Catalysing Responsible Digital Payments *in the* North East Region of India

TAKING STOCK OF THE DIGITAL PAYMENTS ECOSYSTEM WITH AN ACTION PLAN TO EXPAND THE ACCEPTANCE NETWORK

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Digital India
Power To Empower

Ministry of Electronics & Information Technology
Government of India

BETTER THAN CASH
ALLIANCE

ACKNOWLEDGMENTS

Contents

List of acronyms

ATM	Automated teller machines
BHIM	Bharat Interface for Money
CICO	Cash-in-Cash-out
CSC	Common service centre
FMCG	Fast-moving consumer goods
MeitY	Ministry of Electronics and Information Technology
MFI	Micro financial institutions
NACH	National Automated Clearing House
NER	North East Region (of India)
NSS	National sample surveys
P2B	Person-to-Business
PMJDY	Pradhan Mantri Jan Dhan Yojana
PoS	Point-of-Sale device
PSB	Public sector bank
PSP	Payment Service Provider
QR	Quick Response codes
RBI	Reserve Bank of India
SLBC	State-level banking committees
TRAI	Telecom Regulatory Authority of India
UI/UX	User Interface/experience
UPI	Unified Payment Interface
YoY	Year-on-year

Executive summary
and a call to action

There is a ₹ 130,000 crore (approximately USD 18 billion)[1] retail digitization opportunity in the North East Region (NER) of India. However, nearly 80% of the Region's 15 lakh merchants do not have digital payment acceptance infrastructure, most of them in semi-urban and rural areas, with a significant gender divide.[2] Merchants in the North East Region face many challenges while using digital payments: half of all transactions fail; the process can be complicated, expensive, and not conducted in the merchant's language; and only a third of the customers have Aadhaar accounts. There is a huge opportunity to make digital payments better than cash to capture the large retail digitization opportunity.

Since the launch of the Digital North East Vision 2022,[3] progress has been made along several routes. Penetration of RuPay[4] cards in the NER (26%) is higher than the national average (23%),[5] and the NER performs well on other critical metrics: the mobile-bank account linkage is at par with the national average of 86%; the smartphone ownership rate is 47% for NER compared to 48% for all-India, while 43.28% of individuals are internet subscribers in the NER, only marginally lower than the all-India average, with 55% subscribers.[6] Merchants, in the urban areas, are increasingly aware of UPI and other modes of digital payment acceptance (UPI is the most popular payment channel with **58%** acquired merchants followed by point of sale (PoS) at **24%**).[7]

The growth of Common Services Centres (CSCs) digitizing government services at the lowest administrative level has been significant, with 100% of the Gram Panchayats served in Assam and Manipur states and 150% growth in Arunachal Pradesh and Meghalaya; however, there are opportunities for digitized government-supported CSCs in areas such as Sikkim, Arunachal Pradesh, and Nagaland in which numbers are lower than the national average.

Women merchants make up
13% of the total merchant base
in the North East, with significant inter-state variation:
48% in Manipur and **39% in Mizoram,** compared to **6% in Assam** and **13% in Tripura.**

Sources   NSS 73rd round (2015-16); MSME annual report (2017-18); Dalberg Analysis

There is an urgent need to improve the overall ecosystem to support merchant digitization: poor connectivity, low Cash-in-Cash-out points outside urban areas, and low Aadhaar penetration have resulted in limited, and often poor user engagement with digital or semi-digital transactions.

- **Aadhaar penetration** in the Region is 72.06% (a significant jump from 38% in previous years though still below national average primarily due to lower penetration in Assam and Meghalaya) compared to 90% for all-India,[8] with Aadhaar-bank account linkage nearly 64% below national average. Low penetration of Aadhaar and seeding of bank accounts has limited the ability of financial service providers, especially fintechs, to onboard last-mile users (specifically, informal small merchants), particularly in Assam, Meghalaya, and Nagaland.

- **ATM and bank correspondent (BC) penetration** (per 1000 people) in the Region are 12% and 21% below the national average. Therefore, this necessitates the requirement of creating cash-in cash-out opportunities in this region.[9]

- **Transaction failure rates at 1.5-2X the national average** due to 3X higher network downtime and 50% slower internet speeds compared to other regions of the country.[10]

In addition to the broader ecosystem, key digitization challenges remain for merchants.[11] Low awareness, especially in rural areas, and poor ease of use have resulted in limited uptake of digital payments. Exacerbated by the high transaction failure rates, especially outside urban areas, merchants perceive limited net value of digital payments and view the cost of adopting digital payments as prohibitive.

- **Merchants find it difficult to use available digital payments solutions:**

  - **Complex user interface:** Current payment applications have multiple touch points/clicks. Each additional click increases user friction with the application, potentially leading to limited or no use.

  - **Lack of payment applications using local languages:**[12] Users often find it difficult to understand and learn a new application if it is not in their local language. Lack of clear and easy to use interface makes it difficult to navigate applications and decipher information hierarchy.

> **Gender disaggregated data on merchants' adoption of digital payments in NER is not available. Payment Service Providers (PSPs) indicate a commitment to bridging the gender divide but have limited understanding of the current state of women merchants and future opportunities in the Region.**

The cost of acquiring a merchant in the NER is 2X compared to other parts of India.

- **High machine and maintenance costs:** Merchants using PoS and Aadhaar-enabled payment systems incur a cost of ₹ 300−500 in monthly rentals. Given the low volume of digital payments and thin margins, these costs are seen as eroding profits.

- **Misperception of high transaction fees:** Some merchants believe they will be charged an additional 1−2% transaction fee, even though merchant discount rate charges are waived for all transactions for UPI and Rupay debit cards.

- **Many do not fully understand the benefits of digital transactions:** Less commonly understood benefits include reducing cash-related expenses, improved storage security, and ability to build credit history. Merchants are also apprehensive about digital payments due to anticipated fraud and privacy issues.

The cost of acquiring a merchant in the NER is 2X compared to other parts of India; this remains a key challenge for acquirers who have seen limited collaboration across local private sector stakeholders:[13]

- The key obstacle to driving fintech interest in entering/expanding into the NER is high acquisition costs. Payment Service Providers (PSPs) contend with twice the acquisition costs to operate in the NER compared with the rest of India, primarily because of low merchant density and inability to use Aadhaar based eKYC. In addition to this, most PSPs perceive that ongoing costs (e.g., changing QR standees) to serve a merchant will be higher in the NER compared to the rest of India.

- Coupled with high acquisition costs, PSPs expect it will take longer to recoup their investment in the NER compared to other parts of India because of low business activity of merchants, and merchants often switch between digital payment instruments or drop off completely when incentives (i.e., cashback, discount, etc.) run out, further limiting the business case.

This report provides deep insights into the eight sister states in the NER, highlighting regional similarities and differences. The analysis forms the basis to prioritise seven key actions to digitize the ₹ 130,000 crore (~USD18 billion) retail market in a Region that is diverse, rich, and full of opportunities, in particular for advancing women's economic empowerment.

A Call to Action

In line with the Government of India's "Act East" policy,[14] there are seven priority actions for responsible merchant digitization to unlock the retail digitization potential of the NER. Acting on these would help to contribute to India's trillion-dollar digital economy[15] and initiate a virtuous circle to keep funds digital and advance the sustainable development goals in the Region.

1 **Increase connectivity in rural areas** and digital identity in Assam, Meghalaya, and Nagaland where Aadhaar penetration is less than or equal to 56%, to accelerate adoption of responsible digital payments for merchants across the Region.

2 **Launch an Innovation Challenge** to drive collaboration across all ecosystem players, working together with National Payments Corporation of India, fintech associations, e-commerce, and fast-moving consumer goods (FMCG) associations leveraging local networks to create better-than-cash-value propositions for merchants, including women, across 10 aspirational districts.

3 **Accelerate adoption of digital payments for digitized Government services** at the 11,700 government-supported common service centres across the North East, so that these can act as catalysts to expand the merchant acceptance network in rural areas and for women.

4 **Prioritise the Region and women** in the Government's policy initiatives and incentives for FinTechs to design and deploy innovative solutions addressing the 'pain points' for rural and women merchants.

5 **Set measurable and ambitious targets for rural areas and women merchants.** These include payments infrastructure incentive programmes run by the Government of India such as the RBI-led ₹ 500 crore Payments Infrastructure Fund, to increase merchant digitization by 50% in rural areas and by 60% for women merchants.

6 **Invest in regional and gender-disaggregated data reporting** in the national digital payments dashboard for data-driven interventions to achieve the focus on women, given their strong economic role, and set measurable targets for the Region.

7 **Embed priorities that respond to the needs of the underserved population segments** as a guiding principle for partnerships and incentives in merchant digitization across the Region.

Introduction

The Government of India aims to drive responsible digital payments in the North East Region (NER) as part of its aspirations to become, by 2025,[16] a trillion-dollar digital economy that responds to the daily needs and economic empowerment of common Indians in the Region.

Digital payments have been growing exponentially. The total transaction volume increased from 2,071 crore in FY 2017-18 to 5,554 crore in FY 2020–21 with a goal for 6,000 crore digital payment transactions in the current FY 2021–22. COVID-19 pandemic has shown how early investment in digital payments has helped India fight the war against COVID-19 by adopting contactless mode of digital payments like BHIM-UPI (Bharat Interface for Money-Unified Payments Interface) for social distancing. During the crisis, the Government succeeded in providing direct benefits to citizens using National Automated Clearing House (NACH). In March 2020, around 30 crore digital transactions with value of ₹ 1.93 Lakh crores were reported over NACH platform. This rose to 33.36 crore transactions with a value of ₹ 2.36 Lakh crore in March 2021.

BHIM-UPI is one of the world class platforms indigenously developed by India for making digital payments and is driving the growth of digital payments in the country. Digital transactions using BHIM-UPI platform have grown exponentially in past couple of years and attained new heights of more than 273 crore transactions in March 2021 with value more than 5 Lakh crore.

Following successful digitization of G2P (Government-to-Person) in the Region, stakeholders across the government are keen to drive digital payments downstream by understanding specific barriers and opportunity areas. Merchant acceptance is a key focus and a strategy for action under the Digital North East 2022 policy.

	PAYEE		
	Government	Business	Persons
Government			
Business			
Persons		Merchant payments	

Merchant payments are ubiquitous and a crucial element to drive overall adoption. Nearly three in five digital payment transactions in India are merchant payments.
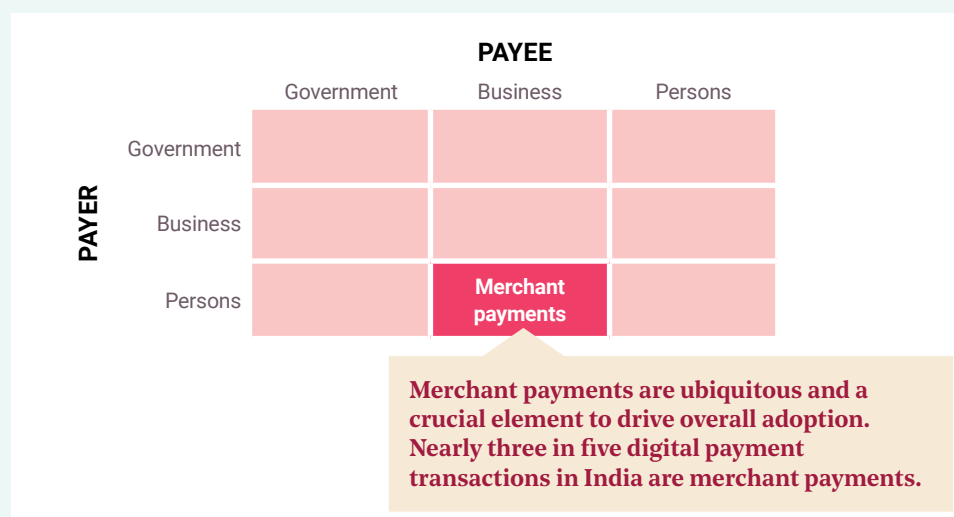
The report defines "merchants" as a non-manufacturing market enterprise, from the National Sample Survey report, which includes grocery stores, restaurants, neighbourhood kirana stores, apparel stores, chemists, and Common Services Centres. "Merchants" are not Cash-in-Cash-Out points, which are regulated by Reserve Bank of India as Business Correspondents.

This report is an outcome of an in-depth analysis in three main areas for understanding digital payments adoption and usage in the P2B (Person-to-Business) use case (refer to Annexure 3 for research methodology): ecosystem drivers, merchant-side drivers, and acquirer-side drivers, which intersect with work being led by various government ministries, the regulator the Reserve Bank of India (RBI), and private sector bodies such as National Payments Corporation of India, as well as new stakeholders such as fintechs, fast-moving consumer goods (FMCGs), and e-commerce players.

1 Ecosystem Drivers	**2** Merchant-side Drivers	**3** Acquirer-side Drivers
DIGITAL PAYMENT INSTRUMENTS	AWARENESS	COMPELLING BUSINESS CASE
INTERNET/SMARTPHONE OWNERSHIP	VALUE PROPOSITION	OPERATING ENVIRONMENT
CONNECTIVITY	EASE OF USE	
LAST MILE BANKING INFRASTRUCTURE		
DIGITAL IDENTITY		
DIGITAL LITERACY		

As part of the analysis, the report:

- Conducted interviews with 34 stakeholders across 25 organizations including Payment Service Providers (PSPs), banks, and FMCG firms (Annexure 1).
- Leveraged 10 datasets and nine reports to develop a nuanced perspective of digital payments in the Region (Annexure 2).
- Validated the findings through 12 types of merchant interviews in Assam and Mizoram.

