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Small Merchants, Big Opportunity

THE FORGOTTEN PATH TO FINANCIAL INCLUSION

STUDY COMMISSIONED BY VISA, INC.

GDI

Dalberg

VISA

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This study builds on the knowledge and research of many experts in the field of financial inclusion and digital payments. The findings and analysis in the pages that follow would not have been possible without the contributions of more than 70 individual experts who shared data, insights and perspectives, as well as over 300 merchants who welcomed us into their places of business and shared their perspectives.

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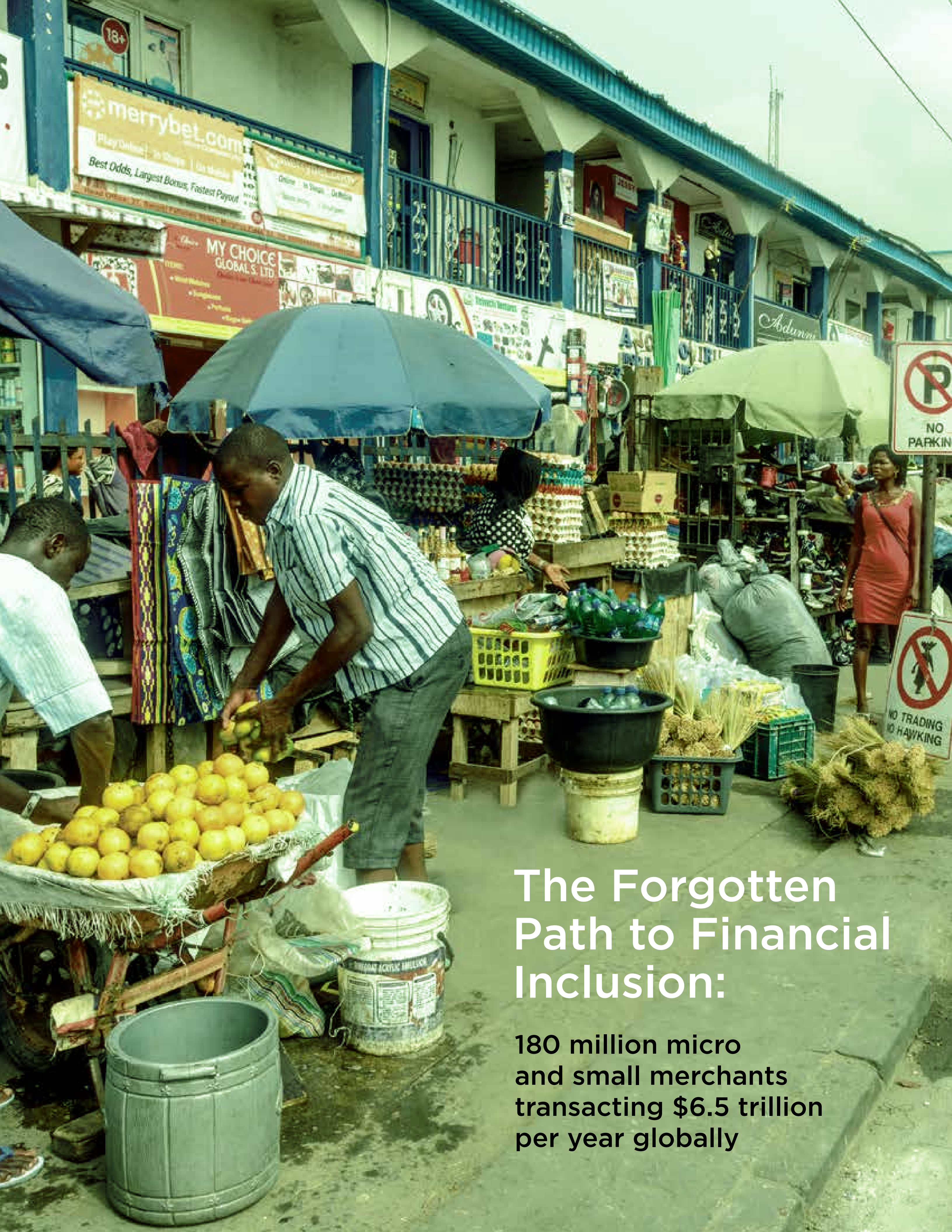


The Forgotten Path to Financial Inclusion:

180 million micro and small merchants transacting $6.5 trillion per year globally

Introduction

More than 180 million micro and small merchants operate across the developing world

While individually these businesses are small, their influence within the global economy is significant: They transact over $6.5 trillion per year and interact with more than 4.5 billion customers every day. Because these merchants typically have thin margins, low-income customers, and small transaction values, and operate in cash-based ecosystems, little has been done to integrate them into the cashless economy.

Micro and small merchants (MSMs) represent a forgotten path to financial inclusion, as well as a significant commercial opportunity. As an economic linchpin across the developing world, MSMs can help spur the growth of cashless ecosystems by encouraging customers to adopt and use digital payment accounts—which are an ideal first step towards broader financial inclusion. Merchants themselves also stand to benefit as cashless acceptance can be a steppingstone to more sophisticated financial products. Given that fewer than 10% of MSMs in the developing world currently accept digital payments,[1] they represent $35 billion in missed revenue every year for financial service providers.

However, by and large, cashless acceptance is currently not a good deal for MSMs. First, most MSMs in developing countries operate in a cash-based ecosystem and, therefore, cannot afford to have their income tied up electronically. Those who want a payment terminal often have to endure long, complicated application processes—and then pay to rent or purchase the terminal. Once they acquire one, transactions often fail because of faulty connectivity and inconsistent electricity. Finally, merchants pay multiple fees to accept card payments. Given their thin margins and the fact that very few of their customers ask to pay with cards, these merchants do not see cashless acceptance as critical to their success.

The benefits of accepting digital payments are not readily apparent to most MSMs. While traditional benefits such as increased sales, improved security, and reduced cash-handling costs undoubtedly apply to merchants of all sizes, most MSMs in developing countries do not see these benefits as offsetting the investment required to begin accepting digital payments.

This report intends to encourage dialogue and collaboration among global stakeholders to realize the potential to increase financial inclusion for, and through, micro and small merchants. It is also a call to action for financial service providers to bolster the merchant value proposition and provide small businesses with a suite of products designed to fit their needs. In this report, we explore the following topics:

- **The imperative to expand digital payments**
- **The critical gap in the cashless ecosystem for MSMs, and**
- **The path forward towards financial inclusion for MSMs and their customers.**

FIGURE 1: The MSM opportunity

FINANCIAL INCLUSION OPPORTUNITY	COMMERCIAL OPPORTUNITY
Over 4.5 billion daily interactions with customers that are financially excluded or underserved	As much as $35 billion in new annual transaction fee revenue

[1] Dalberg research and analysis based on recent estimates that only 6% of Indian merchants and 4% of Indonesian merchants accept digital payments

The Imperative to Expand Digital Payments

Digital payments are a stepping stone towards broader financial inclusion

Financial inclusion—the reliable and sustainable provision of basic financial services to underserved populations—can generate important benefits. Effective tools to send and receive, save, borrow, and safeguard money make it easier for people to earn a living while improving financial stability. Deposit accounts that help people save their earnings are one example. Studies show that access to formal bank accounts increases saving and makes money available for urgent needs such as health emergencies or food shortages, which helps smooth consumption and mitigate risk. Increased savings also help individuals plan for large investments—for example, farming supplies that increase crop yields and farmers' income.[2] In addition, a growing body of evidence shows that financial inclusion helps small businesses expand by providing credit to enable business owners to increase their inventory, invest in new tools or hire additional workers.[3]

The majority of the developing world operates in cash, which isolates lower-income individuals from the formal economy. Globally, more than 2 billion people lack access to basic financial services;[4] in developing countries only half of adults have bank accounts—a number that drops to one in five among adults living in extreme poverty.[5] Reliance on cash exposes poorer communities to risk and makes it difficult for individuals and small businesses to plan for the future and guard against shocks. At the same time, the cost associated with cash-based transacting is one of the major barriers preventing banks from providing low-income consumers with access to reliable, affordable and sustainable financial services.[6]

Digital payments are an ideal entry point along the path to financial inclusion. According to the Global Financial Inclusion Partnership, "Digitization of payments, transfers and remittances contributes to broad-based economic growth, financial inclusion and women's economic empowerment."[7] For individuals who have never had a bank account and rely exclusively on cash, digital payments provide an opportunity to explore digital finance, priming them for more sophisticated and useful products like savings, loans and insurance. For financial service providers, digital finance offers an opportunity to dramatically reduce the cost of serving low-income customers.

DIGITAL PAYMENTS: A payment made via the electronic exchange of information and without any exchange of physical documentation such as cash or check. This includes payments made with payment cards (e.g., credit, debit, prepaid), mobile money and electronic bank transfers.

Many organizations focused on advancing financial inclusion believe that digital payments are the first step towards widespread availability and utilization of increasingly sophisticated financial services.[8] Indeed, central banks and regulators in countries such as Colombia, India, Peru and the Philippines have made electronic payment platforms a core part of their financial inclusion strategies. Similarly, leading financial inclusion players—for example, the Better than Cash Alliance (BTCA)[9] and the Bill and Melinda Gates Foundation[10]—have built programs around this concept.

Micro and small merchants hold untapped potential for social and commercial benefit

Financial exclusion persists, in part, because underserved populations transact with merchants who deal only in cash. These micro and small merchants are businesses that sell goods and services in small shops and kiosks—the neighborhood convenience

[2] Pascaline Dupas and Jonathan Robinson. "Why Don't the Poor Save More? Evidence from Health Savings Experiments." *The American Economic Review* 2013.
[3] World Bank Global Financial Inclusion Database.
[4] Ibid.
[5] "The Global Findex Database 2014: Measuring Financial Inclusion around the World." Policy Research Working Paper 7255, World Bank, Washington, DC. 2015.
[6] "Payments and financial inclusion: An interview with Rodger Voorhies." *McKinsey on Payments,* September 2013.

Defining Micro and Small Merchants (MSMs)

One challenge we encountered in this study is that no standard definition exists for a micro or small merchant. The World Bank has clear metrics to define a related group: micro, small and medium enterprises, with one to nine, 10 to 49 and 50 to 240 employees, respectively—but this definition includes all businesses, not just those that conduct commerce with individual end consumers.

For purposes of this study, we broadly understood micro and small merchants to be businesses in the retail or service sectors with fewer than 10 employees at any single location. We reasoned that merchants with 10 to 49 employees (coinciding with the World Bank's definition for a small enterprise) are large and sophisticated enough to serve higher-end clientele for which the financial inclusion focus of this study is less relevant.

store, the local hairdresser, bus stop newsstands, small restaurants and food vendors are examples of the ubiquitous retail establishments seen in developing countries. By virtue of their size and location, MSMs tend to serve customers that are either financially excluded or underserved. In other words, MSMs are an everyday touch point in the lives of the same underserved individuals that financial inclusion efforts attempt to reach.

In this context, MSMs are a critical path to financial inclusion. A greater level of cashless acceptance among merchants—particularly the MSMs who are vital to the daily lives of unbanked populations—would provide low-income customers with more locations to use digital payment accounts and allow those accounts to serve as a gateway to greater financial inclusion. For the merchants, too, accepting digital payments is a key step toward increasing financial sophistication and exploring new avenues for growth. As the cashless ecosystem grows in size, the benefits increase for both groups.

