is worth noting that here commoditization *followed* an increase in scale, ubiquity and a quantum reduction in the cost of providing storage.

Common traits present across commoditized industries are scale and ubiquity. A marketplace powered by sustained demand and ample supply will eventually be commoditized. However, if commoditization precedes scale and ubiquity, the unit economics often spiral down prematurely. A hyper-commoditized marketplace is characterized by:

1. Underserved potential: The absolute size of the total addressable market is significantly smaller at the current stage and there is potential for bigger scale in the industry.
2. Competitive: Numerous competitors that offer similar services and products and differentiate themselves only by attractive pricing offers
3. Falling prices: Commoditization benefits consumers as prices are driven down. However, if

falling prices contribute to an unsustainable business model, competitive factors may vanish in the long-term, thereby harming consumer interests in the long-term.

Through interviews with customers and retail agents, the aforementioned traits are starkly applicable to India's remittance industry. During the research, we witnessed respondents' tendency to arbitrage between service providers. An important signal can be observed from the commission structure offered to retail agents by competing business correspondent networks.

During the course of this research, we interviewed several remitters such as Ram Lakhan. Ram Lakhan works in a power loom in Bhiwandi, near Mumbai. He migrated to Mumbai from Bihar, in search of a job opportunity. Ram Lakhan earns about \$10 (Rs. 600) for a day of work in the power loom. On certain days, when the power looms are not operating at full capacity, he sits idle, or works at the neighbourhood tea shop. Ram Lakhan's two sons back in his home town of Raxaul, Bihar, go to school in sixth and eighth grade. To pay for their education, he remits about \$100 (Rs. 6000) on the last week of every month. When asked which service he uses the most, he said, "I visit the local mobile recharge store and ask the shopkeeper to send money."

As clearly observable, Ram Lakhan does not identify with a particular service provider. During the research, it was clearly demonstrable that the social relationship between the shopkeeper (CSP) and the remitter takes priority over the brand of service provider. As a result, the CSP simply uses the service provider that shares the highest commissions. Remitters who are more aware of the pricing differences use the most economical option. See figure 13 to compare

preferences between service providers. While Ram Lakhan is an anecdotal example, price sensitivity is a commonly expected trait in our sample.



Figure 9: A remittance store in Mumbai, India with competing provider

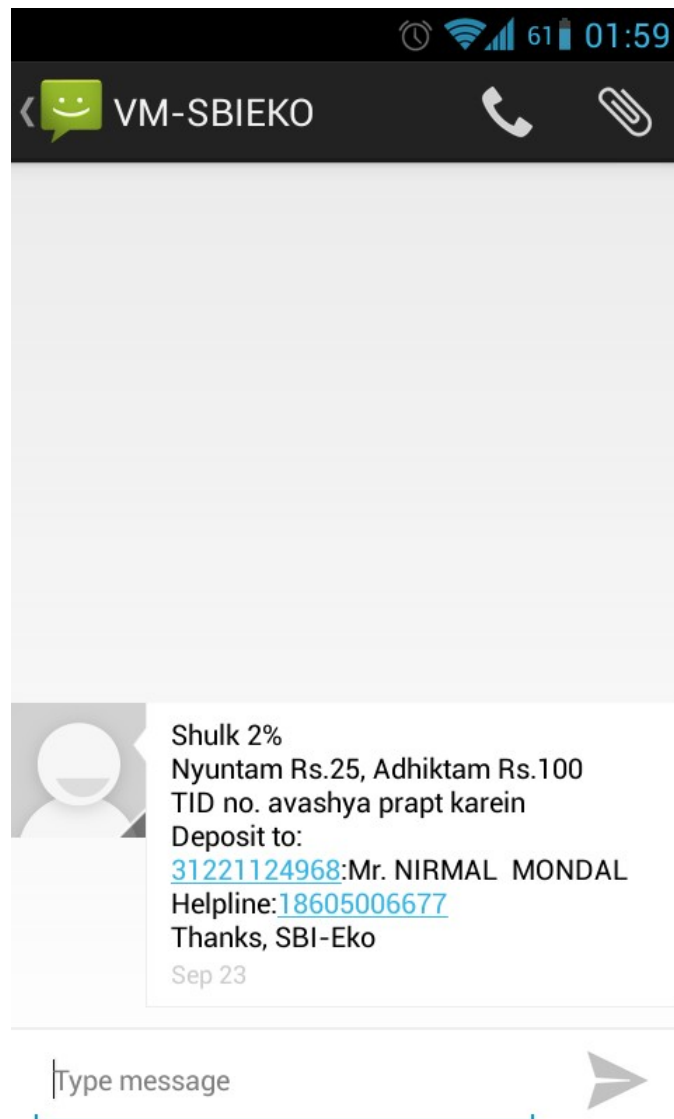


Figure 10. A screenshot of Eko's Android-based interface for initiating remittances. Translated from anglicized Hindi: Fees 2%, Minimum Rs. 25, Maximum Rs. 100. "Always ask for your Transaction ID number." A remitter hands cash to the CSP with the destination bank account number. The CSP then enters the bank and the remitter's phone number in the phone. Upon a successful transaction, both parties receive a text message with confirmation