   Note
   Refer Annexures 1 and 2 for a complete list of stakeholders interviewed, datasets, and reports; Annexure 3 for research approach and limitations. All datasets except one (state of Aadhaar) and five reports are released by the government.

1

Ecosystem drivers for digital payments *in the* North East

SUMMARY

Strengthening telecom connectivity, Cash-in-Cash-out (CICO) infrastructure, and Aadhaar, India's digital identity system, will result in richer user engagement.

The NER performs well on key building blocks vis-à-vis the rest of India:

- **Favourable trend in penetration of digital payment instruments**
  Nearly 100% of households in the NER have at least one bank account; 26% of the NER residents have a RuPay card, India's domestic card payment scheme, compared to 23% for India (although usage remains low).

- **Comparable access to smartphones and internet**
  47% of individuals in the NER have a smartphone versus a national average of 48%. Smartphone ownership and internet subscription rates are higher than in states such as Bihar and Jharkhand.

But has to make progress on three building blocks:

- **Poor network connectivity**
  The NER experiences a higher network downtime (up to 3X that of metro cities in the country) and slower internet speeds (50% slower than average for India).

- **Limited penetration of CICO infrastructure**
  ATM and BC (Business Correspondent) penetration in the NER are 12% and 21% lower than average for India, limiting conversion of cash to digital stores of value and increasing the cost of adopting digital payments for consumers, especially for regions such as rural Assam. The number of functional common service centres (CSCs; per lakh people) is 39% below the national average.

- **Low penetration of Aadhaar in the largest state, Assam**
  Only 72% of residents of the NER have access to Aadhaar, which limits the ability of PSPs, especially fintechs, to onboard merchants.

Formal savings bank account

- Almost all households in the NER have at least one member who has a formal savings account.

- There is low penetration in Arunachal Pradesh, Manipur, Meghalaya, and Nagaland, with less than one bank account per capita.

- These states recorded the most growth in number of bank accounts, with Nagaland citing a 12% year-over-year growth.

- Per capita bank account ownership among women in the NER is 0.78 compared to 0.92 for all-India.

- In line with national trends, women in this Region hold fewer accounts than men, with accounts remaining dormant for longer periods of time.

FIGURE 1

Penetration of bank accounts in the North East (%)

Source RBI (2019), estimated[2]

126 India Average (2020)

101 North East Average (2020)

State	2017	2020
Arunachal Pradesh	67%	88%
Assam	81%	105%
Manipur	68%	86%
Meghalaya	66%	76%
Mizoram	95%	110%
Nagaland	44%	61%
Sikkim	134%	132%
Tripura	108%	115%
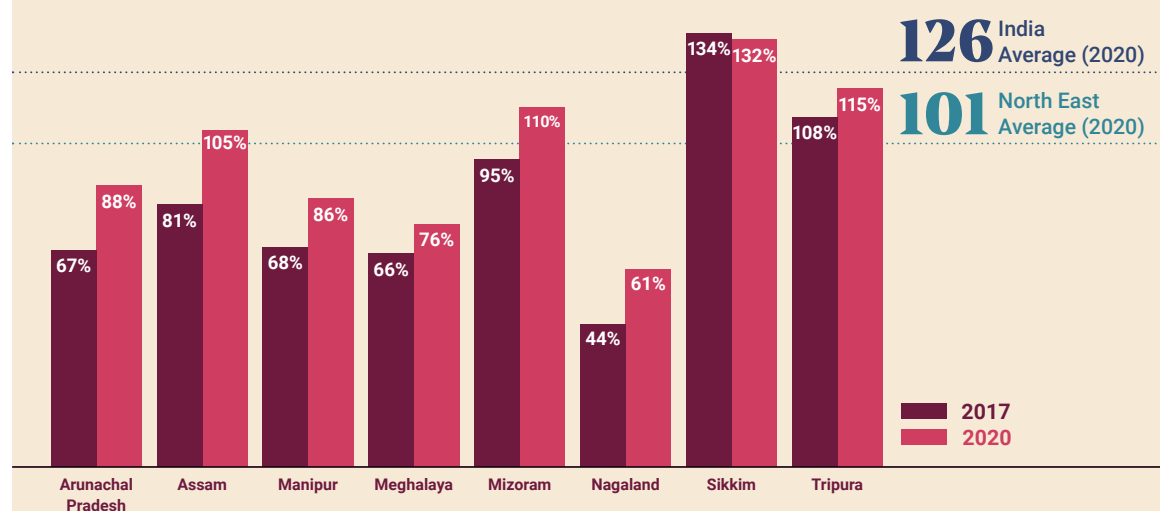
1   Livemint, 2018. India needs Jan Dhan, and not just Jan Dhan accounts.
    https://www.livemint.com/Opinion/qFGHgjiH3SbDxkN54KwdaN/India-needs-Jan-Dhan-and-not-just-Jan-Dhan-accounts.html.

2   Figures for 2017 are estimated based on Pradhan Mantri Jan Dhan Yojana (PMJDY) growth rates. For more details on expansion under PMJDY refer to Annexure 7.

Source Reserve Bank of India, 2020. Banking Statistical Returns. https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications.

Penetration of RuPay cards

- The penetration of RuPay cards is slightly above the national average; this is primarily a result of high debit card penetration in Assam.

- Unlike debit cards, credit card penetration is negligible in the Region.

FIGURE 2
Penetration of RuPay cards (%)
Source PMJDY (February 2020)

29 India Average (2020)

23 North East Average (2020)

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
20%	31%	23%	12%	9%	12%	9%	9%

Sources Pradhan Mantri Jan Dhan Yojana (PMJDY), https://pmjdy.gov.in/; Department of Financial Services; expert interviews.
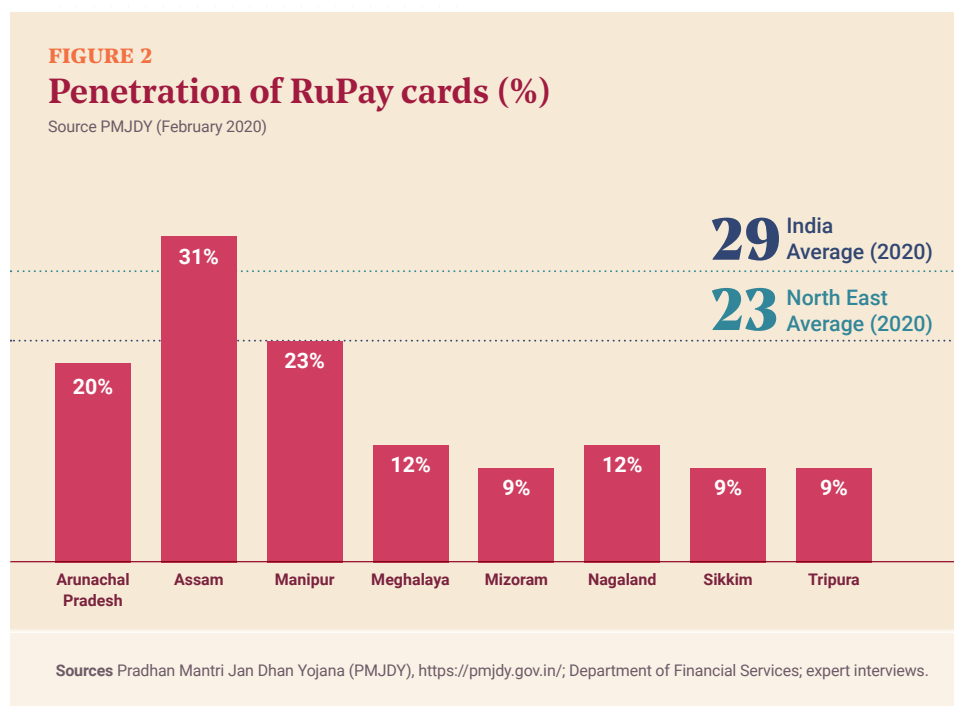
Stakeholder conversations suggest that penetration of wallets in the Region is very low, with transactions making a very small fraction of the overall volume for leading wallets.

> *Credit card penetration in the North East is negligible. It is hard to increase acceptance and usage unless penetration is above 5%."*
> —MSWIPE

> *Very few people have debit or credit cards in the North East. When they do, it is used only for cash withdrawals."*
> —MFI EXPERT

> *We have some traction in the North East mostly for P2P (Person-to-Person) transactions, but overall uptake is low… share of the NER in overall volume is negligible."*
> —LEADING MOBILE WALLET

Internet and smartphone penetration

Smartphone ownership, internet subscription, and mobile bank account linkage rates are equal to or better than the national averages.

Internet subscription rates are 43% and 55% for the Region and India, respectively. Internet penetration in Assam is 38%, ahead of states such as Bihar (30%).

FIGURE 3

Smartphone ownership in the North East (%)

Source State of Aadhaar(2019), estimated[1]

48 India Average

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
NA	46%	NA	47%	NA	NA	60%	57%
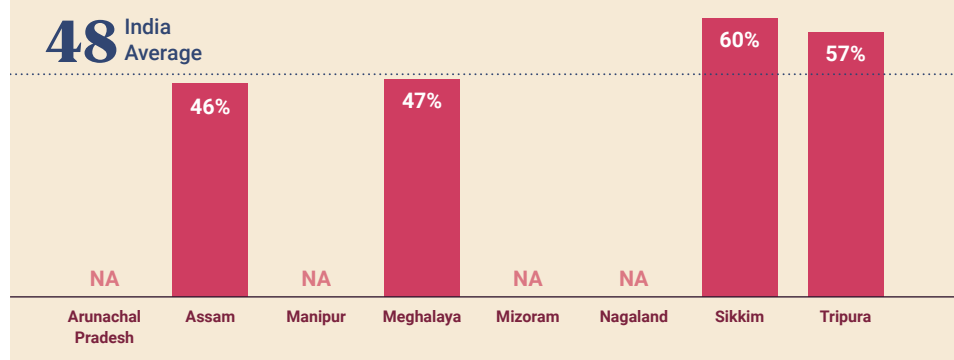
1   The share of internet users is estimated in all states assuming similar rates between internet usage and overall subscribers in Assam.

Sources State of Aadhaar, 2019. https://stateofaadhaar.in/; The Indian Telecom Services Performance Indicators, 2019. https://trai.gov.in/sites/default/files/PIR_10072019.pdf; GSMA; Harvard Kennedy School, Women and Public Policy Program, 2018. A Tough Call: Understanding barriers to and impacts of women's mobile phone adoption in India. https://wappp.hks.harvard.edu/publications/tough-call-understanding-barriers-and-impacts-womens-mobile-phone-adoption-india; MeitY.

> ❝ *Smartphone ownership is much higher in the North East, compared to states like Bihar.”*
> —LEADING PPI (PRE-PAID INSTRUMENT) PLAYER

Women in India are
25% **less likely to own a mobile phone** and 50% less likely to access mobile internet.[17] However, this difference is less pronounced in the North East Region.[18]

Mizoram, Assam, and Meghalaya have lower mobile phone linkage rates than the national average. These rates are only marginally lower than the national average and not significant deterrents in adoption of digital payments.

Bank accounts linked with mobile phone (%)
Source MeitY; Promotion of digital payments (2018)

									North East Average: **86**

Arunachal Pradesh: 83.7%
Assam: 74.3%
Manipur: 91.4%
Meghalaya: 76.8%
Mizoram: 92.1%
Nagaland: 94.7%
Sikkim: 92.7%
Tripura: 81.9%
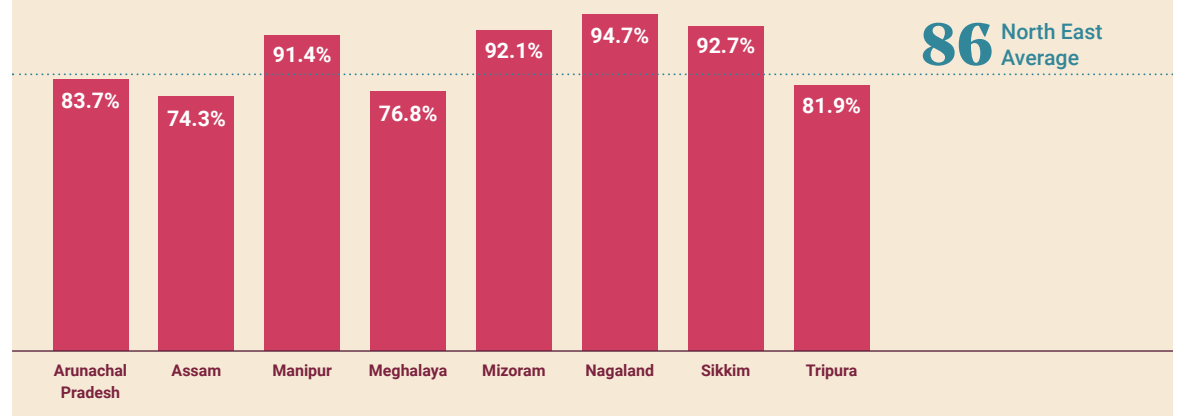
Sources DFS 2021.

Connectivity

While smartphone ownership and internet penetration is on par with all-India numbers, the NER experiences up to 3X more network downtime and 50% slower internet speeds.