Increasing cashless acceptance among MSMs presents a significant opportunity for social impact, both for merchants and their customers. MSMs provide a convenient place for customers to use their digital payment accounts and therefore a reason to keep money in the cashless ecosystem. But MSMs can also act as critical influencers of their customers and fellow merchants, as they are economic linchpins and, often, trusted members of their communities. Each of the 180 million MSMs across the developing world serve 25 customers every day, on average, producing up to 4.5 billion daily opportunities to interact with and educate financially underserved customers.[10] The impact on MSMs themselves can also be significant: accepting digital payments enables merchants to establish a financial track record, thereby increasing their eligibility for more sophisticated financial services that they may need to sustain and grow their businesses.

MSM cashless acceptance also represents a substantial commercial opportunity for the financial sector. While individually these merchants are small, the annual value of transactions by MSMs globally is likely well over USD $6.5 trillion.[12] In countries like Peru, sales by microenterprises alone represent as much as 20% of national output.[13] The vast majority of these transactions are in cash,[14] meaning that financial service providers are not capturing the value that this segment has to offer. In fact, if MSMs saw the same level of usage of digital payments as that observed for consumer payments globally (around 40% by transaction value), they could represent a market opportunity of $35 billion in transaction fees annually—or nearly $100 million per day.[15]

[7] World Bank Development Research Group, the Better Than Cash Alliance and the Bill & Melinda Gates Foundation. "The Opportunities of Digitizing Payments." *G20 Global Partnership for Financial Inclusion,* August 2014.

[8] Amit Jain, Olga Zubenko and George Carotenuto. "A Progressive Approach to Financial Inclusion." *MasterCard Advisors,* 2014.

[9] The Better than Cash Alliance was founded on the principle that moving from cash to digital payments can accelerate financial inclusion.

[10] Dan Radcliffe and Rodger Voorhies. "A Digital Pathway to Financial Inclusion." The Bill & Melinda Gates Foundation, December 2012.

[11] Based on country-level data collected by the IFC Enterprise Finance Gap Database and estimates from Dalberg interviews with merchants.

[12] Based on World Bank survey data on retail and service microenterprises annual sales estimates.

[13] "Las Mipymes en Cifras 2013." Peru Ministry of Production, 2014.

[14] Only about 15% of retail transactions by volume are digital. Source: Amit Jain and Analucia Magliano. "Accelerating the digitization of low-value payments." MasterCard Advisors.

[15] Estimate assumes the potential of up to 40% of MSM sales by value transacted through digital payments, similar to global averages, at average MDR of (1.4%), based on data from MasterCard Advisors and the McKinsey Global Payments Report 2015.

FIGURE 2: Cashless acceptance offers a number of potential benefits to MSMs

BENEFITS OF CASHLESS ACCEPTANCE
✓ Increased sales from both existing and new customers
✓ Established financial history and formal banking relationships
✓ Access to more sophisticated financial products, including credit, insurance and others to sustain and grow businesses

Unlocking the opportunity to increase financial inclusion through MSMs is within reach

We now have the technology, resources and political will to expand access to financial services to underserved populations. Rapid advances in mobile communications and digital payment systems are creating opportunities to connect merchants and their customers to affordable and reliable financial tools through mobile phones and other digital interfaces. Today, mobile money accounts outnumber traditional bank accounts in at least 19 countries,[16] providing access to financial services for many individuals who previously lacked it. While the majority of mobile money transactions are person-to-person transfers (around 70% of transaction value), merchant payments are becoming more common—growing 28% in value transacted last year.[17] Alongside these technical innovations is an increasing investment in financial inclusion among global development players, governments and private sector companies alike.

Despite the opportunities that MSM cashless acceptance presents, not enough has been done to understand these merchants and drive coordinated efforts to serve them. Many MSMs are themselves financially excluded or underserved, as noted earlier. They remain a largely misunderstood segment due to the fact that they are often informal and difficult to reach. Few reports and little market intelligence on this segment exist, and most of the available information excludes informal merchants and micro-entrepreneurs.

[16] GSMA. "State of the Industry Report 2015." Mobile Financial Services for the Unbanked, 2015.
[17] Ibid.

FIGURE 3: Micro and small merchants: linchpins of the developing market economy

Neighborhood Kiosk in Bandung, Indonesia

A few months ago, Umi opened a small kiosk next to her home in Cibaduyut, Indonesia, selling sundries such as snacks, personal hygiene products and mobile top-up cards. The shop helps her generate supplemental income while looking after her two young children. She gets about 30 customers a day, mostly neighbors on their way to work or school who spend $0.50 to $2. She makes around $1,100 a month, saving about a quarter of it in cash and investing the rest in inventory from a nearby market. She deals only in cash and does not have a bank account. "I prefer to stay small rather than expand if it means dealing with banks and taking out loans," Umi said. She's not sure if accepting cashless payments would be worth the hassle since she needs cash every day, and her customers are accustomed to cash.

Food Grain Seller in Ajuwon, Nigeria

Ade sells staples like wheat, flour and oil along a major road on the outskirts of Lagos. His informal storefront is always busy serving families and grocers from nearby, and he makes about $500 daily. Ade sends his nephew to the bank every day to deposit cash, which he feels is time consuming and dangerous. The bank has never offered him a card terminal. "Maybe they think we don't have money," Ade says, "but I would be willing to pay the fees because security is a big problem here." Ade thinks cashless payments could be convenient because the funds would go straight into his bank account, but notes that transactions need to be as quick and easy as cash because of how busy he is. He has heard from other merchants that transactions often fail and that after-sales service can be unreliable.

Shoe Store in Trujillo, Peru

Alessandra owns a shoe store in the leather district of Trujillo, a middle-income neighborhood that benefits from a lot of regional tourism. She buys shoes from a local manufacturer who replicates the latest fashion trends, and she employs two salespeople to help her run the shop. Her customers are a mix of locals and tourists who spend about $20 on average. Most of her profits go into savings, as she is planning to open another store location. About a third of her customers ask to pay by card, but Alessandra returned her card terminal a year ago after realizing it cost her nearly 5% of sales, and was difficult for employees to use. She sometimes loses customers to her competitors who accept cards, so she would be interested in a less expensive, easy-to-use alternative to the card terminal she had before.

The Critical Gap in the Cashless Ecosystem

The MSM experience

Preference for cash and low customer demand for digital payments

The vast majority of the merchants we spoke with have a strong preference for accepting cash, rather than digital payments. Despite conventional wisdom on the burdens associated with using cash—including the risks of storing it, the costs of transporting it and the psychological barriers to saving it[18]—most MSMs are content with cash. These merchants operate almost exclusively in a cash-laden ecosystem, where they pay suppliers and employees and conduct their personal transactions in cash. In many instances they also associate certain favorable attributes with cash: "It's real," "I can touch it and feel it," or "I can see how much is there."[19] Research on human affinity for cash supports these sentiments: in his studies on the subject, psychologist Eric Uhlmann concluded, "There's this sort of irrational feeling that if the money is physical, it's more yours, and you feel like you own it more."[20]

Figure 4 below provides the demographic characteristics of the merchants we spoke with, while Figure 5 provides country-level financial inclusion statistics for each of the countries we visited.

FIGURE 4: Summary of our survey sample (N=304)

DEMOGRAPHICS

GENDER		AGE		EDUCATION		TECH LITERACY	
Male	49%	Average	37	Primary	6%	No phone	1%
Female	51%	Under 30	20%	Secondary	51%	Basic phone	26%
		Over 50	10%	Tertiary	42%	Smartphone	73%

BUSINESS CHARACTERISTICS

LOCATION		BUSINESS SIZE		LEGAL STATUS		SECTOR[1]	
Urban	61%	# employees	3	Formal	59%	Grocery & gen.	22%
Peri-urban	25%	# cust./day	25-50	Informal	41%	Apparel	20%
Rural	14%	Trans. size	\$4-19			F&B	19%
		Annual sales	\$31-54K			Services	31%
						Other	9%

FINANCIAL INCLUSION

FINANCIAL ACCESS		CASHLESS ACCEPTANCE	
Personally banked	82%	Accepts	23%
Business banked	48%	Does not accept	77%
Uses digital payments	54%		

Notes: Data from non-random sample survey of 304 merchants in six countries which may not reflect global averages for the segment; Percentages may not sum to 100% due to rounding in each category; (1) F&B category includes prepared foods and liquor stores; eat-in restaurants are included under services.

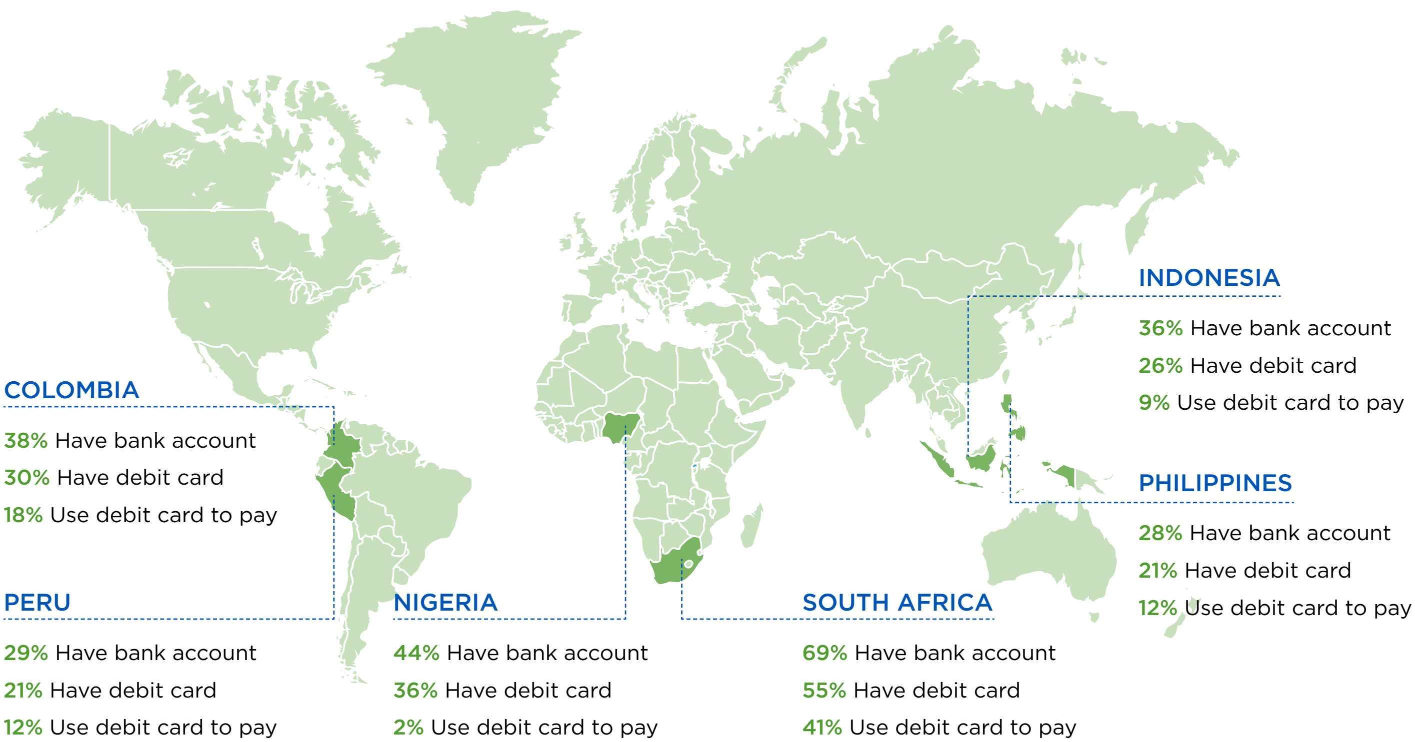
[18] Dan Radcliffe and Rodger Voorhies. "A Digital Pathway to Financial Inclusion." Bill & Melinda Gates Foundation, December 2012.

[19] Dalberg interviews with merchants.