Figure 11: An Airtel money store in Bangalore, India



Figure 12: A remittance outlet with two competing service providers, in Gurgaon, India.
(See Ram Lakhan's example above)

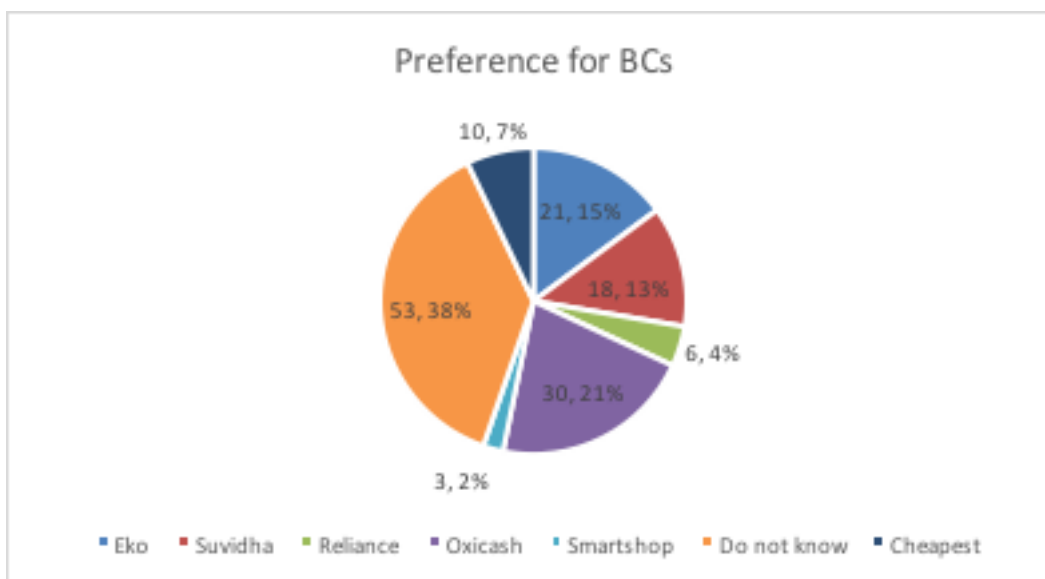


Figure 13: Preference for remittance service providers

India's banking regulator announces Payments Banks

The Reserve Bank of India (RBI) on 17 July 2014 issued draft guidelines for two new categories of banks—small and payments, with the aim to boost financial inclusion. These smaller banks are expected to be largely driven by technology (including mobile) and are focused on the underserved regions of the economy. Payments banks are not allowed to lend money to people. According to RBI, the primary objective is to provide small savings accounts and payment or remittance services to migrant labourers, low-income households, small businesses, unorganized sector entities and other such users. At the time of this writing, it is estimated that mobile phone operators, prepaid instrument holders, and banks with an interest in electronic payments will apply for licenses to qualify as a payment bank. Payment banks are an exciting development in this sphere, with the potential to remove some of the fundamental conflicts between remittance and payments industry entities that have predominated in the past. The proposed guidelines are an important step in the right direction, but need to be examined with a closer lens.

“The actual guidelines fall short of the expectation of appropriate risk based regulation to foster a playing field that encourages innovative payment systems / providers in India to meet the surging demands of the e-commerce, mobile payments as well as financial inclusion needs of India. The need to tightly control this defanged entity through a stringent licensing regime is somewhat mystifying.” (Raman 2014)⁷

⁷ *India's payments banks, what's not in there.* <http://www.medianama.com/2014/07/223-indias-payment-banks-whats-not-in-there/> Accessed July 30 2014

Conventional banks generate revenue by lending out the money deposits of their customers at a higher interest rate. In contrast to this business model, payment banks per regulation are not permitted to issue loans. Unless payments banks manage tremendous scale, it is hard to imagine a viable business model that would allow the sustainability of the payments industry. According to the regulation, payment banks will remain transaction processors with a strong CRR (cash reserve ratio) through government issued securities. This implies that the business model must primarily be based on transaction fees, as the Net Interest Margin Income available for payment banks will be marginal and increasingly tending towards zero. If the RBI mandates interest-bearing accounts for all payment bank account holders, this may pose a risk to financial sustainability, or impede uptake of the payment bank model.

Given the RBI's traditional propensity for determining market prices as well as regulation, it remains to be seen if the payment banks will be allowed to experiment with different tariff structures and given the flexibility to accommodate customer responses to these new entities. Currently, the BC (Business Correspondent) model has similar pricing, based on per transaction fees. Payment Banks may be able to change this model by applying a differential pricing model that enables remitters to store money in savings accounts and also provides incentives to remitters in sticking to a service that serves their financial lives in the best manner.