FIGURE 5

Network downtime and packet drop rate in the North East (%)

Source TRAI; Indian Telecom Performance Indicators (2019)[1]

■ % of accumulated downtime
■ Packet drop rate

This Region faces **3X** higher network downtime than most regions in India

	Metro (Delhi, Kolkata, Mumbai)	Category A (AP, GJ, KN, MH & TN)	Category B (HY, KL, MP, PN RJ, UP & WB)	Category C (BH, HP, J&K & OH)	North East	Assam
% of accumulated downtime	0.25%	0.43%	0.35%	0.5%	0.87%	0.64%
Packet drop rate	0.18%	0.18%	0.19%	0.11%	0.14%	0.12%
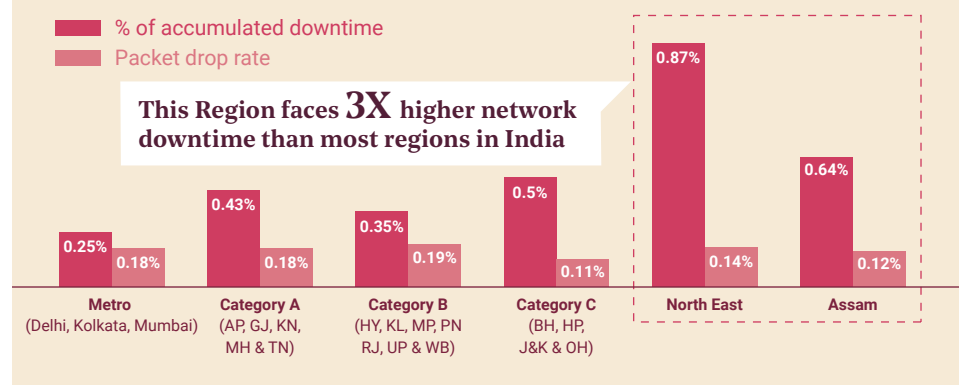
Internet speeds by telecom circle (Mbps)

Source TRAI Dashboard

■ Reliance Jio
■ Airtel
■ Vodafone

	Assam	NER	Bihar	Odhisa	Kolkata	India
Reliance Jio	4.9	1.8	23.4	38.5	18.2	16.1
Airtel	4.4	4.3	6.3	5.0	9.1	6.5
Vodafone	8.5	4.6	NA	6.2	12.2	5.5
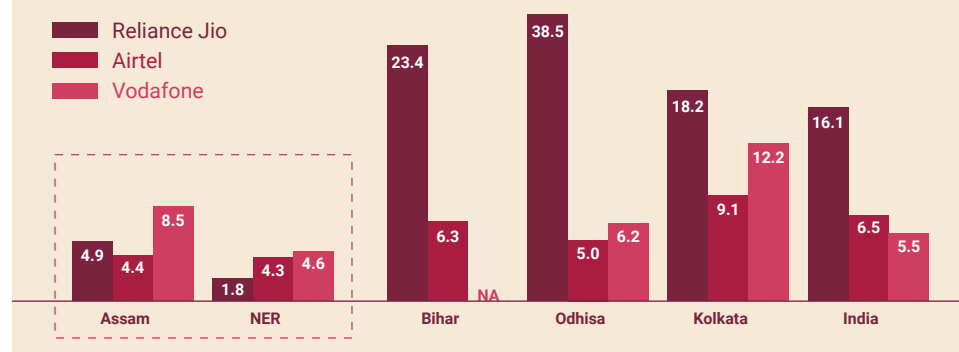
Category A includes states of Andhra Pradesh, Gujarat, Karnataka, Maharashtra, and Tamil Nadu. Category B includes Haryana, Kerala, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh, and West Bengal. Category C includes Bihar, Himachal Pradesh, Jammu and Kashmir, and Odisha. For the purposes of this analysis, the NER is not counted in Category C. Accumulated network downtime refers to share of network that is not available for service. Packet drop rate refers to average drop rate between uplink and downlink drop rates. Only data for Reliance have been displayed. Summations do not account for number of subscribers

1   **Sources:** Telecom Regulatory Authority of India (TRAI) Performance Indicator Reports, https://trai.gov.in/release-publication/reports/performance-reports; TRAI Internet speeds dashboard, https://myspeed.trai.gov.in/.

> ❝ *We do not have good telecom connectivity which restricts digital payment adoption.*"
>   —MFI EXPERT

> ❝ *Connectivity has improved for major cities but in peri-urban and rural areas it is still a major challenge.*"
>   —LEADING PSB

Penetration of Cash-in-Cash-out points

Penetration of Cash-in-Cash-out (CICO) points in the Region remains 20–50% lower than the national average.

- Sikkim and Tripura, two states with the highest estimated digital transactions per capita in the Region, also display high penetration of bank branches and ATMs in the Region.
- Manipur, Meghalaya, and Nagaland have among the lowest per capita transactions and CICO density.
- Rural Assam accounts for 60% of the North East population, but Manipur and Nagaland have significantly low penetration of bank branches.

FIGURE 6

Cash-in-Cash-Out (CICO) penetration in North East states (per lakh people)

Source RBI, State level banking committees (2021)[1]

Legend:
- India
- North East Average

Data:
	Commercial bank branches	ATMs	Banking correspondents	Merchants as CICO agents
India	11.6	17.4	137.0	NA
North East Average	8.1	11.9	20.9	NA

> On-boarding merchants as CICO gents is a high potential opportunity for the Region and for India, which remains largely under-penetrated.[2]

1 Sikkim and Tripura did not have data on banking correspondents and are excluded.

2 RBI allows withdrawal of cash at PoS (Point-of-Sale device) through debit/prepaid cards, and UPI at merchant locations, refer FAQ, https://www.rbi.org.in/Scripts/FAQView.aspx?Id=135.

Sources RBI Banking statistical Returns, https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications; NER state-level banking committee data, http://slbcne.nic.in/. For further details refer to Annexures 9 and 10.

Less than 10% of banking correspondents in India are women, which may deter women users.[20]

Lack of access to CICO points adds to the cost of converting e-money to cash and vice versa. Experiences from other countries, such as Kenya and Mexico,[20] have shown that access to CICO points is crucial for adoption of digital payments, with merchants onboarded as CICO agents in many of these countries.

Digital identity

Aadhaar penetration in the Region is nearly 72%, which is lower as compared to the national average of 90%
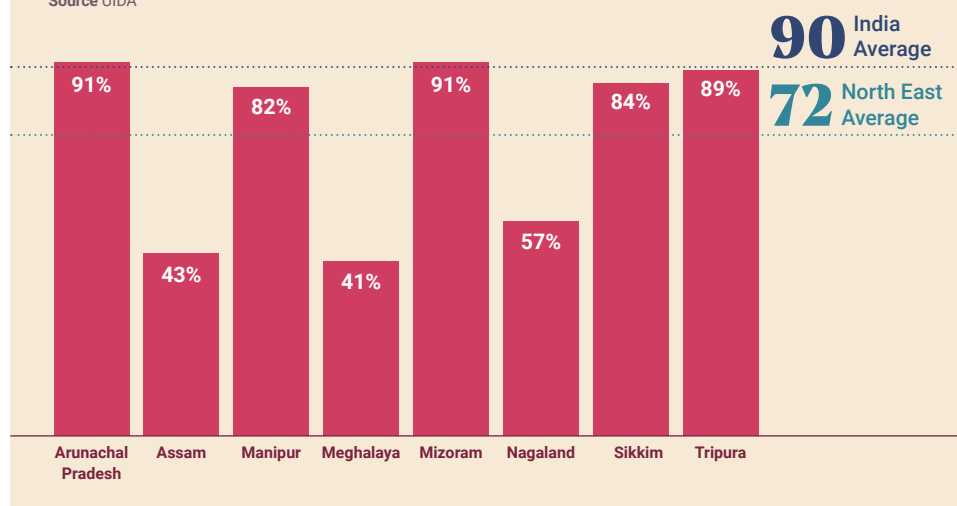
Low penetration of Aadhaar and seeding of bank accounts in the Region has limited the ability of financial service providers, especially fintechs, to onboard small merchants, particularly in Assam, Meghalaya, and Nagaland. Most fintechs rely on Aadhaar electronic "Know Your Customer" (e-KYC) authentication, which costs ₹ 20 (USD 0.27) to onboard users and has driven merchant acceptance in other parts of the country. This low penetration also deters fintech expansion in this area.

FIGURE 7
Aadhaar penetration in the North East (%)
Source UIDA[1]

90 India Average
72 North East Average

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
91%	43%	82%	41%	91%	57%	84%	89%

Accounts linked with Aadhaar in the North East (%)
Source MeitY; Promotion of digital payments (2018)[3]

85 India Average
64 North East Average

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
70.6%	11.4%	82.5%	11.2%	75.7%	77.5%	90.7%	94%
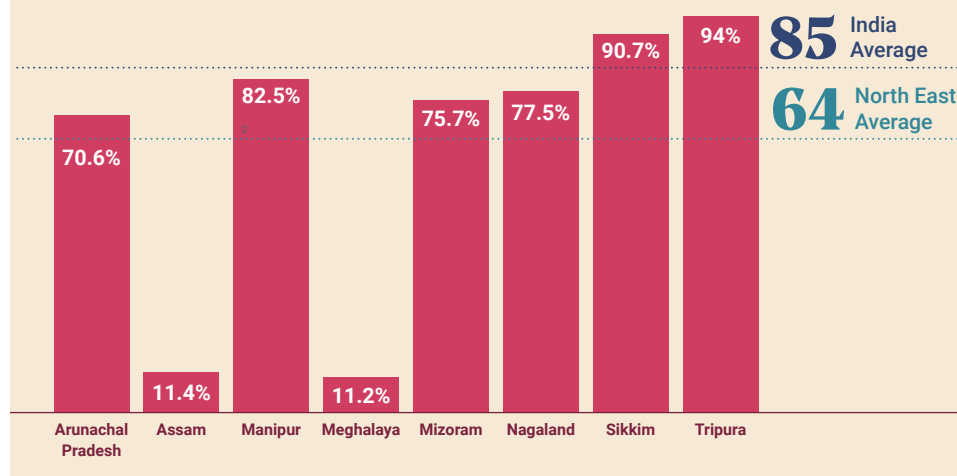
1   Captured on 15 April 2020,. https://uidai.gov.in/aadhaar_dashboard/india.php.
2   Assuming bank account and Aadhaar linkage in Assam and Meghalaya are similar to Aadhaar penetration. This is an aggressive estimate, and the linkage is expected to be lower.
3   Source: UIDAI; Center for Global Development; MeitY.

Penetration of Common Services Centres

While per capita penetration of CSCs in the Region is 35% below the national average, states such as Manipur and Tripura are closer to the national level.

- Manipur, with the highest CSC penetration among North East states, is one of the leading states to leverage this channel for delivery of e-Governance services in the Region.

- States like Nagaland, Sikkim and Arunachal Pradesh offer great potential for increasing the penetration of CSCs in the state.

FIGURE 8

No. of CSCs/100k population

45 India Average

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
12	33	43	41	28	22	17	47
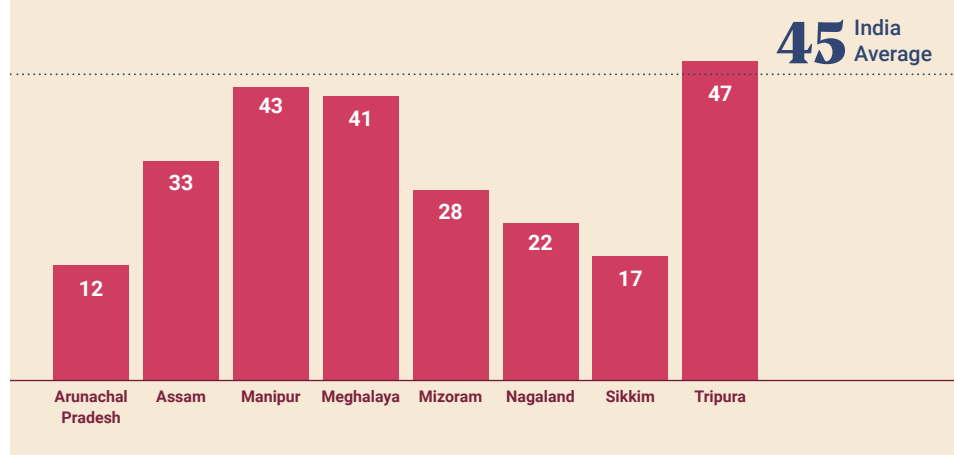
Source MeitY (Status as on March 31, 2021)

During the COVID-19 pandemic, the government's consumer service centres have served as important CICO networks, therefore signalling a great opportunity to be vanguards of digital payments in retail.

© Better Than Cash Alliance/Kahaani Wale

2
Merchant-side drivers

SUMMARY

An estimated 15 lakh merchants operate in the NER, with nearly 59% concentrated in rural areas; 66% of the merchants operate in Assam. Similar to many other parts of the country, merchants in the NER have limited incentive to switch to digital payment methods as demand from consumers to pay digitally, and suppliers to accept, is low. To increase the value proposition of digital payments for the people of the NER, it will be important to focus on two key barriers that are also seen in other semi-urban and rural areas across the country: low awareness, poor business case and ease of use, which exacerbate limited adoption.

1 Lack of awareness for newer payment modes, especially in rural areas

- Lack of awareness is the top self-reported reason for non-adoption among smaller, less-organised retailers in the NER.
- Experts and standalone research studies highlight that merchants are less aware of new models like mobile banking and UPI.