[20] Rose Eveleth. "The Truth about the Death of Cash." *BBC,* July 24 2015.

Furthermore, most MSMs experience little or no demand from customers to use digital payments. This is due to both low penetration and low utilization of payment cards (i.e., debit, credit and prepaid cards) among the customers that MSMs serve—largely lower-income, less financially educated individuals. In the countries we visited, debit card penetration ranges from 21% to 55%.[21] Across these countries, less than half of adults use payment cards for purchases in any given year—and in Indonesia, the Philippines and Peru that ratio drops to only one in ten.[22] Among those merchants who currently accept digital payments, many note that customers who have cards use them only for large purchases, with credit cards generally reserved for emergencies. In other words, their customers simply do not view cards as a tool for everyday purchases. When we asked other merchants why they do not accept digital payments, the most common response was that "none of my customers ask for it."

FIGURE 5: Financial service access and utilization



	HAVE A BANK ACCOUNT	HAVE A DEBIT CARD	USE DEBIT CARD TO PAY
WORLD	61%	40%	23%
LOW & MIDDLE INCOME COUNTRIES	53%	31%	14%

Source: World Bank Global Financial Inclusion Database 2015

[21] World Bank Findex Database.
[22] Ibid.

In this context, most MSMs view cashless acceptance as an unappealing value proposition. We spent nearly 100 days visiting more than 300 MSMs in their places of business across six countries: Colombia, Peru, Indonesia, the Philippines, Nigeria and South Africa. With limited exceptions, the merchants who did not already accept digital payments had little interest in doing so—or else lacked sufficient information to have a strong preference. Among the merchants who accepted digital payments, very few reported improvements in their business, and most had at least one complaint about their experience. Very few reported being very happy with the digital payment systems.

Traditional benefits do not apply

The traditional benefits of digital payments either do not apply to MSMs or else merchants remain unconvinced. For instance, a commonly accepted benefit for larger retailers is the potential boost in sales. In fact, studies have shown that customers are willing to pay substantially more for the same product when paying with a payment card versus cash.[23] However, most MSMs are not convinced that they would experience an increase in sales based on the low customer demand discussed above.

Another commonly accepted benefit of digital transacting is protection from theft. But with the exception of countries where security is consistently a problem (e.g., Nigeria), the daily transaction volumes of most MSMs are too small to present a security concern. As one rice vendor in Indonesia put it, "I don't worry much about security; if something bad happens, it happens."

Other generally accepted benefits include protection from fraud and the ability for merchants to keep up with competitors who have already adopted digital payments. These benefits rarely resonated with the merchants we interviewed. If anything, MSMs view credit and debit card transactions as more prone to fraud than the alternatives—namely cash, check or bank transfer, depending on the market. In Indonesia and the Philippines, for instance, high-profile cases of card fraud and scams cause merchants and customers alike to feel nervous about paying with and accepting credit or debit cards.

Only in the most affluent neighborhoods we visited—the Miraflores District in Lima, for example—did a handful of merchants report that they are beginning to lose customers to their competitors who accept payment cards. For most, this impact is small enough to ignore for the time being; it has not sufficiently motivated them to consider cashless acceptance.

FIGURE 6: Barriers to MSM cashless acceptance

TRADITIONAL BENEFITS DO NOT APPLY	PRODUCT EXPERIENCE IS POOR	FEES AND FINANCIAL RISKS ARE HIGH
Generally speaking, MSMs do not experience the same sales uplift that is often seen for larger retailers when they start accepting cashless payments, nor do they feel that they are missing out on sales by accepting only cash payments. For these relatively small businesses, the costs and risks associated with handling, storing and transporting cash are perceived as minimal.	Merchants who are interested in exploring cashless acceptance often find it difficult to understand the process for obtaining a POS terminal, and informal/unbanked merchants are typically excluded altogether. Once they have a device, many find it hard to use or experience regular service disruptions and transaction failures.	Once they begin accepting cashless payments, merchants are exposed to transaction fees that erode their already thin profit margins. Unanticipated maintenance fees and penalties expose merchants to financial hardship not experienced when accepting cash.

Source: Merchant interviews; Dalberg research and analysis

Product experience is poor

Beyond a lack of tangible benefits, accepting digital payments can introduce problems that MSMs otherwise would not face. First and foremost, accepting digital payments reduces the amount of cash a merchant has on hand. This simple reality can make business more difficult for merchants who operate in a heavily cash-based ecosystem. As one convenience store owner in the Philippines put it, "I need today's income in cash to pay for tomorrow's deliveries; I can't afford to have my money tied up in an account." As a result, many MSMs prefer not to accept digital payments as doing so would require them to make frequent ATM withdrawals and, in extreme cases, face working capital crunches as they wait for access to their cashless income.

Merchants and their customers are often frustrated by the digital payment process itself. Merchants in the busy markets of Lagos note that processing transactions requires many steps and takes too much time. An electronics shop owner recounts his experience: "My customer tried to use his card but it didn't work—he got impatient and left. I don't want this headache." MSMs in Colombia note that processing transactions requires them to enter the transaction value and the tax amount separately, and debit card customers must enter their PIN as well as sign for most transactions. Card-based transactions are onerous as well in Colombia. Instead of simply signing for their transaction, customers must enter the number of installments they would like to use to pay off their balance—an accounting artifact from a time when credit cards were used primarily for large transactions requiring payment over several billing cycles.

Another problem is the potential for error. A restaurant owner in Indonesia notes that employees sometimes enter the wrong amount, causing the business to lose money or overcharge its customers. And in the Philippines, merchants complain about losses due to frequent "chargebacks," when customers dispute a transaction after the fact and merchants must absorb the cost. In Bogota, a tailor shop owner told us that processing digital payments is simply too complicated for her employees. Whether real or perceived, the potential for error poses a significant barrier to merchant adoption of digital payment systems.

CHARGEBACK: A reversal of a prior transaction, often requiring that the merchant pay for the loss on a fraudulent or disputed transaction.

Finally, the investment required to obtain and maintain digital payment products lead many MSMs to conclude that it's simply not worth the hassle. One of the most common requirements for accepting digital payments is that merchants must be formally registered businesses, a process that can be confusing, expensive and time-consuming for a small merchant with a business to run. As one convenience store owner in South Africa noted, "Getting the right papers is our biggest challenge; we cannot get the licenses we need in order to do business legally." Once merchants successfully navigate the registration process, they become exposed to complicated and unpredictable tax systems. A small clothing retailer in Medellin told us: "If I had known about all of the taxes before I registered my business, I would not have done it."

In addition, strict know-your-customer (KYC) and anti-money-laundering (AML) requirements prevent MSMs from opening bank accounts, which are typically a prerequisite for accepting digital payments. In South Africa, a third of the merchants we spoke with are eager to access financial services, but are ineligible for bank accounts because they cannot comply with KYC requirements. In many cases, these merchants are migrants without a local identification card.[24]

Once formalized and banked, the process to obtain a digital payment product can be equally complicated and time-consuming. A tattoo parlor owner in the Philippines told us that he is interested in having a card terminal—"but no one has ever approached me. Do you know how I could get one?" One beauty salon owner in Indonesia commented that she is interested in the product, but the bank required her to apply in person at the bank with wait times up to several hours: "I have to be here to run the salon all day; I don't have the time to wait in line at the bank. It could take all day!" We heard about similar challenges from a number of merchants in Colombia who ultimately gave up on trying to get a card terminal—even after

[23] Drazen Prelec and Duncan Simester. "Always Leave Home Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay." *Marketing Letters,* 2001.

[24] Managing a small shop to make a living is a popular choice among economic migrants and refugees and the need for flexible KYC requirements is especially acute for informal merchants.

all of their paperwork was in order. Curious about the experience, we tried to get one ourselves and were unable to get in touch with either of the major acquirers in Bogota.

Once merchants have the payment terminal, they often face difficulty receiving after-sales service. "I've had a broken card terminal for three years," a convenience store owner in Colombia told us. "I called to get it fixed but nobody showed up." In neighboring Peru, several MSMs complained that their salesperson "disappeared" after the terminal was installed, leaving them to work with less responsive customer service representatives.

Fees and financial risk are high

Another major deterrent for MSMs is the high cost associated with accepting digital payments. First, MSMs complain that the transaction fee charged to them—the merchant discount rate, or MDR—is too high given their typically thin margins. While these fees vary depending on the country, transaction type and merchant type, estimates provided by merchants, banks and other stakeholders range from a low of about 0.75% in Nigeria to 5% or more in Colombia and the Philippines.[25] One clothing store owner in South Africa aptly noted, "On five rand I only make 20 cents [a 4% profit]; how can I give this away?" A tourist shop owner in Peru agreed: "We offer a cash discount to tourists so that we can avoid paying transaction fees."

MSMs also commonly incur some or all of the cost of the POS terminal, fees to upgrade the software on the terminal and costs to install the infrastructure needed to operate the terminal. Some merchants report paying up to $40 per month in terminal rental fees alone; banks in South Africa and the Philippines report that the cost of connectivity can be around $35–$40/month.

Accepting digital payments can also expose MSMs to financial risk. Once they begin to accept, merchants may be subject to penalties if they fail to meet minimum transaction levels based either on overall volume or number of transactions. Given low customer demand, most MSMs are not willing to take that risk. One merchant we spoke to in Bogota admitted that if she finds that she is below quota at the end of the month, she will run several one-peso transactions just to satisfy the monthly requirement.

FIGURE 7: Comparison between cash and cards from the merchant perspective

Merchant view on:	Convenience	Cost	Safety	Reliability
Cash	• **Extremely easy**	• **Free:** little to no perception of "cost of cash"	• **Relatively safe,** except in Nigeria and South Africa	• **Extremely reliable** – always works
Cards	• **Difficult** to access • **Time-consuming** to use	• **Costly:** transaction fees of about 2-5% on average, plus terminal rental fees	• **Somewhat unsafe** due to fears around fraud	• **Somewhat unreliable,** due to experience of transaction errors

[25] Dalberg interviews with merchants, banks and other stakeholders.

I opened my account with
COP 20,000 (USD $6.70)

Minus COP 7,000 (USD $2.30)
handling fee

Minus COP 6,500 (USD $2.20)
for using the ATM

Minus COP 3,000 (USD $1.00)
for checking my balance

Minus COP 12,000 (USD $4.00)
to have a debit card

Now I owe the bank
COP 8,500 (USD $2.80)

Mistrust in Banks and Financial Services

In some countries, MSMs' desire to avoid banks goes beyond minor frustrations with long wait times and poor service. Due to the predatory practices they or people they know have experienced at the hands of local banks, many merchants have a deep mistrust of financial services.

This cartoon from Colombia conveys a common sentiment we observed among merchants there. Banks in Colombia have developed a negative image particularly among underserved populations, who often cannot afford many of the fees required to keep an account open. One hardware store owner we spoke with gave his clear view: "I don't want anything to do with banks. They charge for everything—they are thieves."

We heard similarly troublesome stories in Indonesia, where one merchant spoke with us about her brother's first foray into credit cards. Enticed by deep discounts, he found himself in debt with no way to repay the banks. "He lost his house," she laments. "I want to stay away from this kind of trouble." While this situation may represent an extreme case, stories like this one circulate in poor communities, generating a sense of anxiety for some merchants when it comes to dealing with banks.

Underlying drivers

Most of the issues described in the previous section are driven by the dynamics within the cashless ecosystem, specifically: the payment systems themselves, the providers who offer them and regulations that hinder MSM acceptance.