Often in the financial services industry, small players who find a strong, but small niche in the market cause disruption. Such disruption is apparent in the telecom industry, a close cousin of the banking industry, especially in emerging markets. The payment bank regulations demand that a Rs. 100 Crore (~\$15 million) be set up in securities to secure the deposits of customers. Given that the government already secures the deposits of payment banks, it is redundant

to have another layer of security. It will shunt out small players otherwise willing to invest in building out payment networks, and it will make the opportunity top-heavy. Payment banks must bear the costs of carrying cash to the last mile, managing counterfeit currency, as well as building out a widely available ATM network. These costs are far from trivial. Meanwhile, there is a potential conflict between payments banks and existing banks with fairly flourishing business lines since the latter have little incentive to help payments banks, unless they are willing to launch a subsidiary. That creates a major conflict of interest. As mobile payments become more prevalent, banks are creating their own offerings, which are often interoperable with other bank providers. However, the incentive for a customer to stay within the ecosystem of a bank is higher. Whether openness and interoperability is necessarily beneficial or limiting to the consumer remains an open question.

Conclusion

According to our research, the most common transaction size of our respondents is between Rs. 5000 to Rs. 10000 (\$83 to \$167). The widespread adoption of mobile payments in India is still distant. Most channels for remittances are primarily cash, even though enabled by other proxy electronic mediums. Hyper-commoditization, extremely competitive markets and misaligned incentive structures make India a fragmented market for remittances to scale via a singular channel or service provider. With the recent adoption of smartphones, even with those at the lowest economic levels, India can help bring millions of financially excluded populations in to mainstream financial services. While such hyper-competition is great for customers, there are adverse affects on transparency and cost to customers. Most customers in the Bhiwandi area have limited education, and are unable to differentiate whether they are actually using the service

they want to use. Additionally, as service providers compete for market share and razor-thin margins, kiosk owners have the incentive to prioritize their commissions over customer benefits. The RBI under its new leadership has shown a general agreement and support to bolster mobile and electronic channels. Payment banks are an optimistic step in the right direction and with some essential tweaks, India could well be on its way to becoming a global leader in electronic transactions. Additionally, with better technology and deeper penetration of the Internet, smartphone-based services are set to enable remittances in every person's hands. It remains to be seen whether policy makers, advocates, government and markets will work together to leverage this advantage.

Bibliography

Deshingkar, P. & Akhter, Shaheen , (2009). *Migration and Human Development in India*. UNDP, Human Development Reports.

Dichter, S. *The Generosity Experiment*. n.d. [Film]. <https://vimeo.com/29140232>. Accessed 10 October 2012.

Gopinath, S., Oliver, J. & Tannirkulam, S.(2010). *Putting Money in Motion: How much do migrants pay for domestic transfer?* Centre for Microfinance at IFMR Research.

Kleine, D. (2011). *The Capability Approach and the 'medium of Choice': Steps towards Conceptualising Information and Communication Technologies for Development*. Ethics and Information Technology

Lahiri, A. & Mehta, S. (2011). *From Cash to Cash Cow*. Microsave.

Mas, I., & Morawczynski, O. (2009). *Designing Mobile Money Services*. Innovations: Technology, Governance, Globalization,

Mbiti, I. and Weil, D.N. (2013), *The Home Economics of E-Money: Velocity, Cash Management, and Discount Rates of M-Pesa Users*, American Economic Review: Papers & Proceedings 2013, 103(3): 369–374

Prasad, R., Singh, M.N., Das, K.C., Gupta, K. & Bhagat, R.B. (2009). *Migration to Greater Mumbai Urban Agglomeration: A Study of Characteristics of Principal Migrants and their Social Linkages*. Demography India.

Raman, Anand (2014) *India's payments banks, what's not in there*. <http://www.medianama.com/2014/07/223-indias-payment-banks-whats-not-in-there/> Accessed July 30 2014

Reimann, M., Schilke, O. & Thomas, J.S. (2010) *Toward an Understanding of Industry Commoditization: Its Nature and Role in Evolving Marketing Competition*, International Journal of Research in Marketing, Vol. 27, No. 2, pp. 188-197, 2010

Sharma, M. (2012). *Remittances through M-Banking: Customer Perspectives*, Mumbai, India: <http://ebookbrowse.com/7-manoj-sharma-microsave-ppt-d335425783>. Accessed 10 October 2012.

Singh, D. (2006). *Migration and Slum in Mumbai: Part II*. International Institute for Population Sciences, Mumbai.

Thorat, Y.S.P., Ramana, N.V., Ramakrishna, R.V., Kosh, A., Zak, T. (2009) "*Remittance Needs In India*". NABARD-GTZ Technical Study.

Tiwari, A., Singh, A.K., Giri, A., Ramji, M., Bansal, S. & Jos, A. (2011). *Understanding Remittance Networks – Gujarat, Orissa and Bihar*. MicroSave. Page 38.

Tiwari, A., Singh, L.K., Sadana, M., & Chopra, P. (2014) *The Curious Case of Missing Agents in Rural India*, Microsave India Focus Note 10, Page 1

Tumbe, C. (2011). *Remittances in India: Facts and Issue*. Indian Institute of Management, Bangalore.

Thorat, Y.S.P., Ramana, N.V., Ramakrishna, R.V., Kosh, A., Zak, T. (2009) "*Remittance Needs In India*". NABARD-GTZ Technical Study.

Tumbe, C. (2011). *Remittances in India: Facts and Issue*. Indian Institute of Management, Bangalore.