2 Poor ease of use and user engagement for digital payments

- Complex UI/UX increases user friction leading to limited adoption.
- Lack of local language options makes it difficult to navigate applications and decipher information hierarchy.
- Higher transaction failure—2X compared to all-India—as a result of poor connectivity, reduces merchant confidence in digital payments.

As an estimate, the study took the number of non-manufacturing market enterprises from a report by the NSS. Data was projected using NSS data as the base at a 6% growth rate. Conversations with experts suggested that the number of merchants in the NER ranges between 1 million and 2 million, and calculations suggest that this is approximately 1.5 million or 15 lakh merchants. The mention of 'others' in gender-disaggregated data refers to jointly owned enterprises by men and women. The sources to estimate the number of merchants uses NSS 73rd round (2015–16), MSME annual report (2017–18) and an analysis by Dalberg for the purpose of preparing this report.

Merchant acceptance points

Of all merchants in the NER, 59% are rural. In most states, the number of rural merchants is higher than the number of urban merchants, except for Nagaland, Tripura, and Mizoram in which numbers of urban merchants are higher.

FIGURE 9

Number of merchants by state in NER (lakh)

Source NSS 73rd round, estimated

State	Value
Arunachal Pradesh	0.2
Assam	10.3
Manipur	1
Meghalaya	0.9
Mizoram	0.2
Nagaland	0.5
Sikkim	0.3
Tripura	1.5
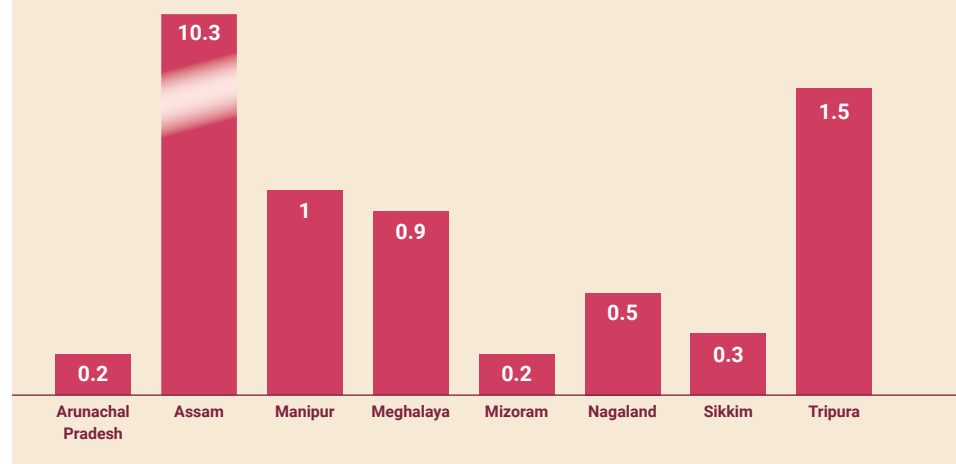
Women merchants make up **13%** **of the total merchant base** in the NER accounting for 1.38% of all women merchants in India. The proportion varies in each state. Nearly half of all merchants in Manipur are women, whereas this reduces to only 6% for Assam.

As per the data reported by banks to MeitY, 2.70 lakh merchants were acquired in the NER in 2019-2020. The Region still offers a huge opportunity to FSPs and other stakeholders to expand the deployment of POS in the Region, along with other modes.

FIGURE 10

Number of merchants by gender in NER states (%)

Source NSS 73rd round, estimated

	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
Others	2%	2%	4%	1%	2%	5%	1%	2%
Men	71%	93%	48%	64%	59%	72%	80%	85%
Women	28%	6%	48%	35%	39%	23%	19%	13%
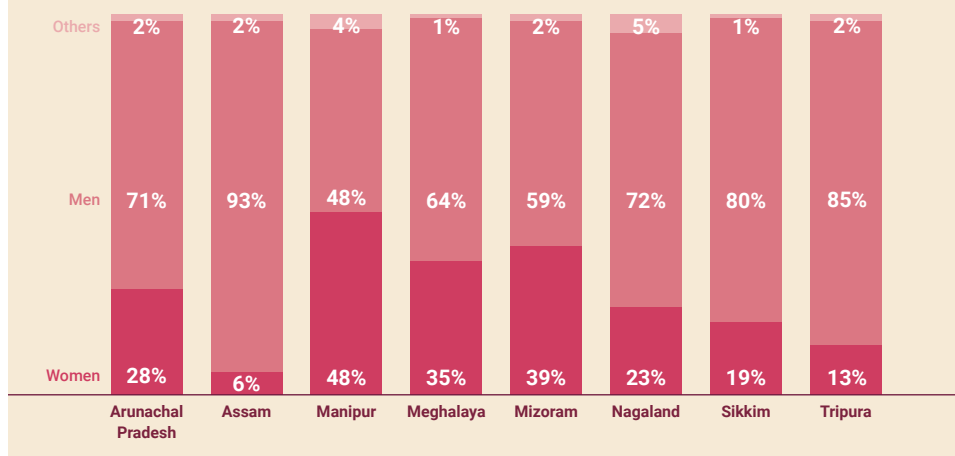
FIGURE 11

Number of POS deployed per 100k population

Source Statewise on-boarding merchant report 26 March 2021

Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura
282	189	170	150	144	123	710	141
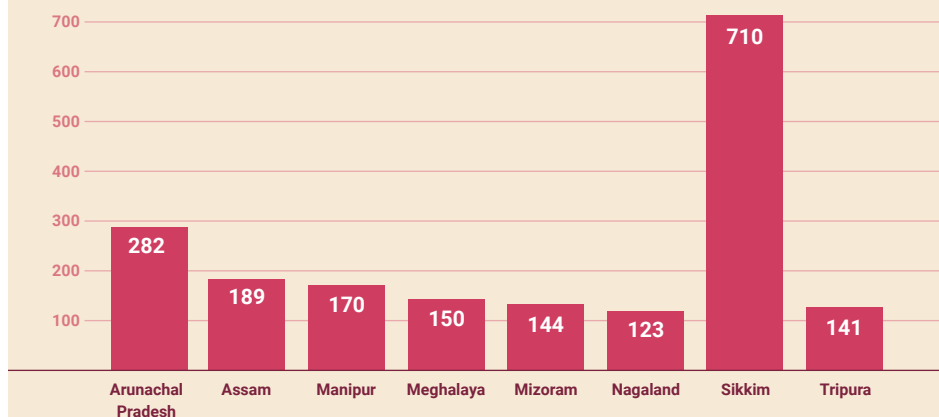
Awareness

Awareness of digital payments is increasing among merchants, especially in urban areas.

In urban areas, many merchants in the NER are aware of various payment apps and Point-of-Sale (PoS) machines. Most of them have been exposed through family members, friends, or fellow merchants, as well as advertisements on TV and radio. In some cases, customer demand to pay digitally has also increased awareness.

Outside urban areas, awareness remains extremely limited.

"I heard about digital payments from other merchants and my friends. During demonetization, I also saw a lot of ads for using online payments. I have heard of Google Pay, BHIM (Bharat Interface for Money), PhonePe, and Paytm. I also know about PoS machine available from bank."

Suraj Agarwal
grocery store owner in Guwahati

"My husband told me about Paytm and BHIM. I have also heard of PoS machines and want one for my business... I haven't heard of AePS (Aadhaar-enabled payment system) and don't know of anyone who uses it."

Nirmala Gogoi
grocery store owner in Aizawl
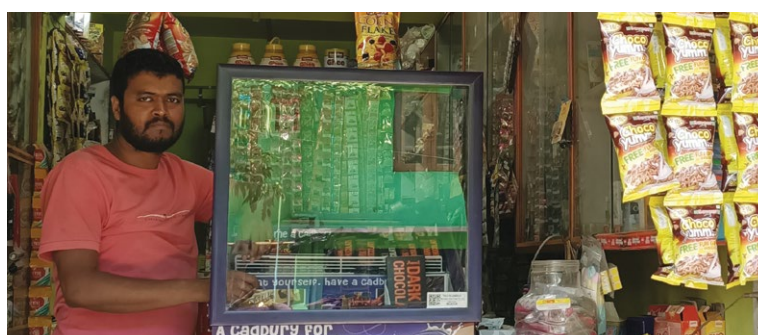
"I know of UPI, Google Pay, PhonePe, and BHIM from my relatives and friends. A few customers have also asked about these channels... I have also heard about incentives to use digital payments from advertisements."

Shekhar Das
grocery store owner in Guwahati

Photos: © Better Than Cash Alliance/Dalberg

FIGURE 12

Lack of awareness is a top reason for smaller, less organised retailers in the North East have not adopted digital payments

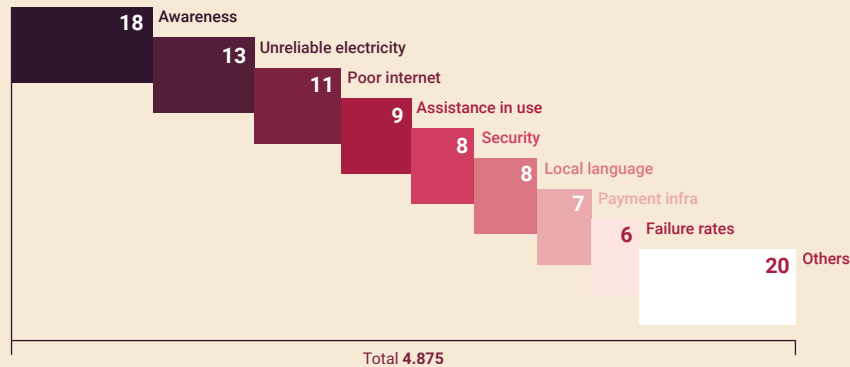Survey of urban and rural merchants (n = 800), conducted in 4 states including Assam, 2019

18 Awareness
13 Unreliable electricity
11 Poor internet
9 Assistance in use
8 Security
8 Local language
7 Payment infra
6 Failure rates
20 Others^

Total **4.875**

"Others" includes lack of digital credit, poor UI, limited incentives, processing charges, etc.

Sources CUTS International, Users Perspectives on Digital Payments, 2019; IFMR, The Evolving Financial Ecosystem for Micro-Merchants in India, 2017; Amit Saha, Transition to Cashless Economy in North-East India, 2016; Das and Das, Perception, Adoption, and Pattern of Usage of FinTech Services by Bank Customers: Evidences from Hojai District of Assam; Expert interviews.

In line with national trends, women merchants have lower awareness of digital payments in the Region. This is coupled with lower levels of digital financial literacy and comfort with using digital payment applications.

Among those aware, there is little knowledge about recent products. Limited-scale studies in different regions of the North East indicate low overall awareness of popular digital payment channels

- Only one in two merchants are aware of mobile and internet banking.
- In the Kamrup district of Assam, 90% of respondents were unaware of electronic cash instruments.

> 66 *Awareness among small merchants especially in peri-urban and rural areas is a challenge...one has to explain to them how a smartphone can be used for digital payments, what is QR, etc."*
> —LEADING PSB

Value proposition

Some merchants perceive limited net value of digital payments and view the cost of adopting digital payments as prohibitive.

- **High machine and maintenance costs:** Merchants using PoS and Aadhaar-enabled payment systems incur a cost of ₹ 300–500 in monthly rentals. Given the low volume of digital payments and thin margins, these costs are seen as eroding profits.

- **Misperception of high transaction fee:** Some merchants believe they will be charged an additional 1–2% transaction fee, even though merchant discount rate charges are waived for all transactions (UPI and Rupay debit card).

₹ 3,600–6,000
Range of annual costs to merchants.
Rental fees for Aadhaar-enabled payment systems (AePS) is at the lower end, while Unified Payment Interface (UPI) has zero annual costs to the merchant.

Many do not fully understand the benefits of digital transactions:

- Commonly understood benefits among merchants include convenience, ability to attract new consumers, and having a record of sales.

> ❝ *Using digital payments is beneficial as it increases convenience and can help maintain records... we were planning to get a card machine so more consumers can pay using it.*"
> —SUNITA (NAME CHANGED), RESTAURANT OWNER IN GUWAHATI

- Less commonly understood benefits include reducing cash-related expenses, improved storage security, and ability to build credit history.

> ❝ *Merchants do not fully understand the benefits of beginning to use digital payments. Making them aware is key... once they see these benefits, the inclination to adopt is higher.*"
> —LARGE PSP

BOX 1

Despite using digital payments in her personal life, Seema does not accept digital payments for her store because of limited customer demand.

Seema Rai, apparel store owner, Aizawl: Seema is 37 years old and has studied until class 10. She runs a second-hand apparel store and sells vegetables. Her monthly turnover is ₹ 40,000. She owns a smartphone and uses WhatsApp and Facebook.

She owns and uses a debit card and Google Pay for personal purposes. Her bank told her about debit cards and provided her with one, while her relatives downloaded Google Pay for her. She has used digital payments for personal transactions and agrees that there are benefits but does not use them for her store.

"My bank (Mizoram Rural Bank) told me about the debit card and gave me one. For Google Pay my relatives introduced me to it and helped me download it as well."

She sees limited demand from her customers to pay digitally and believes her business is not big enough to use digital payments on a regular basis. For example, only one customer so far has asked if she can pay digitally as she did not have cash – this was the only digital payment she has accepted in her shop. Moreover, she is afraid of making mistakes and losing money as she is not technologically savvy.