Payment systems do not meet the needs of MSMs

The hardware used in most digital payment systems is expensive to buy and maintain. The most widely available product consists of a card-reading POS terminal that enables merchants to transmit data from a payment card in order to authorize a payment. Typically supplied by a handful of global payment terminal manufacturers such as VeriFone and Ingenico, these terminals can cost from around $150 to over $700 depending on capabilities, with required software upgrades costing as much as $300 per year, according to one bank in the Philippines.[26]

The hardware also relies on infrastructure that is expensive or difficult for MSMs to access. Most payment terminals require electricity and a phoneline, internet connection or both. These infrastructure requirements can be difficult for MSMs to meet, as many are unable to access or afford them. As one spa manager in Peru explained, "We wanted to get a card terminal, but it required a fixed phone line and internet—that's too costly for us." Most products are also not designed to operate well under conditions of slow or unreliable connectivity, a reality that many MSMs face. A representative from a large retail chain in the Philippines corroborated these accounts: "Even in our stores, these disruptions happen every day—especially as you move away from urban centers."

FIGURE 8: Underlying drivers of the barriers to MSM cashless acceptance

UNDERLYING DRIVERS		
Payment systems do not meet MSM needs	**Service providers have limited incentives to serve MSMs**	**Regulations are not designed with MSMs in mind**
Traditional digital payment systems and business models are not designed to serve MSMs, who have small transaction sizes and volumes, exist in cash-based ecosystems and operate with thin profit margins. Existing POS terminals are expensive and the costs of setting up a new merchant are significant.	Banks must attempt to recoup acquisition costs, but find it hard to do within the MSM segment. As such, traditional financial service providers have weak incentives and capabilities to serve the MSM segment and create products and services tailored to their needs.	Stringent financial sector and business regulations exclude many MSMs from participating in the formal economy. Those that formalize find it difficult to access and/or afford financial products. Markets are often distorted or poorly coordinated, which stifles innovation and development of products that meet the needs of lower-income segments of the population.

Source: Merchant interviews; Dalberg research and analysis

[26] Dalberg interviews with merchants, banks and other stakeholders.

Infrastructure and Digital Payments – Spotlight on Nigeria

In countries like Nigeria, where poor connectivity is a persistent reality, digital transactions face myriad challenges. At the point of sale, devices suddenly go offline, fail to complete transactions or charge customer accounts without subsequently crediting the merchant's account. These experiences erode trust in digital payments for both merchants and their customers. As a result, customers often like to withdraw cash from an ATM before making a purchase rather than swipe their debit or credit card. On the payment provider's end, banks and payment companies also struggle with unreliable network connectivity—an economy-wide challenge. Many of the intermediaries involved in processing transactions are not connected by direct, high-speed cables, causing delays and driving up the cost of service. While the situation is improving—network operators report that the success rates for transactions have risen from about 40–50% in four years ago to 70–80% today—making digital payments more attractive to MSMs will require more reliable connectivity as well as innovative products that don't rely as heavily on a sustained connection.

Recent innovations in payment terminals begin to address some cost issues, but they often introduce new barriers for MSMs and have yet to gain significant traction in the markets where they are available. In the Philippines, the mobile network operator Globe has begun offering its Globe Charge payment terminal, which plugs into a mobile phone, for a price of about $20. However, the product is still unproven in the market and imposes a different requirement on merchants—the need to own a smartphone. While smartphone penetration rates are growing quickly in the Philippines, only about four in ten Filipinos own a smartphone[27] and many of the MSMs we spoke with do not.[28] Similarly, in Indonesia, a payment terminal that communicates with a merchant's phone via Bluetooth is available for about $70, but, again, it requires the merchant to have a smartphone and is still relatively expensive for a small merchant.

Products that do not rely on cards and terminals—most notably mobile phone-based products—are available in some markets, but few have seen widespread uptake for retail transactions. Of the roughly 90 mobile money services that offered merchant payments in 2014, only a handful generated more than 1,000 transactions per month.[29] While stakeholders hold different views as to why this is the case, they point to an underinvestment in marketing, an overly narrow use case (i.e., opportunities for people to use the products in different ways) and poor product design as key reasons. For example, the Philippines was the first country in the world to launch mobile money for individuals to send money to each other; however, mobile payment products are rarely designed for retail transactions. In Nigeria, where MSMs are beginning to accept mobile payments, payment products are not designed for the busy settings in which many MSMs operate. For example, several merchants told us that one payment application in Nigeria requires merchants to go through 23 steps before the payment is processed.

Service providers have limited incentives to serve MSMs

The traditional model for digital payments presents economic challenges when it comes to serving MSMs. The traditional model for digital payments presents economic challenges when it comes to serving MSMs. Typically, a credit or debit card transaction relies on a "four-party model"[30] that connects customers, merchants, their respective banks, and the payment network (e.g., Visa or MasterCard), which enables the other parties to do business with each other. Increasingly, additional entities such as mobile network operators, device manufacturers and technology vendors provide services as well. The banks, payment network and other entities all can play a valuable role in processing card transactions—and as a result, they seek compensation for the services they provide.

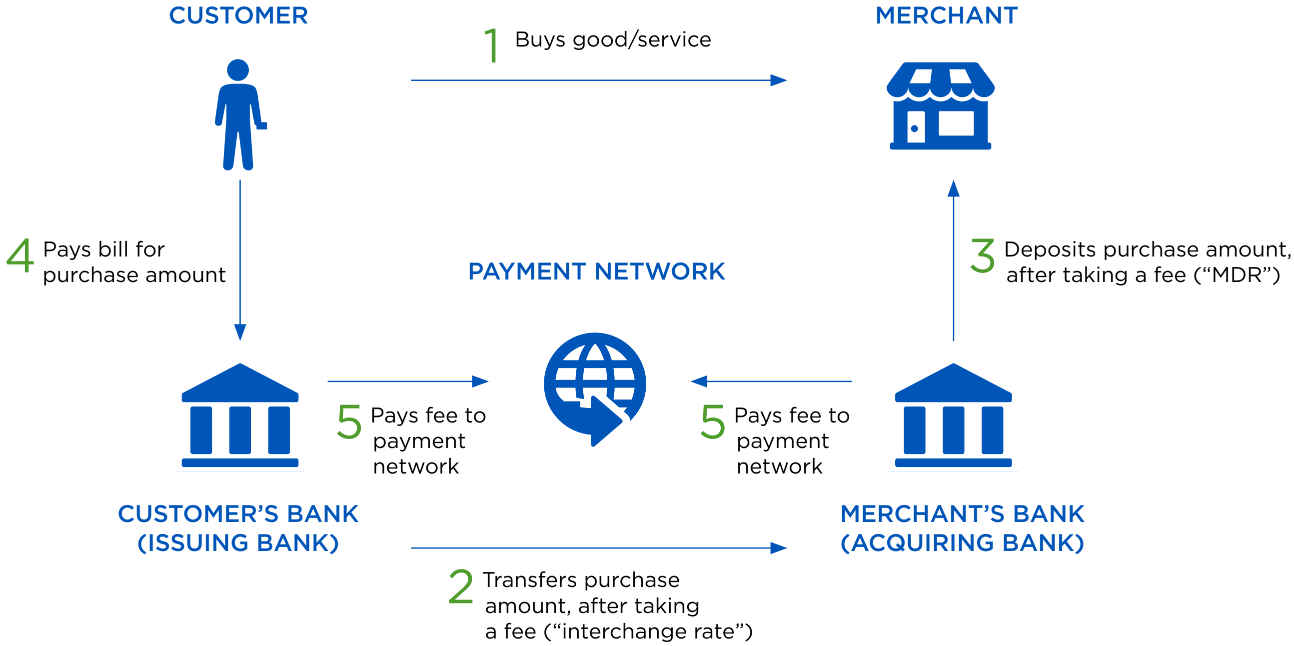
[27] Ericsson. *Quarterly Mobile Report* June 2015.

[28] In our sample, 72% of micro and small merchants used a smartphone with browsing capabilities.

[29] Arunjay Kakatam. "Setting Up Shop: Strategies for Building Effective Merchant Payment Networks." *GSMA Mobile Money for the Unbanked,* October 2014.

[30] Some publications include the payment network and refer to this as a "five-party model" instead. While the specific roles of each player and the nature of the relationships between them may vary in different settings, we reference this model to demonstrate some common issues observed across countries.

FIGURE 9: The traditional model for card-based payments



Transaction fees paid by the merchant serve as the primary ongoing source of revenue, and the banks and payment network must agree on how to divide that revenue. When the ongoing volume of transaction fees coming from the merchant is low, as it would be for many MSMs, providers find it difficult to recoup their costs. In some cases, banks shoulder some or all of the upfront costs of terminal rental and maintenance; they also incur overhead costs for sales and service to merchants. These underlying economics drive many of the fees and penalties that MSMs describe as prohibitive when presented with the option to adopt digital payment products. Importantly, they also reduce incentives for banks to serve MSMs in the first place.

Stepping back from the partnership model, it is important to note that the partners themselves—typically large commercial banks—often are not well positioned to serve MSMs. Most commercial banks in our research countries have stronger immediate incentives to focus on their core customer base, typically higher-income, urban markets, rather than small or informal merchants. However, the appetite to serve MSMs varies between banks and, at times, within banks. Some stakeholders express that they have no interest in working with MSMs—convinced that they would be unable to find a financially sustainable model for doing so. Other banks recognize MSMs as a largely untapped market, but acknowledge that they are ill-equipped to serve this new segment, whether because of regulatory constraints (e.g., KYC and AML requirements), their own relatively-high-cost business models or simply because more lucrative opportunities exist in other segments. Nevertheless, the diffusion of new technologies (e.g., increasing smartphone penetration) is creating opportunities for traditional commercial banks to reduce transaction costs and gather better data that could allow them to serve MSMs—and other underserved groups—more profitably.

Two banks in sub-Saharan Africa are seizing this opportunity. In Kenya, Equity Bank has built a reputation for effectively designing products and services for small businesses and underserved individuals by leveraging the potential of mobile banking. Equity Bank offers mobile money services including utility bill payment, individual transfers and loan disbursement managed by mobile phones and disbursed through ATMs. In South Africa, Capitec has successfully innovated to provide financial services to the mass market. Through a combination of simplified products, new distribution points at convenient locations such as taxi ranks and radically transparent pricing, Capitec has achieved a customer acquisition rate that outpaces that of other major banks. Recognizing the potential of MSMs to become larger customers in the future, the bank also revised its risk assessment criteria to accommodate customers with a limited financial track record. Also in South Africa, the government has partnered with the private sector to simplify KYC requirements and regulatory frameworks to encourage broader financial inclusion across the financial sector.

How Interoperability Expands the Market

Interoperability is the ability of different systems and applications to communicate with each other. In the context of cashless payment systems, interoperability can benefit all stakeholders—customers, merchants and payment providers alike. For customers, interoperability increases the relevance and utility of cashless payment products because it expands the number of transaction points where they can use payment cards or mobile money applications. Merchants, too, are happier because they can invest in a single payment terminal that accepts payments from all financial institutions, giving them the ability to more easily serve a wider network of customers.

ATMs provide one example of the effect of interoperability. Most ATMs around the world are now interoperable—that is, any customer with an ATM card can use nearly any ATM to withdraw cash. Customers pay a fee to use another bank's ATM, but they are willing to do so because of the added convenience. Meanwhile, banks benefit because they receive additional fees from non-customers using their ATMs.

How Interoperability Impacts Merchant Experience

This convenience store owner in Indonesia has three separate terminals in order to process cards offered by different banks—a common scenario in some of the countries we visited. If a customer pays with a card supported by a global payment network (such as Visa or MasterCard), the merchant can use any card terminal to take the payment – but he will pay more unless he uses the terminal provided by the same bank that issued the customer's card. If a customer pays with a card that is not supported by a global payments network, then the merchant can use only the POS machine that was issued by the same bank that issued the customer's card. Many debit cards in Indonesia are not yet supported by a global payment network forcing merchants to open and maintain accounts with multiple banks.

"I have to match the card to the right terminal," the storeowner explains. "It's not hard to do, but they take up space. I don't want another machine, so I can only take debit cards from these banks."

Moreover, commercial banks have few incentives to collaborate on initiatives to expand the market. The most salient example of this dynamic is the fact that banks in many countries have not developed interoperable ecosystems—that is, the ability for different payment systems to seamlessly interact with each other. Interoperability has recognized benefits for customers and payment providers alike, with the potential to expand the payments market (see box on "How Interoperability Expands the Market"). Failure to achieve interoperability can have adverse effects in the payments ecosystem: in Indonesia, banks are investing in proprietary "closed-loop" systems, which allow customers to use their cards only at a payment terminal provided by the same bank. This limits the utility of cards for customers, and merchants must obtain terminals from multiple banks in order to cater to the full range of cards that their customers might carry.

Looking beyond commercial banks, other players are interested in working with the MSM segment on digital payments but face significant barriers to doing so. The most notable examples of an alternative payment provider are mobile network operators (MNOs), who in many countries already play a meaningful role in developing digital payment products and delivering them to merchants. Other players—including consumer goods companies and distributors that work with MSMs, as well as microfinance institutions and other non-bank financial institutions—are also beginning to get involved by, for example, piloting new products targeted at MSMs or exploring ways to use payments data from MSMs to conduct credit analysis. Interestingly, many of these organizations have an important capability that commercial banks lack: an understanding of, and frequent touch points with, micro and small merchants.

Yet these players face important barriers, as well. On their own, they lack the payment expertise of the large commercial banks, not to mention the organizational infrastructure and capabilities needed to deliver digital payment products. Very few have developed viable models for collaboration that would leverage their capabilities as well as those of banks while enabling financial sustainability for all parties. And as we discuss in the next section, some of these non-bank players are actively discouraged or prohibited from participating in the payment industry due to regulatory constraints.

Regulations are not designed with MSMs in mind

Regulations in some countries discourage competition and innovation in the payment space by limiting the types of players who can participate. In Nigeria, for example, payment startups must meet high capital requirements and be granted a license before they can operate. In Indonesia, regulators recently released guidelines that limit the ability of all but the biggest four banks to open new electronic money accounts for customers in rural or hard-to-reach areas. These regulations effectively shut out smaller banks and mobile network operators (MNOs), which otherwise may have the capabilities and appetite to expand electronic money services. In fact, non-bank entities are not allowed to provide payment or mobile transfer services in four out of the six countries we investigated.

Price controls imposed by some regulators limit the size of the market, reducing incentives for payment operators to compete to serve small businesses. For instance, regulators in Nigeria have imposed a low cap on the merchant discount rate (MDR) that banks can charge to merchants, effectively placing a ceiling on the revenue that providers can earn. This restriction forces banks to treat digital payments as a loss leader rather than a sustainable service on its own. Indeed, many banks view retail payments as a marketing activity to cross-sell other products, or as an investment to decrease customer traffic in branches.

Market forces can affect provider profitability with a similar effect by limiting banks' ability to sustainably serve MSMs. In Indonesia, for example, fierce competition among the twelve banks that provide merchant payment products has driven fees so low that the banks are no longer making a profit. In fact, many banks are giving away closed-loop payment terminals for free simply to keep money in their system. While this intense competition is good for some customers—large merchants with transaction volumes sufficient to generate a modest profit for the banks—most MSMs remain unserved because they are seen as less likely to become profitable customers, or to play a meaningful role in keeping funds in the banks' system.

In some cases, regulators also fail to provide necessary coordination mechanisms that could help expand the size of the market for digital payments. One key opportunity for regulators to coordinate players is on the issue of interoperability. But as the stakeholders we spoke to explained, regulators are often slow or reluctant to mandate interoperability, or to incentivize business leaders to coordinate on it or any other market-shaping initiatives.

Finally, frequent policy changes and regulatory uncertainty can lead providers to underinvest in cashless acceptance. In Indonesia, for example, the central bank recently spun out a new financial services regulator. The uncertainty over this agency's responsibilities and forthcoming regulations has created a sense of unease among players who are trying to decide how or where to invest in digital payments. In these types of environments, private investors may hesitate to back innovative payment companies since policy swings can change a company's business case overnight.

At times, these regulatory issues arise despite good-faith efforts to move towards more financially inclusive policies. For example, Nigeria introduced a financial inclusion strategy with tiered KYC requirements, to make it easier for low-income customers to open accounts, and taxes for cash deposits and withdrawals at the ATM to incentivize digital transactions. But instead of achieving the intended effect, stakeholders in Nigeria report that the ATM taxes actually incentivize many people to keep their money in cash to avoid a potential penalty. These challenges reflect, in part, the fact that digital payments represent a relatively nascent market in many developing countries. Continued experimentation on the part of business leaders and governments is still required to understand the right business models and the best way to regulate them.

[31] Dalberg interviews with bank officials in Nigeria.

FIGURE 10: Common challenges encountered by MSMs ready to accept digital payments

QUALIFICATION | **APPLICATION & APPROVAL** | **OPERATION & MAINTENANCE**

UNDERSTANDING CASHLESS ACCEPTANCE

Challenges:
Many merchants do not understand how cashless payments work and may not see the benefits as relevant to them

REGISTERING THEIR BUSINESS*

Challenges:
Onerous and expensive process requires merchants to have formal ID and supporting documents, and exposes them to government and tax regulation

GETTING A BANK ACCOUNT*

Challenges:
Acquiring banks usually require MSMs to have a business bank account, involving extensive paperwork and fees

FIGURING OUT HOW TO APPLY

Challenges:
Many merchants have never been approached by acquiring agents and therefore must seek out information on the application process

COMPLETING THE APPLICATION PROCESS

Challenges:
Most banks require merchants to apply in person, forcing them to miss out on regular business; registration requirements restrict informal/ unbanked merchants

WAITING FOR APPROVAL

Challenges:
Acquiring banks have few incentives to serve small merchants and therefore do not provide timely and efficient service; merchants may wait months or indefinitely

INSTALLING, TRAINING AND UPGRADING CONNECTIVITY

Challenges:
Merchants often must install phone and/or internet connections prior to terminal installation, and spend time training employees on how to use the machine

DEALING WITH SERVICE DISRUPTIONS

Challenges:
Merchants may have inconsistent connectivity and electricity; transactions regularly fail in densely populated areas due to bandwidth limitations; when devices break, merchants often receive poor after-sales service

SETTLING TRANSACTIONS AND PAYING FEES

Challenges:
Transaction fees erode thin margins; penalties and maintenance fees create unanticipated financial burden; liquidity costs strain merchant finances

Notes: (*) Additional steps required for informal and/or unbanked merchants
Source: Merchant and stakeholder interviews; Dalberg analysis

The Path to Financial Inclusion

Simply put, efforts to expand MSM acceptance must focus on improving the value proposition—designing a product offering that works for MSMs—while continuing to build a cashless ecosystem around MSMs. Unlocking this opportunity requires:

- **Incremental improvements** to help capture more MSMs who are 'ready to accept' digital payments (typically younger, better educated, formal MSMs in urban commercial centers). These improvements include simpler, less expensive and more robust card terminals, better merchant protections, shorter settlement times, enhanced access and service and, ideally, reduced costs.
- **Radical innovations** to capture the vast majority of MSMs who are 'not ready to accept' digital payments (typically older, less educated, informal MSMs in peri-urban and rural areas). These innovations might include payment products that are inexpensive or even free (at least initially) to the merchant and which do not require a formal bank account.
- **Growing the cashless ecosystem around MSMs.** Specifically, this approach would involve creating more cashless 'outflows' for merchants, as well as efforts to increase the number of customers with easy-to-use payment accounts.

PRODUCT OFFERING: The total package designed to deliver value to customers, including:

- The physical or virtual product itself (e.g., the payment terminal or mobile application) and its related features or characteristics (e.g., the ability of the terminal to process a transaction in a certain amount of time.
- The elements surrounding the product that represent additional value, such as availability, convenient delivery, support and customer service.
- Price, or the amount that customers pay, to receive the benefits of the offering.

Source: *Definition adapted from Ian Linton, "What Is an Offering in Marketing?" and John F. Tanner, Jr. and Mary Anne Raymond, "Principles of Marketing, v. 2.0."*

FIGURE 11: Merchant profiles

"I need to be able to access cash."

Lolicris and her husband manage a small convenience shop from her home in a residential part of Bandung in Indonesia. They sell snacks, beverages and household items to nearly 200 working-class customers everyday who stop by and spend a little as $1 at the store. Lolicris uses this cash to give change and pay her suppliers in the wholesale market. She never uses her bank account and does not have an ATM card. "My business is small and I need cash every day," she says. Merchants like Lolicris could benefit from a product offering that provides easy convertibility to cash.

"My customers cannot wait."

Benjamin is a pharmacist in on the outskirts of Ibadan, Nigeria. He is tech-savvy, has multiple bank accounts and likes to use mobile money. The pharmacy is thriving with nearly 100 customers every day. However, most sales are done in cash and the POS machine lies uncharged under the cashier's counter. "The network is always down in this area," Benjamin says. "Sometimes we take the machine outside the shop to try to get a signal and the customer does not want to wait". Many merchants in Nigeria find network connectivity to be a challenge; they could potentially benefit from products that can work offline and approve transactions quickly.

"The fees are too high."

Maria and her husband run a small stationery store selling office and school supplies in the center of Chia, a suburb of Bogota, Colombia. They started the store with a loan from the bank and got a payment terminal to accept cashless payments soon after. But they discovered that the fees are too high to justify using the terminal very much—in fact, they began offering customers a discount for paying in cash instead of using their cards. "We want to give customers the convenience, but it's just too expensive," they said. Merchants like Maria could benefit from product offerings that have much lower prices.

"Maybe this can help me get a loan."

Eze owns a liquor store in Ilupeju, Lagos and sells to local residents and restaurants. He gets about 30 customers a day who pay anywhere from $10 to $300 per transaction by cash or bank transfer. He has a bank account and uses debit cards. "I don't have time to get a payment terminal but I would get it if it would help grow my business. Maybe if I did, the bank will learn about my shop and give me a loan to buy in bulk." Some small merchants like Eze are interested in cashless payments if it helps them qualify for other financial products.

"Getting the right papers is our biggest challenge."

"Many people ask to swipe their card to pay," Raahil, a Pakistani migrant and owner of a small convenience store in a high-income neighborhood of Johannesburg, South Africa, told us. "But we cannot get a POS payment without opening a bank account for the business. Getting the right papers is our biggest challenge." Regulatory barriers such as KYC requirements keep many small merchants, especially migrants such as Raahil, from accessing formal financial services. They could benefit from payment products that do not require a bank account as a prerequisite.

"I need customers to spend more."

Nail Chic is a family-owned nail and beauty salon with three locations in Cebu City in the Philippines. The owner, Ria, runs the salons with the help of her husband and daughter, who is a recent college graduate. Ria herself is well-educated and financially savvy. She recently convinced her employees to open bank accounts so that she could pay them via bank transfer instead of in cash. The shop accepts credit and debit cards because Ria thought that customers would spend more if they could use a card to pay. The salons are popular, she told us, and she would be interested in products that help her better understand her customers and drive growth in the business.

Incremental Improvements

Core functionality must be better than or as good as cash

While MSMs are a diverse group, one fact remains true across the board: digital payment product offerings must provide a merchant experience that is as good as or better than that of cash. Four dimensions are important to consider in order to improve the core functionality of digital payment products.