"My customers do not ask to pay digitally – once a customer did not have any money, so I accepted the payment digitally. Otherwise, I only accept cash… I am afraid that I will make some mistake."

Recommendation: For a hesitant user like Seema to adopt digital payments, she needs to be made aware and onboarded by her bank/PSP. During onboarding there should be a "do it yourself" demo (without any risk of losing money) for her to build familiarity with the application and the process and sending/receiving money. Provision of benefits such as cashback and discounts may further incentivize usage.

Merchant name has been changed for confidentiality.

BOX 2

Tilak started accepting digital payments to serve customers who demanded it; however, he prefers using cash as his suppliers accept only cash.

Tilak Singh, grocery store owner, Guwahati: Tilak is 41 years old, has a bachelor's degree, and currently lives with his wife and two children. He runs a grocery store, which has a monthly turnover of ₹ 3 lakhs.

Tilak has been accepting digital payments since 2017 and uses PhonePe, Google Pay, BHIM, Paytm, and PoS. He first learnt about digital payments through his friends and fellow merchants at the time of demonetization and received ongoing information through his customers (mainly youth). For example, he first heard about Paytm from a student customer. He decided to start using these applications because of customer demand. Tilak finds using QR codes more convenient and simpler; most of his young customers also prefer paying that way.

"Many college students and youth come to my shop and ask if they can pay using applications—they don't keep a lot of cash with them so I accept it. In this way, I can maintain a good relationship with them and they will keep coming. Also, one benefit for me is that I don't have to go to the bank to deposit small change—people can just Google Pay it to me."

His friend, who has a government job, helped him onboard on these applications and solved his doubts initially. He went to his bank (Axis) to ask about the PoS machine that he saw other merchants using and the bank installed one for him. Despite having a good experience with digital payments (albeit he has faced transaction failures in the past; however, does not feel that digital payments are unsafe because the transactions eventually happen) and being able to serve more customers, Tilak still prefers to use cash. This is primarily because his suppliers only accept cash payments and therefore he prefers to have cash ready.

"Most of my suppliers want payments in cash—I have to keep cash on me for it. Only a very small proportion accept digital payments, using Google Pay."

Recommendation: To increase acceptance of digital payments for merchants like Tilak, there is a need to incentivize suppliers to start accepting digital payments. PSPs and state banks can partner with large FMCG companies to digitize the backend chain.

Merchant name has been changed for confidentiality.

Ease of use

Current private sector solutions are not user-friendly and require adaptation to local conditions.

Merchants face three key challenges when using available solutions:

- Complex user interface
  - Current payment applications have multiple touch points/clicks, for example, 15 in card payments and 6 in UPI. Each additional click increases user friction with the application, potentially leading to limited or no use.
  - Lack of local languages: Users often find it difficult to understand and learn a new application if it is not in their local language. Lack of clear and precise language makes it difficult to navigate applications and decipher information hierarchy. For example, Assamese is the only language supported on a few leading apps such as Paytm, PhonePe, BHIM, SBI Buddy, etc.

- Transaction failures: 40%-50% of failures in the NER are a result of connectivity challenges.

- Fear of fraud: Merchants hear of stories surrounding fraud and phishing, making them apprehensive of digital payments.

> 66 *There is a need to create lighter applications, given the limited connectivity in the Region. If an application flow has more than three clicks, it will not work."*
>
> —EKO

> 66 *There are a lot of questions when merchants are trying a new application. In the absence of simple and clear guides helping them through the process, there are a lot of drop-offs. People are especially concerned about money flow on payments apps, whether funds have been received, etc."*
>
> —OKCREDIT

Most digital applications, especially payments, are not gender-inclusive in their design. They do not account for the fact that most women are "borrowed" users rather than smartphone owners.

BOX 3
Rahul adopted digital payments for his restaurant; however, has limited his usage as a result of experience of failed transactions.

Rahul Banerjee, restaurant owner, Guwahati: Rahul is 29 years old, has a bachelor's degree, and currently lives with his mother. He runs a restaurant which has a monthly turnover of ₹ 1.5 lakhs.

Rahul first heard of digital payments from fellow businessmen and advertisements during demonetization. He decided to install a PoS machine from State Bank of India to be able to cater to more customers. For this, he met the branch manager who took his documents (i.e., current account details, trade license, PAN card, etc.) and sent an agent to set up the PoS and conduct a demo. He also accepts Google Pay. He primarily started using Google Pay for deliveries because consumers did not have the cash or the right amount of change.

"I wanted to put a PoS machine in my store from the beginning and met my bank manager for it. He took all the documents and the person came to my shop and set up the machine."

During this usage journey, he has faced many instances of failed transactions while using QR and PoS solutions and has had to try and convince the customer to either pay by cash or make the transaction again. Rahul has also experienced scams in his restaurant, where in one instance he lost ₹ 94,000 from the restaurant's bank account. Since then he has had a preference to use cash over digital payments but uses them on customer request.

"There have been a lot of instances of transaction failures due to bad internet connection. In such cases, I either try again or ask the person to pay in cash. Because of these failures, I usually prefer accepting cash."

Recommendation: For merchants like Rahul, PSPs must ensure that their applications are safe and secure, following best practices on developing responsible digital payment applications. They should also have effective redressal mechanisms. In addition, state governments must focus on improving network and internet connectivity in the Region.

Merchant name has been changed for confidentiality.

Photo: © Better Than Cash Alliance/Dalberg

© Better Than Cash Alliance/Kahaani Wale

Opportunity areas in merchant payments

Given the challenges highlighted above, three areas of opportunity are likely to resonate with merchants: P2B payments, supplier payments, and access to services. P2B payments can help merchants increase footfall and increase their sales; this works as a good hook, as highlighted during the lockdown and social distancing norms through which propensity to pay digitally has increased. Merchants are also likely to move to digital payments if nudged by their suppliers and provided with benefits such as longer credit cycles. Finally, providing merchants with value-added services can also be effective in moving them to digital payments.

Person-to-Business (P2B) payments

- Merchants seek increased footfall to their establishments by growing their customer base to improve their sales.
- The opportunity to attract new customers with a higher propensity to pay digitally can catalyse adoption among merchants.
- COVID-19 has also increased merchants' propensity to accept digital payments given the contactless nature and convenience for consumers.

> **❝** *If consumers demand to pay digitally, merchants themselves seek solutions to start accepting digital payment, else they will start losing sales."*
> —LEADING QR BASED ACQUIRER

Supplier payments and longer credit cycles

- Merchants value the ability to pay their suppliers digitally if a significant fraction of their receipts are digital or if they can access a longer credit cycle.
- Existing relationships between merchants and suppliers can be leveraged to drive digitization.

> **❝** *It is easier to move merchants away from cash for supplier payments...longer credit cycles can act as a hook. We have seen good success doing this."*
> —MAJOR FMCG COMPANY

Services to drive business growth

- Merchants value effective solutions, such as working capital loans, store credit management, remittance cash-outs etc., to drive business growth.
- Offering bundled solutions to these challenges can help trigger merchant interest and adoption.

> 66 *Once they understand it, merchants see much value in services like working capital, invoicing, store digitization etc. through our digital payment solution."*
> —PAYTM

BOX 4

Priya is keen to install a PoS and QR code to accept payments, especially given COVID-19, where she sees customers wanting to pay digitally.

Priya Sharma, restaurant owner, Guwahati: Priya is the owner of Gurujan, an eatery in Beltola, Guwahati. She used to work for the Indian Institute of Entrepreneurship (IIE); however, after having her second child, she left her job. Priya wanted to start something of her own and decided to set up a restaurant. She is highly entrepreneurial and has been thinking about providing take-away options, improving her packaging, and investing more in hygiene in light of COVID-19.

Priya owns a smartphone and is digitally savvy. She heard of digital payments from her husband and has used Google Pay, Paytm, and debit card for personal shopping. In using Google Pay and Paytm, she has never used a QR code.

"I have heard of internet banking and payment applications and PoS machine. I have even used the Google Pay and Paytm. When we go shopping, I use my debit card...I don't have a credit card though."

She plans to introduce a PoS machine for her business once the lockdown ends to respond to her consumers' need to pay digitally, increase convenience of handling money, and keep track of the transactions she makes. She also believes it is the best way forward to reduce contact while making payments and curbing the spread of the virus.

"We were going to expand the business and buy a PoS machine but then COVID-19 happened and we had to close our business. I have used PoS before but QR seems very simple to use. It is very essential to go digital at this time to reduce spread of the disease. Customers are also preferring it more these days."

"When COVID-19 happened I was very worried to handle a lot of cash. It is essential for contact less payment right now because of the disease and so I will definitely use digital payments in my restaurant."

Recommendation: For merchants like Priya, who are on the cusp of adopting digital payments for their businesses, there is a need to trigger onboarding through incentives and provision of value-added services. For example, in this case providing Priya with digital ledger services may trigger uptake.

Merchant name has been changed for confidentiality.

3

Acquirer-side drivers

SUMMARY

Building on the efforts by local PSPs and willingness of established fintechs to partner with those having on-ground networks to accelerate payments, it will be important to establish partnerships among key private sector players based on their unique value proposition and complementarity. This can help reduce their costs and improve value proposition of digital payments in the Region.

The NER is a lower priority for established fintechs because of lower market size, higher upfront costs, and an overall poor business case.

Limited market size: Merchants in the Region form just **2%** of the country's merchant base and market potential is perceived to be low outside Guwahati and other capital cities.

Acquisition/ongoing costs: Cost of acquiring and retaining a merchant in the Region is twice the national cost.

Investment recovery takes too long: Low business activity (e.g., transaction frequency, ticket size) prolongs the time in which PSPs can recover costs.
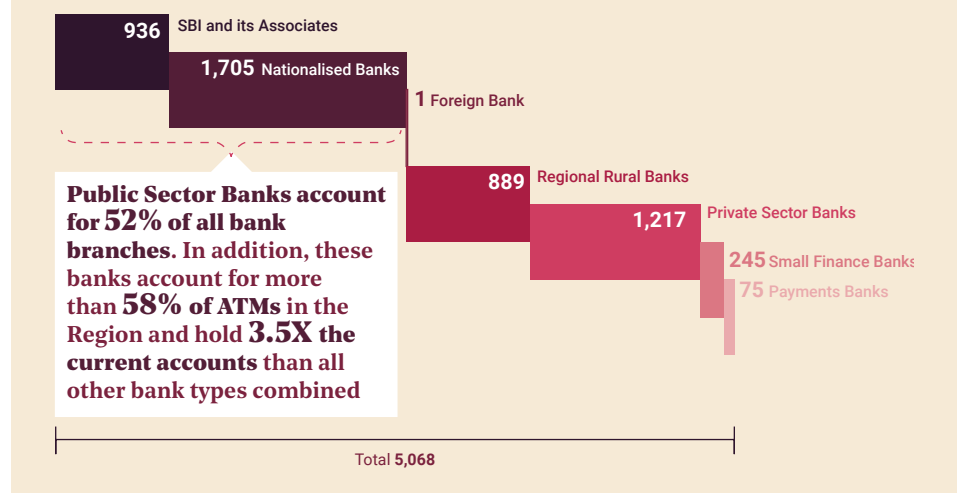
Compelling business case

Local PSPs and large FMCG companies are keen to build on existing networks to drive digitization of merchant payments.

- For example, Public Sector Banks (SBI and its associates and Nationalised banks) account for 52% of all bank branches. In addition, the private sector banks account for 58% of ATMs in the Region followed by public sector banks with 40% and for 3.5X more current accounts than all other bank types combined.

- Companies like HUL (Hindustan Unilever Limited) are leveraging their distributor networks to push digitization of payments. They have started with moving supplier payments to cheques as the first step towards starting digital payments adoption.

FIGURE 13

Breakdown of bank branches by bank type in the North East (number)

Source RBI (March 2021)

936 SBI and its Associates

1,705 Nationalised Banks

1 Foreign Bank

889 Regional Rural Banks

1,217 Private Sector Banks

245 Small Finance Banks

75 Payments Banks

Public Sector Banks account for 52% of all bank branches. In addition, these banks account for more than **58% of ATMs** in the Region and hold **3.5X the current accounts** than all other bank types combined

Total **5,068**

> *One of our first priorities is to acquire all of our current account holders – there are 50,000 of those—through a PoS machine as we can reach them very easily. We are hopeful decentralizing the process of QR code generation to the branch level will help us speed up merchant acquisition... initial results in the North East have been very promising."*
> —LEADING PSB

> *We have been using our distributor network to push digital payments. We started with cheques as it is easier to make that behaviour change and we use the model of 'super stockists' in peri-urban and rural areas."*
> —LEADING FMCG

Fintechs see immense potential in Guwahati; however, are limited by opportunity costs of operating in other semi-urban and rural towns and execution challenges as a result of poor connectivity and hilly geography of the Region. When combined with lower merchant density and zero merchant discount rate, they see little incentive to enter the Region, especially without support.

Most players agree that Guwahati is a significant market and can serve as a base to expand in the North East.

> ❝ *The Guwahati market is relatively large and has high potential. It is the gateway to the north east. If you have a presence there, you can expand to other regions.”*
> —CAPITAL FLOAT

However, the Region is home to only 2.1% of merchants in India, which is much smaller compared to other semi-urban and rural markets for fintechs.

> ❝ *Tier 3 and 4 markets in the rest of the country are larger and more accessible than the North East, making them a priority for PSPs in their expansion plans.”*
> —EXPERT

Thus, low merchant density and poor accessibility makes it challenging for fintechs to expand in the Region.

> ❝ *Other than Guwahati and a few other capital cities, the merchant density reduces substantially as one expands ... terrain makes it difficult to rely on personnel in one location to establish operations in other cities and towns.”*
> —PHONEPE

Further, zero merchant discount rates combined with higher costs offer little incentive for fintechs.

> ❝ *Waiving off MDR (merchant discount rate) has reduced earning potential and made digital payments a more challenging business... it will affect expansion plans.”*
> —INDIA POST PAYMENTS BANK

The key obstacle to driving fintech interest in entering/expanding into the NER is high acquisition costs. PSPs contend with 2X the acquisition costs incurred in the rest of India to operate in the NER, primarily because of low merchant density. As a result, a sales agent is able to reach (anecdotally) half the number of merchants in a month compared to the rest of India—thus increasing the acquisition costs. In addition to this, most PSPs perceive that ongoing costs (e.g., changing QR standee) to serve a merchant will be higher in the NER compared to the rest of India.

> 66 *Serving customers in the North East is more difficult primarily because of the terrain and the spare spread of the merchants, beyond big cities. An agent can reach more people in other cities. That number reduces significantly for the North East, could be as much as 50%."*
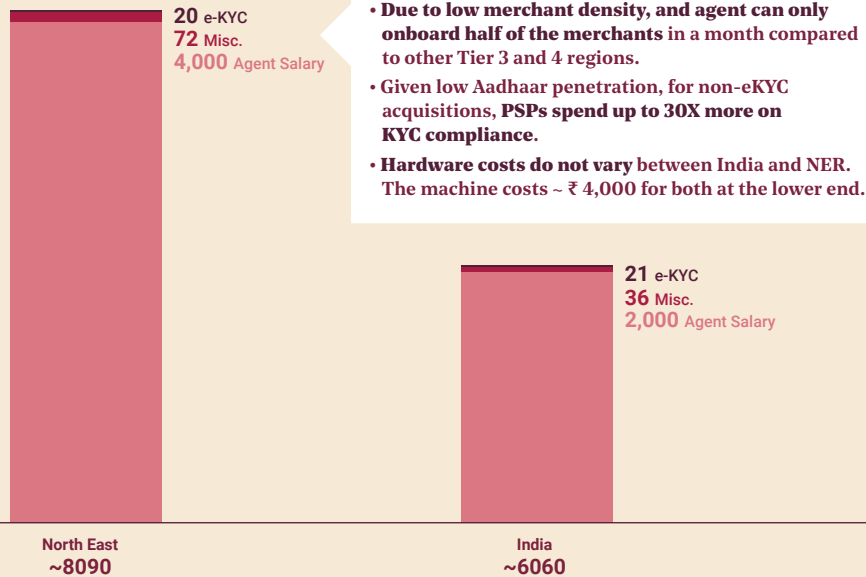> —SUVIDHAA

> 66 *Reaching merchants in the first place is very tough – we need to invest heavily in the agents which make a difference in our costs. Once we have onboarded them, cost of serving is lower than PoS providers, but remains a challenge as regular visits are difficult."*
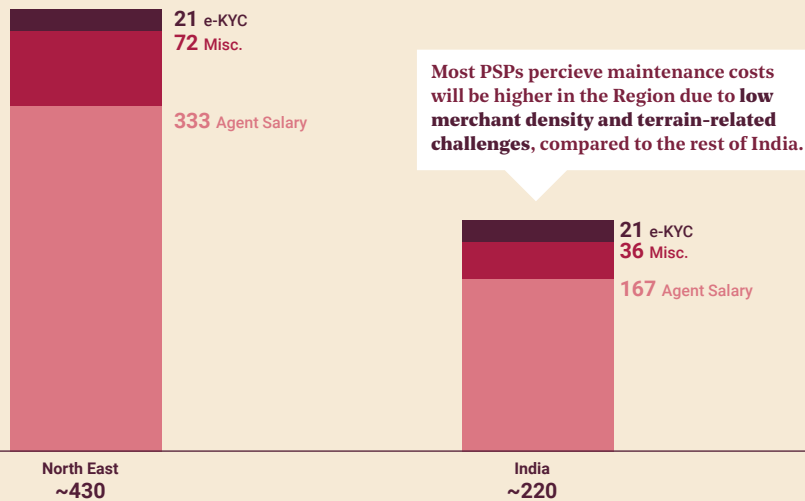> —PAYTM

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FIGURE 14

Aadhaar penetration in the North East (%)

Source UIDA (2020)[1]

20 e-KYC
72 Misc.
4,000 Agent Salary

- • **Due to low merchant density, and agent can only onboard half of the merchants** in a month compared to other Tier 3 and 4 regions.
- • **Given low Aadhaar penetration, for non-eKYC acquisitions, PSPs spend up to 30X more on KYC compliance.**
- • **Hardware costs do not vary** between India and NER. The machine costs ~ ₹ 4,000 for both at the lower end.

21 e-KYC
36 Misc.
2,000 Agent Salary

North East
~8090

India
~6060

Unified payments interface

Costs are per merchant, ₹

21 e-KYC
72 Misc.

333 Agent Salary

Most PSPs percieve maintenance costs will be higher in the Region due to **low merchant density and terrain-related challenges,** compared to the rest of India.

21 e-KYC
36 Misc.

167 Agent Salary

North East
~430

India
~220

NER to India cost differentials are based on hypotheses that need to be validated and individual cost components are based on assumptions. Total cost per merchant has been rounded to the nearest 10. In India, one agent can onboard 10 merchants per month for PoS devices, but in NER because of difficult geography and smaller size and density of the merchant market, one agent can onboard only five merchants. The numbers of merchants onboarded to UPI are 120 and 60 for India and NER, respectively. The miscellaneous costs are assumed to be double given the low digital literacy, poor connectivity, and lack of widespread use translating into higher investments in marketing efforts, etc. For more details, please refer to Annexures 10 and 11.

Source: Interviews; Dalberg Analysis.

Timeframe to recoup costs

Coupled with high acquisition costs, PSPs expect a longer timeframe to recoup their investment compared to other cities in India. This is primarily because of low business activity of merchants, in which both the quantum and value of transactions are lower than in the rest of the country. Other than Guwahati and the top 15 cities in the NER, the transaction activity is much lower compared to the rest of India, because of fewer digital consumer and supplier transactions as well as lower per-transaction spend.

> 66 *In the NER, high volume and ticket size of transactions are limited to Guwahati, Siliguri, and Agartala. If already operating at scale one can go there, but for small fintechs with limited capital, it does not make sense due to low volumes."*
> —LARGE PSP

Merchants often switch between digital payment instruments or drop-off completely when the incentive (i.e., cashback, discount, etc.) runs out, further limiting the business case.

> 66 *Merchants have multiple QR codes and they might keep switching based on the promotion being run. Very few merchants are actually active. After some time they just keep the QR code or PoS machine in a corner or stow it away."*
> —LARGE PSB

© Better Than Cash Alliance/Kahaani Wale
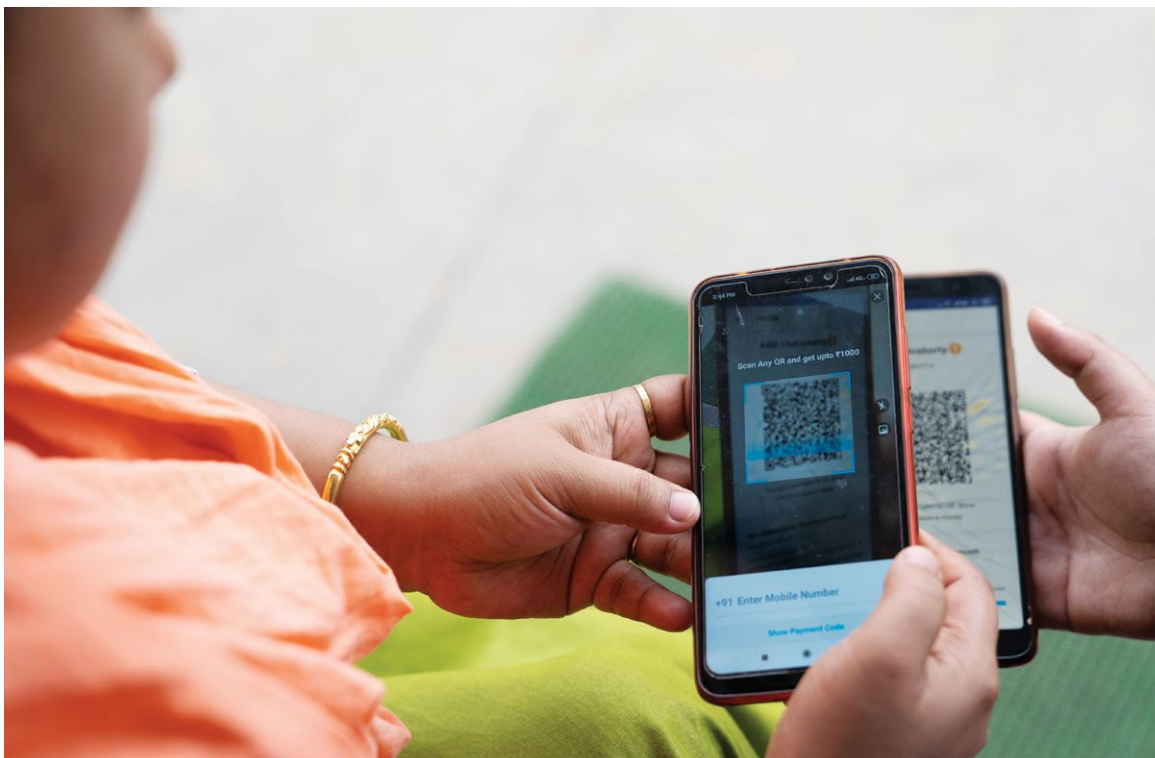
Opportunity areas

Payment Service Providers seek partnerships with locally present banks, FMCG players, and other actors to lower merchant acquisition costs.

Partnerships with local players can facilitate market entry for PSPs while these players can also witness significant gains.

TABLE 1

Payment Service Providers	• PSPs are interested in entering the NER but are keen to enter partnerships where they can leverage their partners' "feet on the ground" rather than invest in building distribution muscle.
	• Partnerships with banks can further help reduce costs by allowing these PSPs to leverage KYC (Know Your Customer) compliance already completed by banks.
	"Leveraging partnerships with entities that already have a presence in NER can reduce capital expenditure for fintechs that have limited capital. The only reason we are not operating in the regions is because we do not have presence on the ground, and it is costly to build one. For instance, regional bank partnerships would work well and we can also leverage KYC from banks that way." —CAPITAL FLOAT
Banks	• Banks, especially regional and co-operative banks can benefit from the technological capabilities of PSPs by deploying existing digital finance and payment products, leading to significant reduction in time and cost for development, deployment and operation of digital products.
	• Through these partnerships, banks can cross-sell more services to their customers and unlock increased revenue streams.
	"We are interested in exploring and setting up networks in NER… we are currently in the process of doing that to expand our reach to merchants." —SUVIDHAA INFOSERVE
FMCG, e-commerce firms etc.	• FMCGs and e-commerce firms are already digitizing their supply chains to improve product traceability, build stronger relationships and drive increased revenue through customer analytics, etc.
	• Offering value-added services, such as inventory management, to merchants can improve supply chain efficiencies for these firms.
	"We are pushing merchant payments across our retailers. It is a crucial step for us and has several advantages… we are partnering with fintechs as they bring the tech capability while we bring the distribution network leading to cost reductions for both." —UNILEVER

4 Recommendations

A Call to Action In line with the Government of India's "Act East" policy, there are seven priority actions for responsible merchant digitization to unlock the retail digitization potential of the NER. Acting on these would help to contribute to India's trillion-dollar digital economy[15] and initiate a virtuous circle to keep funds digital and advance the sustainable development goals in the Region.

1 **Increase connectivity in rural areas** and digital identity in Assam, Meghalaya, and Nagaland where Aadhaar penetration is less than or equal to 56%, to accelerate adoption of responsible digital payments for merchants across the Region.

2 **Launch an Innovation Challenge** to drive collaboration across all ecosystem players, working together with National Payments Corporation of India, fintech associations, e-commerce, and fast-moving consumer goods (FMCG) associations leveraging local networks to create better-than-cash-value propositions for merchants, including women, across 10 aspirational districts.

3 **Accelerate adoption of digital payments for digitized Government services** at the 11,700 government-supported common service centres across the North East, so that these can act as catalysts to expand the merchant acceptance network in rural areas and for women.

4 **Prioritise the Region and women** in the Government's policy initiatives and incentives for FinTechs to design and deploy innovative solutions addressing the 'pain points' for rural and women merchants.

5 **Set measurable and ambitious targets for rural areas and women merchants.** These include payments infrastructure incentive programmes run by the Government of India such as the RBI-led ₹ 500 crore Payments Infrastructure Fund, to increase merchant digitization by 50% in rural areas and by 60% for women merchants.

6 **Invest in regional and gender-disaggregated data reporting** in the national digital payments dashboard for data-driven interventions to achieve the focus on women, given their strong economic role, and set measurable targets for the Region.

7 **Embed priorities that respond to the needs of the underserved population segments** as a guiding principle for partnerships and incentives in merchant digitization across the Region.

Annexures

Stakeholders interviewed

The study engaged 34 stakeholders across 25 organizations including PSPs, banks, and FMCG firms.