First, the product must offer a simple user interface. In practical terms, the merchant should be able to operate the product without too many steps, using an intuitive process that reduces the risk of error as well as frustration on the part of the merchant and her customers. This characteristic is important for micro and small merchants, who often deal with a high daily volume of transactions (e.g., in busy public markets) and who tend to be less tech-savvy than their larger counterparts.

Second, the product must offer fast and reliable transaction processing. The time required to process a digital transaction should ideally be no longer than the time it takes for a customer to hand over cash and for the merchant to count it and return the right amount of change. In addition, transactions must process correctly every time, minimizing the instances when a merchant must attempt a transaction more than once. Transaction processing time and reliability are important to micro and small merchants because they tend to operate in very competitive environments and are therefore highly sensitive to customer satisfaction.

Third, the product must offer merchant protections, with minimized risk of chargebacks due to fraud or disputed transactions. Chargebacks are a concern for any merchant, big or small, because the merchant is often partially liable for losses stemming from lost or stolen cards and customers who dispute charges. But micro and small merchants are disproportionately impacted when hit by chargebacks. These merchants have lower overall turnover, tend to have very little in the way of a financial buffer and, by extension, have very little appetite to assume financial risk. Any product that hopes to entice them must eliminate or drastically reduce this risk.

Finally, the product must offer convertibility—or the ability to easily turn digital funds into cash. As discussed in the previous section, most micro and small merchants operate in a cash-laden ecosystem. Even if they were to convert all incoming payments to a digital format, they would still need cash for many of their outgoing payments (e.g., to suppliers, utility providers and employees). While payment providers and financial inclusion advocates are working to develop a cashless ecosystem around MSMs, this work will take time. Meanwhile, products designed for MSMs must enable merchants to access cash quickly and easily. As part of this requirement, the settlement period must be as short as possible.

Added features: Business growth and efficiency

For some merchants, ancillary features that offer opportunities for business growth or improved efficiency can incentivize the adoption of digital payment products. Features may appeal to micro and small merchants if they offer one or more of the following benefits: access to capital, new revenue streams and improved business operations. Bundling—that is, offering different combinations of products and added-value features—can enable providers to effectively meet the needs of different merchants.

Of the features mentioned above, *access to capital* is perhaps the most salient. As one financial inclusion expert put it, "For many of these merchants, the primary need is not payments—it's access to capital."[32] Digital payment products with features that enable merchants to receive supplier credit, or to track their financial history so that it can be used to access bank credit, may be compelling for some merchants. For instance, a South African merchant told us, "If accepting this terminal means that I could get credit from suppliers or the bank, I'd be more likely to do it."

Micro and small merchants may also be interested in digital payment products that offer opportunities to add *new revenue streams.* MSMs are well positioned to act as agents for various services that utilize technology similar to that of digital payments. For instance, in some countries payment terminals also enable merchants to act as a payment point for utility bills, electronic fund transfer, mobile phone top-up and other types of transactions—all from the same terminal that they use to process payment card purchases.[33] These additional services increase foot traffic in their shops and can generate additional revenue as MSMs earn a percentage of transaction fees.

Finally, more sophisticated MSMs may be interested in add-on features that facilitate *improved business operations.* Features could include customer data tracking to enable merchants to better understand their market, inventory management for merchants with more complex businesses and transaction tracking and management, among others. Features like these are likely appealing only to a small fraction of MSMs; however, most of the merchants we spoke with are not yet at a level of sophistication where they would require such features.

Bundling digital payments with other features can increase the value that merchants associate with accepting digital payments, and help offset the costs incurred in doing so. It is important to remember, however, that most of these bundled features are not yet widely available to MSMs in the countries we visited—especially credit and data-based services. These features will, therefore, likely require a substantial marketing effort.

[32] Dalberg stakeholder interviews.
[33] Kartuku, a financial tech player in Indonesia, calls this solution its "EDC Terminal Mini ATM."

Pricing: Very cheap for the merchant, at least initially

Any product offering aimed at the MSM segment must be very affordable from the perspective of the merchant. Most MSMs we spoke with run high-volume, low-margin shops and, as a result, generally have very little disposable income. These merchants are extremely price-sensitive. Merchants in some countries have also been conditioned to believe that digital payment products should be free to them, due to bank practices of giving away payment terminals.

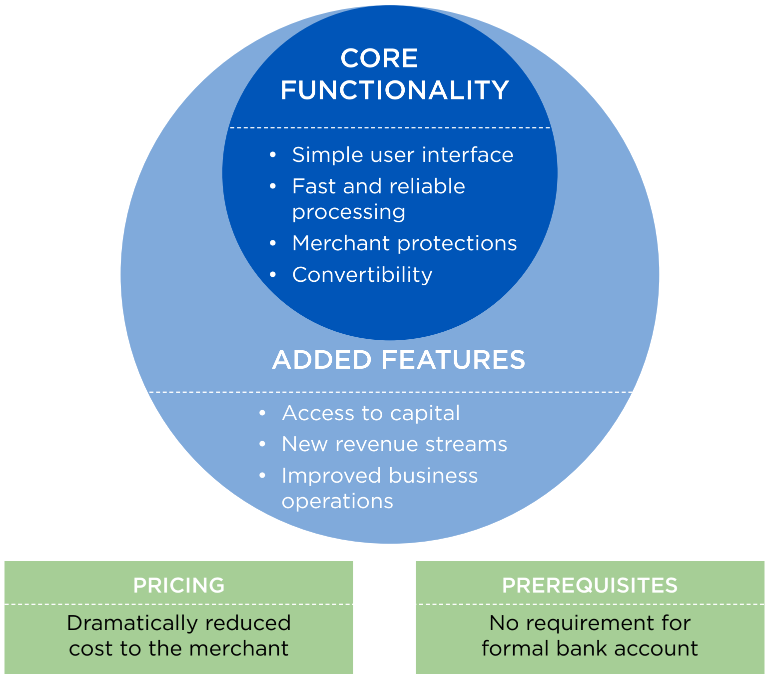
Some of the larger MSMs we spoke with are equally price-sensitive, but for different reasons. These MSMs are savvy businesspeople who understand the trade-offs between paying fees to accept digital payments and the potential benefits. In many cases, these merchants have done their own rough analysis on digital payments and have concluded that it is likely not worth the investment at the price point available to them.

In addition to lowering the overall cost, product offerings must have pricing structures that work for MSMs. For the reasons described above, most MSMs are unable to afford the large upfront or fixed monthly fee that typically accompanies the purchase or rental of a payment terminal. Additionally, very few are willing to accept a pricing structure that exposes them to financial risk—for instance, penalties for failing to reach a certain quota.

Product prerequisites: Moving away from bank accounts

Looking beyond the product offering itself, the prerequisites for accepting digital payments must also be within reach for micro and small merchants. For most MSMs, the requirement to have a formal bank account is prohibitive. An estimated 55% of MSMs currently do not have access to a bank account,[34] and an even greater number lack access to a business bank account, which is required in some countries to accept digital payments. One stakeholder who runs a social enterprise for microbusinesses notes, "People don't see it as logical to open a bank account in order to do payments—the order is backwards." The most well-known digital payment platform in the developing world, Safaricom's mPesa, was able to succeed in part because it did not rely on commercial banks or the need for payers or payees to have a formal bank account. To reach significant scale, a digital payment offering for micro and small merchants will likely need to do the same.

FIGURE 12: Potential incremental improvements to the product offering



[34] IFC Enterprise Finance Gap Database.

More broadly, de-linking digital payments from bank accounts represents a "white space" and a significant opportunity for innovation. In certain developed markets such as the United States, new digital payment products have emerged that begin to compete with the product offerings provided by commercial banks—though they do not, as yet, go so far as to eliminate the need for a bank account. In developing countries, an opportunity exists to "leapfrog" traditional digital payment offerings. Unless they innovate to keep pace with these trends, traditional players such as commercial banks are at risk of missing out on this significant and growing space.

These types of incremental improvements will require existing payment providers to work together. For instance, faster transaction times, increased merchant protections and shorter settlement periods could potentially be achieved through collaboration between acquiring and issuing banks and the payment networks that connect them. Determining how to improve the user interface and incorporate additional features could require the cooperation of banks, terminal manufacturers and other players that understand the needs of micro and small merchants.

From Incremental Improvements to Radical Innovation

Radical new products will be needed to serve the vast majority of MSMs, including those who are informal, serve lower-income customers and/or operate with very slim margins. Whereas the well-established restaurant has steady income and high enough margins to sustain an added business expense, the kiosk owner in the public market has little income to spare. The restaurant may be able to afford the digital payment products currently on the market, and willing to adopt them if only a handful of incremental improvements in core functionality were made. On the other hand, the economics of the kiosk owner put existing digital payment products out of reach. In order to attract this type of merchant, the product offering must undergo fundamental change.

New products: Starting with first principles

Product innovation can occur along three primary dimensions: pricing, form factor (or the physical design of the product) and functionality. In terms of pricing, innovations could entirely alter the total cost and pricing structure, as well as the paying entity—that is, who ends up paying for the product. In order to appeal to the smallest MSMs, providers should consider a product that is extremely cheap or perhaps free, at least from the perspective of the merchant. In most cases merchants pay transaction fees as a percent of the transaction value. Providers should explore entirely new pricing models that work well for very small merchants—for instance, a small fixed fee per transaction or per month. Providers should also consider new models in which the merchant may not pay at all, with the costs incurred by the customer or by the creator or distributor of the merchandise being purchased, or subsidized through the cross-sale of ancillary services like credit, insurance or data analytics.

The physical design of the product matters because it drives other important characteristics including the cost structure and ease of access. Cards (e.g., credit, debit, prepaid, etc.) are the dominant form factor in the digital payments space—but a growing pool of evidence points to the promise of other form factors, most notably mobile phone-based applications, or mobile money.

Although the suitability of mobile money varies from country to country, mobile money has important advantages over card-based payments. First, the reliance of card-based transactions on a payment terminal drives up the cost of provision. Mobile money has the advantage of leveraging hardware that many merchants and customers already have, so that no additional investment in hardware is needed. Second, the delivery channel for mobile money is through the mobile network rather than through a fixed-line connection; busy merchants are likely to have an easier time installing an application on their mobile phone rather than obtaining a physical terminal. Finally, mobile money has another advantage in that, in many cases, MNOs provide the infrastructure needed to support user accounts—both for merchants and their customers. Where regulations enable it, mobile money can thus exist without the need for the user to open a bank account.

Finally, as discussed above, micro and small merchants would see value in a range of added features that could make digital payments more attractive. In considering radical innovations to serve the smallest of MSMs, providers should consider incorporating functionality that offers immediate opportunities for new revenue sources and other value-added features. For instance, products could equip merchants to act as agents for services that complement their existing businesses, such as bill payments, or could enable merchants to access small lines of working capital.

New partners: A different way of working with MSMs

Radical innovations to the product offering will require the participation of new players who bring fresh ideas, new capabilities and novel partnership opportunities to deliver better digital payment products. These players could include mobile network operators (MNOs), independent financial technology (FinTech) companies, micro-finance institutions (MFIs) and other non-bank financial institutions (NBFIs), and fast-moving consumer goods companies (FMCGs) and other supply chain players.