TYPE OF STAKEHOLDER	NAME, POSITION	ORGANIZATION
Fintechs and PSPs	Tushar Garimalla, Chief Growth Officer	Capital Float
	Confidential upon request	Confidential upon request
	S. Anand, Executive VP and Head of Business	Eko
	Ravi Aurora, Board Member, Ashutosh Chadha, Vice President & Head Public Policy and Government Affairs South Asia, and Latika Taneja, Director, Public Policy and Government Relations, South Asia	Mastercard
	Pranav Barthwal, Senior VP – Merchant services	mSwipe
	Deepika Bandaru and Priyanka Jain, Lead – Digital Payments	OkCredit
	Kamal Lochan, Head for Eastern Region	PhonePe
	Rahul Raj, Head – Strategic Alliances	Signzy
	Nitin Mamodia, Digital Payments Lead	Stackbox
	Paresh Rajde, Founder and Chairman	Suvidha Infoserve
	Ramsubramanian Rakkappan, Head of Government Engagement – India and South Asia; Shailesh Paul, Head of Merchant Sales and Acquiring – India and South Asia; Arvind Ronta, Vice President, Head of Products	VISA
Payment banks and micro financial institutions	Prasad Routray, Head Corporate Business & Alliances	Airtel Payments Bank
	Shreejit Nair, Head of Business	India Post Payments Bank
	Dharmender Jhamb, Vice President	Paytm Payments Banks
	Dr. Amiya Sharma, Director	RGVN Microfinance
	Digital payments team	State Bank of India NE
FMCG/suppliers	Confidential upon request	Confidential upon request
	Dhruv Sodani and Jyotsana Shekhar, Consumer Cluster Manager	Hindustan Unilever
Government/ international organizations/ non-profits	Mr. Zothanzauva, Informatics Officer	Department of ICT, Government of Mizoram
	Sharon Buteau, Executive Director, Preethi Rao, Associate Director, and Kanika Joshi, Research Manager	IFMR
	Sharad Sharma, Co-founder	iSpirt
	Dr. Syed Kazi, Executive Director	North East Development Foundation
	Sanjoy Kumar Mukherjee, Associate Vice-President	NPCI
	John Borgoyary, Regional Head North East India	UNDP
	Leena Datwani, Financial Sector Specialist	World Bank/CGAP

13 Merchant interviews conducted in Assam: Guwahati, Sivasagar, Udalguri, and Silchar; and in Mizoram: Aizawl

Secondary sources

The study leveraged 9 reports and 10 datasets to develop a nuanced perspective of digital payments in the Region.

Reports

- *Small Merchants, Big Opportunity*, 2017
- *Beyond Cash – Why India loves cash and why that matters for financial inclusion*, 2016
- *Deepening Digital Payments,* 2019
- *Mapping the Merchant's Mind*, 2018
- *India's Digital Financial Inclusion*, 2019
- Quarterly minutes from SLBCs
- North East Vision 2022
- MeitY; *Promotion of digital payments*, 2018
- TRAI; *Indian Telecom Performance Indicators*, 2019

Datasets

- Digidhan; volume of per-capita digital transactions by channel and state
- State Level Banking Committees; number of savings and current bank accounts, data on digital transactions
- Census 2011; population by state, gender and region types
- NSS 73rd round; number of MSMEs by state, gender, region type and NIC classification
- RBI; number of savings and current bank accounts, ATMs, bank and branches by state
- TRAI data; cumulative network downtime, packet drop rate and average internet speeds by circle
- NER databank; GSDP and national income, by state
- State of Aadhaar 2019; Aadhaar and smartphone penetration, by state
- Internal data shared by MeitY; merchant acquisition across NER states on various platforms
- PMJDY dashboard, Department of Financial Services

Research approach and limitations

The study adopted a holistic view comprising three different lenses – ecosystem, acquirer, and merchant. Analysis across these three lenses are anchored in data and information from different sources that together helped inform a comprehensive understanding of the current state of digital merchant payments in the North East Region. The different sources include:

- Secondary data from 10 datasets and 9 reports, including those made available by RBI, MoSPI, MeitY, TRAI etc.
- Detailed conversations with over 25 organizations, including leading banks (e.g., SBI, RGVN microfinance, Airtel Payment Bank), acquirers and other PSPs (e.g., Mastercard, VISA), FMCG firms (Unilever) etc.
- In depth interviews with 13 merchants across different locations in Assam and Mizoram to validate the findings and uncover additional ground-up perspectives around adoption and traction of digital payments in the Region.

This report aims to answer key questions around the extent of development of digital payments, including merchant acceptance in the NER. The report has, to the extent possible, provided NER and gender-specific nuance; however, there are limitations with respect to data and studies. Several challenges were encountered, which led to limitations in the depth and breadth of coverage in this study:

1 **Paucity of state disaggregated data on volume and value of digital payments.** Lack of these data makes it difficult to spotlight the NER-specific landscape of payments. Moreover, it reduces the ability to understand variances within NER states and in comparison to India. As a result, the team has undertaken estimations where data were unavailable and corroborated these with experts.

2 **Lack of gender-disaggregated data on digital payments for both India and the NER.** This makes it difficult to highlight trends, barriers, and opportunities specific to women merchants in the NER, and prevents NER and whole India comparisons. In such cases, the team estimated and sourced national studies, albeit few, and weaved in expert perspectives in attempting to understand digital payments behaviour and constraints among women merchants in the NER.

3 **Limited research studies on digital behaviour of consumers and merchants in the NER, especially women merchants.** Scarcity of NER-specific studies has limited the depth of nuance in spotlighting consumer and merchant stories from the ground. While the study has attempted to surface such stories for merchants through field interviews, limited qualitative information from other sources makes it difficult to ascertain commonalties and variances, especially for women merchants in the NER.

Bank branch penetration in most states remains lower than the national average

- Sikkim and Tripura have the highest estimated digital transactions per capita in the NER, and the highest penetration of banking networks in urban and rural areas.

- Manipur, Mizoram, and Nagaland have among the lowest per capita transactions and urban bank branch density in the Region.

- Assam, Manipur, and Nagaland have significant underpenetration of bank branches in rural areas. Rural Assam accounts for 60% of the NER's population and low penetration has adversely affected awareness and uptake.

Bank branch penetration in North East states (per lakh people)

Source RBI 2021[1]

	Rural	Urban
Arunachal Pradesh	5.2	5.2
Assam	4.0	4.0
Manipur	3.3	3.9
Meghalaya	5.4	6.0
Mizoram	5.7	11.9
Nagaland	2.5	6.0
Sikkim	12.3	11.7
Tripura	6.3	7.9
India	3.9	7.7

1 Bank branches semi-urban and metropolitan areas have been folded into urban. Urban-rual population split is assumed to mirror Census 2011

Source RBI Banking statistical

❝ *There are very few bank branches in rural areas including in Assam… banks do not want to increase infrastructure due to low profitability, leading to low awareness."*
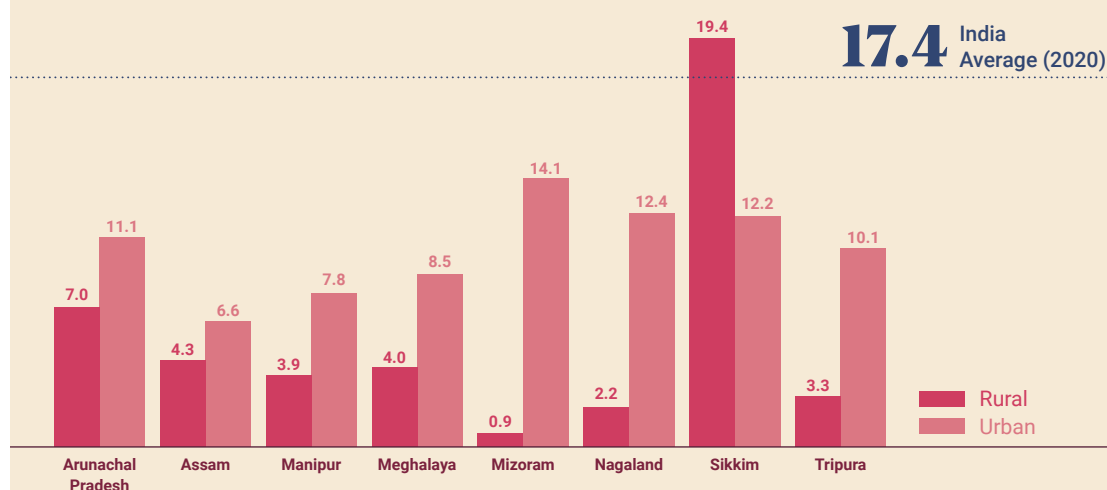—LOCAL MFI

Penetration of ATMs and bank correspondents in the Region

Experiences from other countries, such as Kenya and Mexico, have shown that access to CICO points is crucial for adoption of digital payments. In the NER, lack of access to CICO points adds to the cost of converting digital value to cash and vice versa, deterring adoption. It also prevents users from regularly interacting with simple use cases like cash withdrawal and building increased trust and confidence in digital transactions.
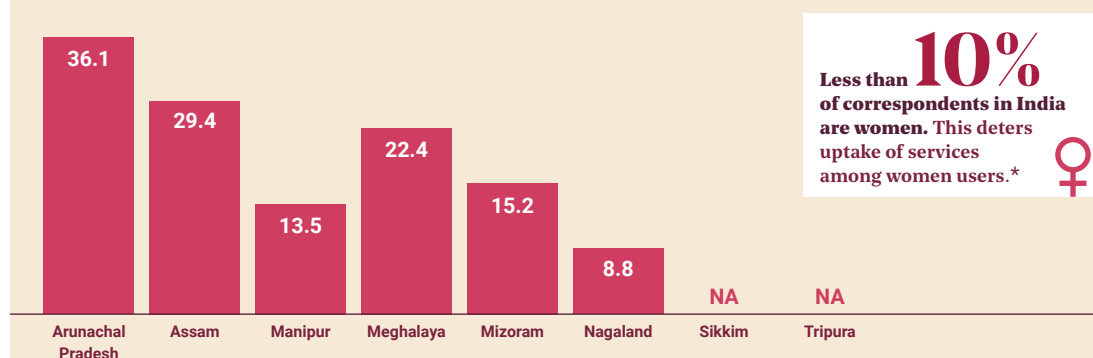
ATM Penetration (per lakh people)

Source RBI, State level banking committees (2019)[1]

17.4 India Average (2020)

State	Rural	Urban
Arunachal Pradesh	7.0	11.1
Assam	4.3	6.6
Manipur	3.9	7.8
Meghalaya	4.0	8.5
Mizoram	0.9	14.1
Nagaland	2.2	12.4
Sikkim	19.4	12.2
Tripura	3.3	10.1

■ Rural
■ Urban

BCs penetration (per lakh people)

Source State level banking committees (2019)

State	Value
Arunachal Pradesh	36.1
Assam	29.4
Manipur	13.5
Meghalaya	22.4
Mizoram	15.2
Nagaland	8.8
Sikkim	NA
Tripura	NA

Less than **10%** of correspondents in India are women. **This deters uptake of services among women users.***

*Microsave ANA India Wave II accessed at https://www.microsave.net/2018/05/01/india-needs-more-women-business-correspondent-agents/

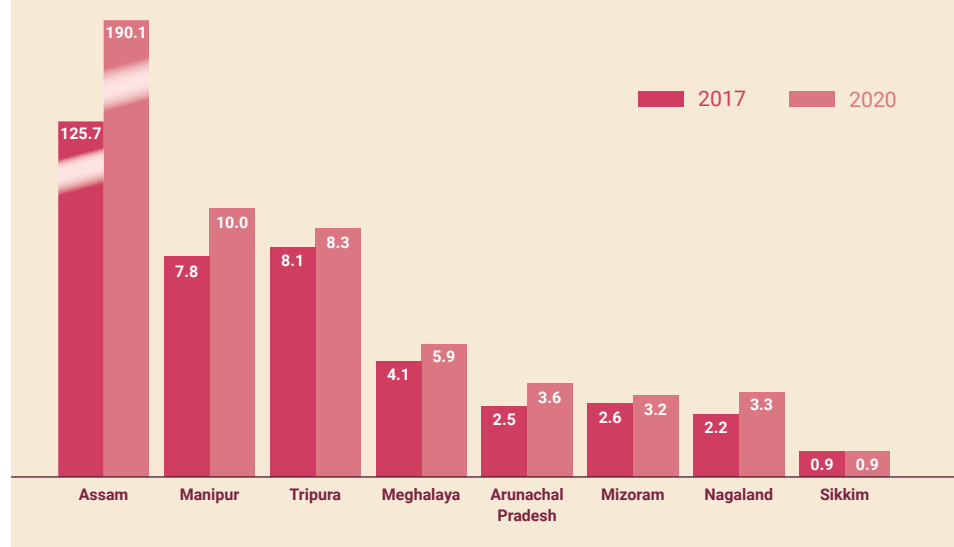**Source** RBI Banking statistical Returns available at https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications, NER SLBCs data available at http://slbcne.nic.in/

NER states have rapidly advanced financial inclusion under the PMJDY scheme with all households having at least one bank account