Innovative pricing structures could alleviate some of the financial burden that MSMs experience. For instance, for some mobile money person-to-person (P2P) transactions, the sender rather than the recipient pays the transaction fee, and the recipient pays a fee only when she cashes out. Providers could experiment with this pricing model to test its applicability for merchant payments; the customer could incur the cost of sending money to the merchant and the merchant could incur the cost of cashing out or transferring the money to her bank account. Another model to explore is a one-time or monthly fee rather than a per-transaction fee; this model is common in mobile money services, where customers pay a

FIGURE 13: Potential roles of new players

	Capabilities	Incentive to work with MSMs	Potential role and limitations
MNOs	• Extensive reach among MSM population • Level of comfort with different revenue models, e.g., high-volume, low-value • Technical expertise and capacity to innovate	• Significant business opportunity leveraging existing capabilities and organizational structure	• Innovate on products • Act as direct provider of digital payment products • **Limitation:** Often face regulatory constraints; usually have little experience with payments
FinTech companies	• Technical expertise and capacity to innovate • Experience with digital financial services	• Significant business opportunity leveraging existing capabilities and organizational structure	• Innovate on products for MSMs • **Limitation:** May have little experience with MSMs to date
MFIs and NBFIs	• Trusted relationships with MSMs and their customers • Understanding of MSM segment, including MSM needs and constraints	• Opportunity to strengthen relationships with MSMs that are current or future customers	• Participate in delivery of digital payment products, e.g., helping conduct sales or after-sales service • **Limitation:** Lack scale to reach large populations; may not have organizational capabilities to participate
FMCG and supply chain players	• Existing direct or indirect business relationships with MSMs • Potential influence over MSM populations	• Opportunity to increase efficiency and reduce losses in supply chain transactions • Potential to leverage corporate social responsibility (CSR) funds to support financial inclusion	• Help inform feature set of products that could appeal to MSMs, including add-ons that facilitate digital supply chain payments • **Limitation:** May have limited experience with digital payment products or do not appreciate the incentives to invest in them

one-time fee in order to access bill pay services.[35] More broadly, as credit and other services are bundled into digital payment platforms, revenue from these services can be used to offset the cost of processing payments.

Technology players could lower costs by simplifying the hardware associated with accepting digital payments—or eliminating them altogether. Simplified versions of card-reading terminals (e.g., mobile phone-enabled terminals, or "mPOS") that plug directly into a phone have been popularized by companies like Square and are available in many developing countries. Although they require a smartphone with a data connection, innovations like these demonstrate the potential to do away with expensive hardware and lower the cost of serving small merchants. FinTech players have also developed merchant solutions that entirely eliminate the need for a card reader. For example, in South Africa, new apps such as SnapScan and mVisa provide payment systems whereby merchants display a printed code, which customers scan with their smartphone in order to pay. While these solutions have not entirely replaced terminals or the need for formal bank accounts, they again demonstrate promising innovations for eliminating some major costs in the provision of digital payment products.

New partners could help develop value-added features to bundle into digital payment products, offering a greater value proposition to merchants. In India, a new service called Beam turns merchants into agents for various services such as mobile and television recharge, utility payments, rail and air ticketing, money transfer and paying insurance premiums. As part of the product, Beam offers its own cashless payment system that operates on prepaid accounts. In their role as agents, merchants see more foot traffic from customers stopping in to use these services; they also have the ability to accept Beam payments for other goods in their shop. In Zambia, the mobile money service Zoona enables merchants to process money transfers, pay suppliers and access working capital loans in partnership with FMCGs like Zambian Breweries and SABMiller.

Similarly, in Colombia and Mexico, Frogtek's Tiendatek service enables merchants to process digital payments, track inventory more effectively and view useful metrics. But benefits extend beyond the merchant. First, the data feeds into a marketing analytics tool used by consumer goods companies, enabling them to better understand their markets. The product also enables suppliers such as Unilever and Grupo Bimbo to receive supplier payments through mobile phones in partnership with the bank BBVA-Bancomer. This example demonstrates the potential for digital payment products and bundled features to generate benefits for merchants as well as the businesses with which they interact. Experimentation with models like this could lead to suppliers helping to subsidize the costs of cashless acceptance for merchants.

Finally, new partnership models could make cashless acceptance easier and less expensive for MSMs. For example, in Mexico Visa partnered with the baking company Grupo Bimbo and its technology solutions subsidiary, Blue Label Mexico, to expand acceptance of payment cards among small merchants. The joint venture leveraged Grupo Bimbo's existing network of over 700,000 small retailers and the trusted Bimbo brand to quickly expand modern payment services in Mexico. Using the Red Qiubo, a card terminal that also facilitates payments for services and airtime purchases, the partnership increased the number of acceptance points in Mexico while helping small merchants boost foot traffic and increase sales.[36]

New rules: Balancing between competition and collaboration

Improvements in the regulatory and business environment will be needed to facilitate radical change in payment ecosystems. Specifically, regulators and business leaders must enact policies that promote competition, support market-building initiatives and lower the barriers for underserved populations to access financial services.

[35] Yasmina M. McCarty. "EWallet Merchant Payments." *GSMA Discussion Paper,* October 2012.

[36] Grupo Bimbo. "Grupo Bimbo, Blue Label Mexico and Visa, Increase the Acceptance of Electronic Payments in Mexico." Press release, October 30, 2013.

Governments should assume a leading role in promoting competition to create an ecosystem where many types of players can contribute. These regulations afford new players, including mobile network operators and independent FinTech companies, the flexibility to participate in cashless payments without having to adhere to unnecessarily strict regulatory requirements. Policymakers can issue licenses to new payment operators who offer only basic accounts and payment services without the risks and regulations associated with the activities of more sophisticated financial institutions. In doing so, regulators can marshal the capabilities and assets of these non-bank players, leading to greater innovation and expanded access in poor and rural communities.

Several governments have made positive changes in this regard. In the Philippines, regulations issued in 2009 allow not only banks, but also mobile network operators, MFIs and other entities to participate in the digital payments industry. As a result, two MNOs have entered the market in earnest as payment providers, issuing their own cards to customers as well as providing digital payment products to merchants. Similarly, in countries like India, Colombia and Mexico,[37] regulators have created "payment banks" as a new category of financial institution that is less tightly regulated than deposit-taking financial institutions. These payments banks can accept funds up to a certain cap (about $1,500 in India, for example), provide payments and remittances services and provide debit cards. They are not, however, allowed to make loans or issue credit cards.[38]

Governments and business leaders must also support market-building initiatives, especially interoperability, in order to improve efficiency in the market. Governments have approached this issue in various ways. In Nigeria, regulators developed the Nigerian Inter-Bank Settlement System (NIBBS), the technical infrastructure that is needed to route transactions between various banks and mobile payment companies. India took a similar approach, mandating interoperability and investing in the shared infrastructure needed to make it happen. Governments can also play an important coordinating role by encouraging business leaders to self-organize.

Finally, governments should reform policies that create barriers for underserved populations to access financial services, including regulations around KYC, business formality and taxation. In recent years, several governments have enacted reforms that demonstrate the potential to increase financial inclusion through improved regulatory frameworks. In Nigeria, India and many other countries, governments have created tiered KYC policies with different requirements for different types of financial products. These examples demonstrate that when registration requirements are lowered for basic financial products they become much more accessible to low-income individuals and informal businesses.

Beyond their stated commitments to digital payments and financial inclusion, governments have a responsibility to ensure that meaningful policy change follows, along with real movement towards cashless economies. Monitoring progress using the right metrics becomes an important part of what governments can do to back up their commitments. For instance, simply counting the number of open bank accounts is not enough; governments need to look at actual usage to determine whether MSMs and low-income populations are truly financially included.

Global financial inclusion thought leaders have an important support role to play. Several players are already supporting governments through a combination of research, advocacy and technical assistance. For instance, the Better than Cash Alliance (BTCA), a leading advocate for the transition from cash to digital payments, conducts research to inform these transition strategies and then works closely with governments around the world to catalyze change. Another example is The Alliance for Financial Inclusion (AFI), a global network of financial policymakers and regulators from developing countries, which convenes working groups on financial inclusion topics and helps facilitate connections and knowledge exchange between members. Multilateral development banks are also doing important work to catalyze cashless ecosystems around the world by investing in digital infrastructure. While these global initiatives, along with others, continue to make progress, an opportunity also exists for country-level initiatives that bring together payment providers, regulators and other stakeholders in support of financial inclusion solutions that lead to better products and services for MSMs and their customers.

[37] Xavier Faz. "A New Wave of E-Money in Latin America." *CGAP Blog,* June 2013.

[38] Madhura Karnik. "Everything you need to know about India's brand new payments banks." *Quartz India,* August 2015.

Growing the Cashless Ecosystem

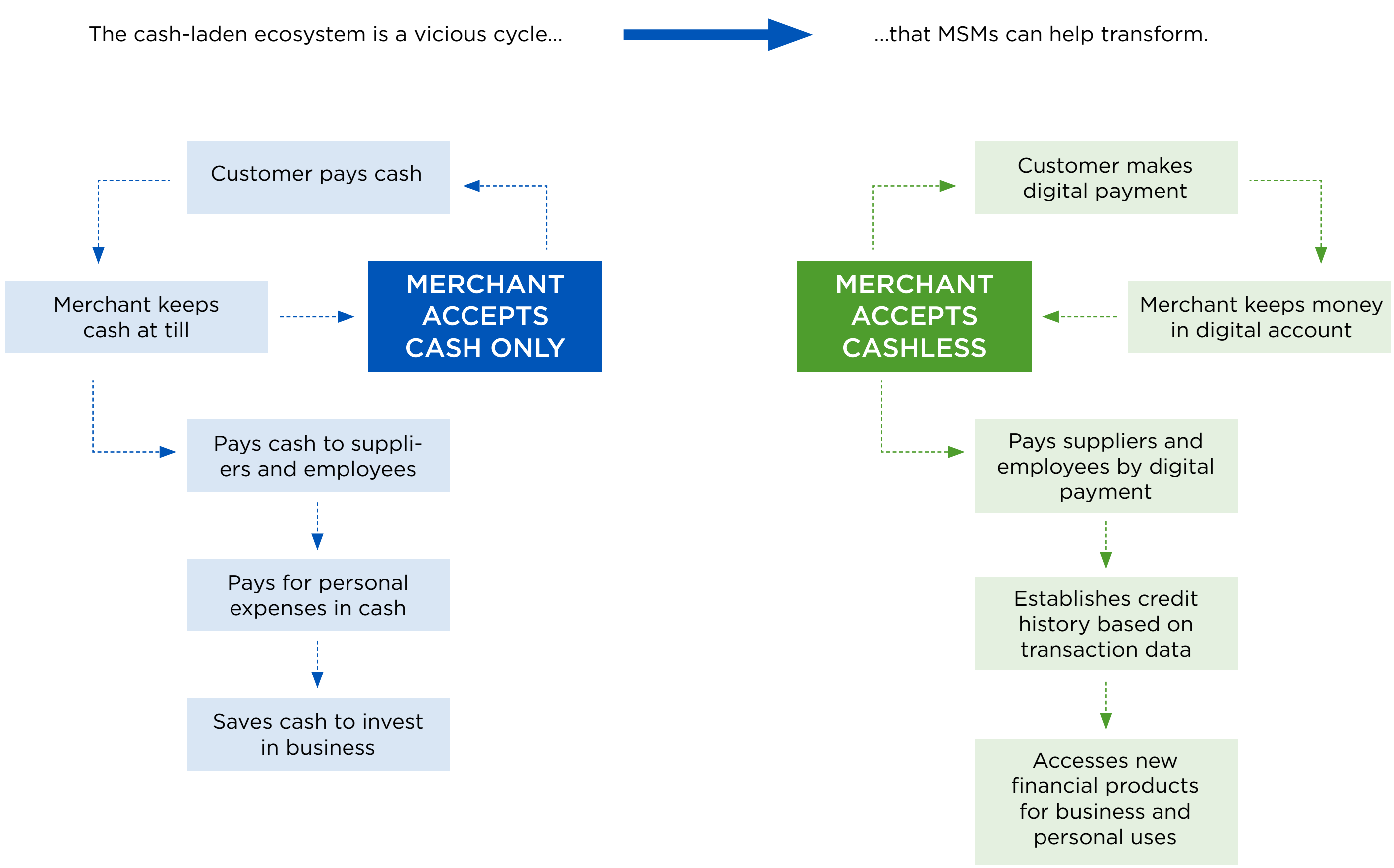
Cashless 'outflows' are critical

Most digital payment services available to MSMs focus only on the inflow of money into the business. Simply addressing one inflow (e.g., the retail transaction between a customer and an MSM) has the potential to make conducting business more difficult for merchants in the near term. As we discussed earlier, MSMs need cash to pay everyday business and personal expenses, including payments to suppliers, utility providers, landlords and government agencies, as well as employees. Therefore, converting inflows to digital currency runs the risk of forcing merchants to make more frequent visits to the ATM or bank—that is, unless the majority of their outflows are cashless as well.