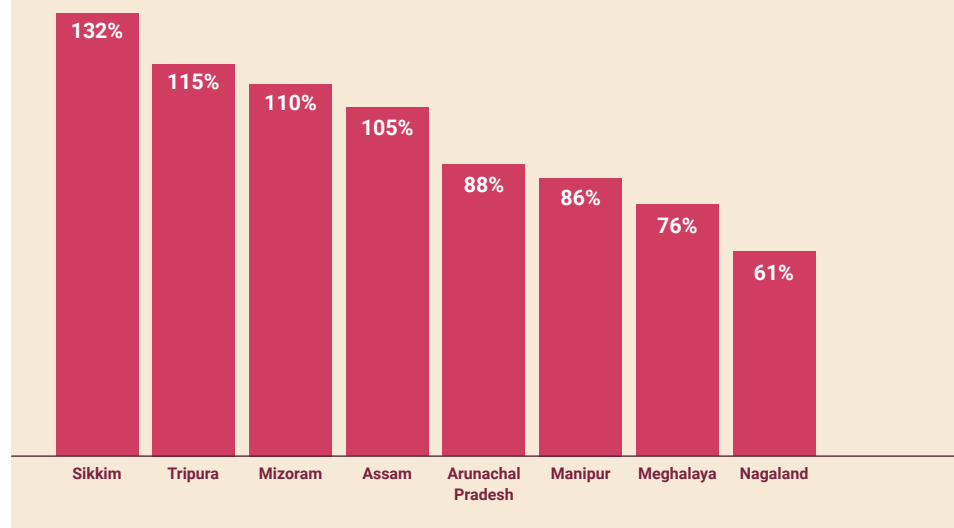## Penetration of PMJDY accounts (lakh)

Source PMJDY (February 2017 and 2020)

State	2017	2020
Assam	125.7	190.1
Manipur	7.8	10.0
Tripura	8.1	8.3
Meghalaya	4.1	5.9
Arunachal Pradesh	2.5	3.6
Mizoram	2.6	3.2
Nagaland	2.2	3.3
Sikkim	0.9	0.9

Penetration of bank accounts in NER (%)

Source RBI

State	%
Sikkim	132%
Tripura	115%
Mizoram	110%
Assam	105%
Arunachal Pradesh	88%
Manipur	86%
Meghalaya	76%
Nagaland	61%

Low merchant density is a key reason for high cost of acquiring and retaining a merchant

❝ *Hilly states in the NER have less merchant density than states like Assam and Tripura, which are relatively flat. Within hilly areas, most of the merchants are concentrated in a few towns where consumers come to make their purchases like in Nagaland most of the merchants are present in Dimapur."*

　　—UNILEVER

❝ *There are not enough merchants in the same vicinity - the person [agent] would need to travel and the transaction volume will also be lower. So higher upfront cost and higher service cost."*
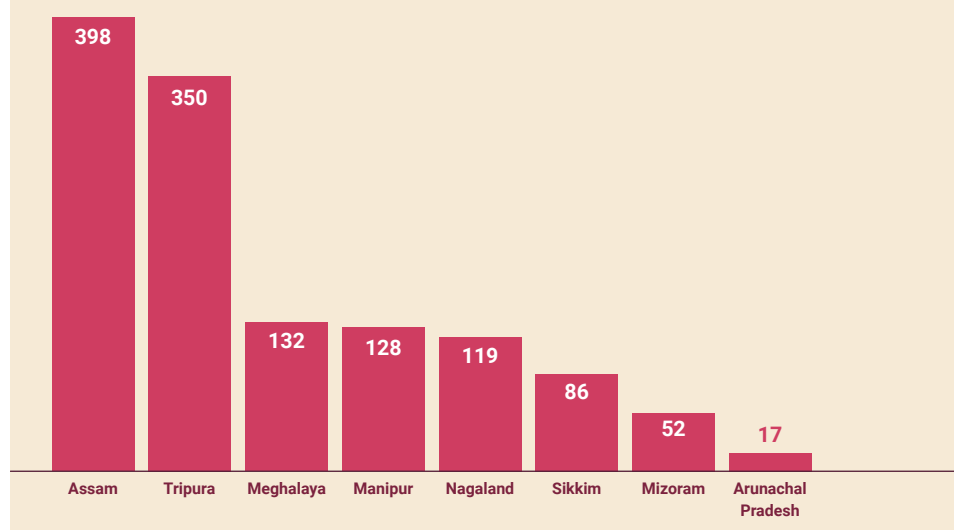
　　—MSWIPE

❝ *Given poor physical connectivity in the Region due to the terrain, it is challenging to expand because an agent cannot make day trips easily. This is difficult for fintechs that operate in a presence less mode."*

　　—CAPITAL FLOAT

Population density (by state)

Source Census, Ministry of Statistics and Programme Implementation, Expert Interviews

State	Value
Assam	398
Tripura	350
Meghalaya	132
Manipur	128
Nagaland	119
Sikkim	86
Mizoram	52
Arunachal Pradesh	17

Low awareness of digital payments and overall digital literacy among users remain key barriers

Stakeholders highlight that low consumer awareness is a barrier to adoption, similar to other parts of the country with low adoption.

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66 *People do not carry their (debit) cards with them when stepping out of the house in Tier 3 and 4 towns because they do not understand that the card can be used for direct payments. It is the same in NER… there is a big need to push consumer education and literacy."*
　　　　—LARGE PAYMENT NETWORK

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66 *Digital literacy among users is lacking and has prevented uptake. This challenge is encountered in other parts of the country too, and remains a critical piece to solve to unlock sustainable digital payment behaviour."*
　　　　—LEADING PSB

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66 *People, especially in rural areas in NER lack digital literacy… they do not have the exposure to digital services and payments and how to use them."*
　　　　—REGIONAL LEAD, UNDP

Several challenges along the merchant onboarding process, unique to the Region, add to the time and effort required to acquire a merchant

ACQUISITION
Low awareness and geographical issues limit market size

Low awareness and knowledge, difficult terrain, and low density hinder identification and self on-boarding. This is especially true for small merchants; large merchants in urban areas are densely populated and more aware.

1

" Reaching merchants is difficult due to terrain and low density. Only 5% of the merchants follow the DIY route—hear of the apps from other merchants"
—EXPERT

Women face greater barriers due to lower access to digital resources and digital literacy skills. There is an even greater gap in mobile internet usage, requiring more handholding during on-boarding.

2

VERIFICATION
Complex KYC processes add to costs for fintechs

KYC process requires physical documentation like power of attorney, copy of PAN card etc. Original Seen and Verified (OSV) guidelines mandate physical presence of acquirer for verification, adding to costs. For smaller merchants, low Aadhaar penetration has affected eKYC and the ability of acquirers that are digital first and have a light footprint in the Region to onboard merchants.

FIRST USE
Limited understanding of using digital payments applications

Given language barriers, lower literacy, awareness and use of digital payments requires greater investment in up-front handling to increase comfort and gain trust.

3

" Many merchants require handholding as they are often afraid of losing money if they follow the wrong steps. PSPs invest in upfront training in a low risk environment to create comfort among merchants."
—IPPB

Note KYC documents for business include:
I   Certificate of incorporation and Memorandum & Articles of Association
II   Resolution of the Board of Directors to open an account and identifcation of those who have authority to operate the account
III   Power of Attorney granted to its managers, officers or employees to transact business on its behalf
IV   Copy of Pan allotment letter
V   Copy of the telephone bill.

Sources Expert interviews

The INR 130k crore retail market in NER presents a significant opportunity

> 66 *The market is underpenetrated, and we definitely see a lot of potential in the Region to drive expansion...we are committed to expanding digital payments in the NER and our first focus is to tap all of our 50,000 current account holders and ensure they are acquired."*
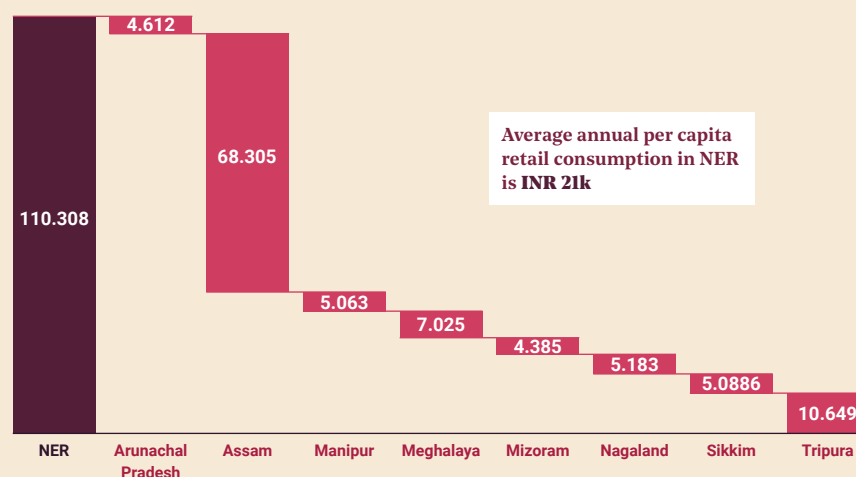>
> —LEADING PSB

> 66 *NER is slowly becoming a priority for fintechs, as other markets become saturated. There is a lot of potential in the Region for digitization – there needs to be greater incentives for merchants and investment support for fintechs."*
>
> —PHONEPE

Total retail consumption expenditure by state (₹ crores)

Source MOSPI (2017), estimated

Average annual per capita retail consumption in NER is **INR 21k**

NER	110.308
Arunachal Pradesh	4.612
Assam	68.305
Manipur	5.063
Meghalaya	7.025
Mizoram	4.385
Nagaland	5.183
Sikkim	5.0886
Tripura	10.649

A In order to estimate the total value of the retail market, the study made two key assumptions i.e., per capita consumption was derived from the aggregate values for India and retail consumption per capita will follow the same proportion of per capita income ratios for each state vs. India average.

Sources MOSPI (2017)

2017 data for consumption expenditure and per capita income has been used to arrive at a conservative estimate. Other data sources do not provide a reliable estimate across all states in North East India. Population has been projected to 2020 to arrive at the estimate.

NOTES

1   To estimate the total value of the retail market, the study made two key assumptions: per capita consumption was derived from the aggregate values for India and retail consumption per capita will follow the same proportion of per capita income ratios for each state vs. India average. Source: MOSPI (2017).

2   MeitY Internal Dashboard, data as of July 2020.

3   Digital North East 2022. https://www.digitalindia.gov.in/content/digital-north-east-2022.

4   The RuPay card scheme, championed by the Government of India, was launched in 2012 to fulfil the Reserve Bank of India's vision to have a domestic, open, and multilateral system of payments.

5   Pradhan Mantri Jan Dhan Yojana (PMJDY) dashboard, Department of Financial Services. https://pmjdy.gov.in/.

6   State of Aadhaar, 2019. https://stateofaadhaar.in/. The share of internet users is estimated in all states assuming similar rates between internet usage and overall subscribers in Assam; GSMA, 2020. Connected women: The Mobile Gender Gap Report 2020. https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf; The Indian Telecom Services Performance Indicators, 2019. https://trai.gov.in/sites/default/files/PIR_10072019.pdf; GSMA; Harvard Kennedy School, Women and Public Policy Program, 2018. A Tough Call: Understanding barriers to and impacts of women's mobile phone adoption in India. https://wappp.hks.harvard.edu/publications/tough-call-understanding-barriers-and-impacts-womens-mobile-phone-adoption-india; MeitY.

7   Internal data shared by MeitY; https://www.pwc.in/assets/pdfs/consulting/financial-services/fintech/payments-transformation/the-indian-payments-handbook-2020-2025.pdf

8   Captured in April 2021. https://uidai.gov.in/aadhaar_dashboard/india.php; Assuming bank account and Aadhaar linkage in Assam and Meghalaya are similar to Aadhaar penetration. This is an aggressive estimate, and the linkage is expected to be lower. UIDAI; Center for Global Development; MeitY.

9   RBI, 2019. State level banking committees.

10 Telecom Regulatory Authority of India (TRAI) Performance Indicator Reports, https://trai.gov.in/release-publication/reports/performance-reports; TRAI Internet speeds dashboard, https://myspeed.trai.gov.in/.

11 Interviews with industry stakeholders, refer to Annexure 1.

12 For example, Assamese is the only language supported on a few leading apps such as Paytm, PhonePe, BHIM, SBI Buddy, etc.

13 Interviews with industry stakeholders, refer to Annexure 1.

14 Ministry of External Affairs, Government of India, 2014. Chairman's statement of the 12th ASEAN-India Summit in Nay Pyi Taw, Myanmar. https://mea.gov.in/bilateral-documents.htm?dtl/24243/Chairmans_statement_of_the_12th_ASEANIndia_Summit_in_Nay_Pyi_Taw_Myanmar.

15 Ministry of Electronics and Information Technology, Government of India, 2019. India's Trillion-Dollar Digital Opportunity. https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

16 Data reported by CSC, MeitY as of March 2021.

17 Ministry of Electronics and Information Technology, Government of India, 2021. India's Trillion-Dollar Digital Opportunity. https://www.meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf.

18 GSMA, 2020. Connected women: The Mobile Gender Gap Report 2020. https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf.

19 https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2020/05/GSMA-The-Mobile-Gender-Gap-Report-2020.pdf20 https://www.thehindubusinessline.com/opinion/women-business-correspondents-agents-of-change-in-indias-financial-inclusion/article33988091.ece.

20 Hernandez E, 2019. The Role Of Cash In/Cash Out In Digital Financial Inclusion. Consultative Group to Assist the Poor (CGAP). https://www.cgap.org/blog/role-cash-incash-out-digital-financial-inclusion.

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