A wide range of players can help create cashless channels for outgoing merchant payments. For example, suppliers, utility providers and landlords can require or encourage merchants to pay them via bank transfer or some other digital method. Technology players can generate the necessary product innovations to enable these shifts—for instance, products that enable digital payments in the supply chain. Governments can offer tax breaks or other incentives within the supply chain to encourage MSMs to convert some of their cash outflows to cashless. And finally, payment networks and governments can offer incentives for their larger customers (e.g., FMCG distributors, utility companies, property managers and government agencies) to enable and encourage digital payments in the ways described above.

More broadly, it is helpful to remember that merchants are not just businesspeople; they are consumers and citizens as well. They have personal expenditures including healthcare, education and tax payments, among others—and any shifts in these payments from cash-based to digital will make it easier for them to accept digital payments from their customers.

FIGURE 14: The role of MSMs in transforming cash-laden ecosystems



Ultimately, cash-laden societies are caught in a vicious cycle where the use of cash in one part of the ecosystem further encourages the use of cash in other parts of the ecosystem. By working with micro and small merchants—the linchpin of the economic lives of many underserved populations—it is possible to transform this vicious cycle into a virtuous one.

Customer demand is essential

Finally, although it was not the focus of this report, the issue of customer demand remains highly relevant to MSM cashless acceptance. Any initiatives that focus on MSM acceptance will benefit from complementary initiatives that encourage customers to pay with digital products. Some promising interventions have already begun to emerge, driven by governments, banks, payment processors, transport providers and donor agencies, among others. In Nigeria, the government has launched the National Identity Smart Card (NeID), issuing ID cards that also function as payment cards, in partnership with MasterCard, Access Bank and the payment processor Unified Payments. With this single initiative, millions of citizens will have access to a payment card in a country where 70% of the population currently lacks a bank account.[39] In the Philippines, a consortium of players has launched the "Beep" transit card, a pre-paid card that is required in order to ride the city rail in Manila. As an added feature, individuals can layer debit card functionality onto the same card that they use every day for transportation.

Aid distribution also presents opportunities to encourage populations to embrace a more cashless ecosystem. In the Dominican Republic, Visa partnered with the government to increase financial inclusion by distributing aid via prepaid cards rather than cash. Launched in 2004, the Solidaridad program has a key stipulation attached: recipients must use their prepaid cards to shop for goods and services, rather than withdrawing the funds as cash. In tandem, the program helped install payment terminals at corner stores and local merchants to ensure that customers had an adequate network of places to use their cards.[40] Similarly, in the Philippines, Oxfam partnered with the Philippine Postal Corp (PHLPost), Visa and others to develop a disaster aid program, distributing aid effectively and safely using prepaid charge cards instead of cash. These cards can be used to withdraw from ATMs and other designated cash-out centers, as well as for making retail purchases at local merchants.[41]

The private sector, specifically issuing banks and payment networks, is also making significant investments to expand customer demand for digital payments. For example, in Indonesia, issuing banks and payment networks co-invested in programs designed to scale digital payment usage outside of major cities. In Rwanda, banks, payment networks and other financial service providers have expanded access to financial products to previously underserved customers by deploying mobile solutions through an interoperable payment platform that lowers the processing costs for key players. At the same time, this partnership has helped educate over 40,000 Rwandan citizens in the fundamentals of money management and digital finance through a national financial literacy campaign.

These examples highlight the diversity of players that can—and must—work together to support a broader shift towards digital payments, helping merchants break out of the cash-laden ecosystems that surround them.

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[39] Neal Ungerleider. "Nigeria's Futuristic National ID Cards Are Also Debit Cards." *Fast Company,* May 2013.

[40] Partnering with Governments to Transform Payments," *Visa Government Solutions,* 2012.

[41] PHLPost. "International aid Oxfam partners with PHLPost for electronic payment of humanitarian assistance." Press release, September 2, 2015.

Conclusion

Micro and small merchants are a critical part of the economy and a key touch point in the economic lives of financially underserved populations. They also represent a promising channel for financial inclusion—one that has been largely forgotten to date. The social impact potential of addressing financial inclusion through increased cashless acceptance is twofold. First, MSMs are often financially excluded themselves; therefore, enabling them to accept digital payments can help them build a financial track record and access more sophisticated financial services in the future. Second, by virtue of the central role they play in the lives of low-income communities, they present the opportunity for much broader impact by providing incentive for financially underserved individuals to adopt digital payments and utilize them more frequently. In turn, these customers can begin to build their own financial track record in preparation for more sophisticated financial services.

Unlocking the social and commercial opportunities of increased financial inclusion for MSMs through expanded cashless acceptance requires three parallel interventions. First, existing digital payment platforms require incremental improvements to attract MSMs who are likely to begin accepting digital payments if one or two aspects of the product offering were enhanced. Second, radical innovation is necessary to deploy payment products tailored to the needs of MSMs who are unlikely to begin accepting digital payments in their current form. Finally, expanding the cashless ecosystem to ensure that funds are regularly added and remain in the system is critical to the long-term vitality and sustainability of digital payment systems.

This report is a call to action for actors across the cashless ecosystem to increase financial inclusion for MSMs and their customers. Each actor in the ecosystem must play a role:

- Commercial banks and financial service providers need to realize the financial opportunity of serving MSMs by introducing digital payment products tailored to their needs, marketing the benefits to potential customers and improving access and distribution channels.
- Payment network operators should expand their financial inclusion efforts, using digital payments as the first step along the pathway towards broader financial inclusion and providing access to more sophisticated financial products through their partners.
- Financial regulators must introduce policies that facilitate financial inclusion and remove the barriers to cashless acceptance for MSMs.
- Governments and businesses can expand the cashless ecosystem by increasing the use of bulk digital payments (e.g., G2P and B2P) and introducing interoperable payment platforms.

Increasing cashless acceptance among MSMs is not an easy task. It will require broad participation and fresh thinking from current payment providers and new players alike, working together with financial inclusion thought leaders and regulators around the world. If these efforts succeed, the payoff will be transformative for millions of small merchants and their customers—as well as for the broader economies and societies in which they operate.

Annex I
Glossary

Acquirer / acquiring bank / merchant acquirer
The entity that provides services to merchants or payment facilitators related to clearing and settlement of accepted transactions. In general, the services include receiving and processing the data relating to the transaction for authorization, clearing and settlement.

Anti-money laundering regulations
Rules intended to help detect and report suspicious activity including the predicate offenses to money laundering and terrorist financing, such as securities fraud and market manipulation.

Business-to-Business (B2B)
In reference to payments, the exchange of money between businesses (contrasted with exchanges between business and consumers, or governments and consumers).

Business-to-Person (B2P)
In reference to financial transfers from businesses to individuals (e.g., salary payments).

Cashless acceptance
The ability to process non-cash payments—including, but not limited to, credit and debit cards, mobile money, and other digital payment products—in return for goods and services. *For the purposes of this report, traditional checks were not included when we referred to cashless acceptance.*

Chargeback
A reversal of a prior transaction, often requiring that the merchant pay for the loss on a fraudulent or disputed transaction.

Digital payment
A payment made via the electronic exchange of information and without any exchange of physical documentation such as cash or a personal check. This includes payments made with payment cards (e.g., credit, debit, prepaid) and electronic bank transfers.

Fast-moving consumer goods (FMCG)
Retail products that are sold quickly and at relatively low cost. Examples include non-durable goods such as soft drinks, toiletries, over-the-counter drugs, processed foods and many other consumables.

Financial inclusion
Access and effective use of appropriate financial services that are provided responsibly and sustainably in a well regulated environment.

Government-to-Person (G2P)
In reference to payments or financial transfers from governments to individual citizens (e.g., social security and welfare payments).

Issuer / issuing bank
A member of a payment network (typically a bank or financial institution) that enters into a contractual relationship with a cardholder for the issuance of one or more cards products.

Know your customer (KYC) requirements
The process, generally required by regulation, used by a business to verify the identity of its clients or customers.

Merchant
An entity that accepts payment for the sale of goods or services. For payment cards, a merchant also must submit the resulting transaction to an acquirer for interchange, directly or via a payment facilitator. A merchant may be a single merchant outlet or represent multiple merchant outlets. Also known as a Retailer.

Merchant discount rate (MDR)
The fee, expressed as a percentage of the total transaction amount, that a merchant pays to its acquirer for transacting on a payment card brand. Usually, the IRF is one component of this fee, along with other fees imposed by the acquirer. Also known as Merchant Service Fee.

Micro and small merchants (MSMs)
Retail or service sector businesses with fewer than 10 employees at any single location.

Microfinance institution (MFI)
An organization that offers basic financial services to low-income customers, including loans, insurance and deposit accounts.

Mobile money
A financial account that can be accessed and used for making and receiving transactions from a mobile phone.

Mobile network operator (MNO)
A telecommunications organization that provides wireless voice and data communication to mobile phone users.

Mobile point-of-sale (mPOS) terminal
A payment acceptance application that uses a portable electronic device such as a smartphone, tablet, or dedicated wireless device. The portable electronic device typically is not solely dedicated to point-of-sale functions and has the ability to wirelessly communicate across open networks.

Non-bank financial institution (NBFI)
A financial institution that does not have a full banking license or is not supervised by a national or international banking regulatory agency.

Payment accounts / transaction account
Accounts held with banks and/or other authorized or regulated payment service providers that can be used to make and receive payment and to store value.

Payment network
A provider of payment services that connects multiple stakeholders, to complete payment processing. For example, the merchant acquirers provide platforms to connect merchants and payment networks, to facilitate transactions.

Payment system
A system consisting of instruments, banking procedures, and, typically, interbank funds transfer systems that ensure the circulation of money.

Person-to-person (P2P)
In reference to financial transfers between two different individuals (e.g., remittances).

Point of sale (POS) terminal
An electronic device that reads a payee’s payment information (e.g., debit card) and transmits the transaction and payment information to a payments provider over a network.

Product offering
A product or service designed to deliver value to customers, including (1) the physical or virtual product (e.g., the payment terminal or mobile application); (2) the distribution channel (e.g., availability, convenience of use, adaption support, and customer service; and (3) the price the mercant pays to receive the benefits of the offering

Stored-value card
A payment card with a monetary value stored on the card itself, not in an external account maintained by a financial institution.

User interface
The elements of a system with which a user has direct contact, and with which they interact to conduct activities.

Annex II
Research Scope and Approach

We spent nearly 100 days conducting research in six countries: Colombia, Peru, Indonesia, the Philippines, Nigeria and South Africa. These countries were selected for several reasons. First, they represent a sample of emerging and frontier market economies across three distinct regions. Second, they provide a window into a diverse set of financial ecosystems and barriers to digital payment adoption. Finally, they share certain characteristics that make them potential commercial opportunities for expanding financial inclusion—namely, they all have an emerging or growing middle class. Over a two-month period, we visited more than 300 micro and small merchants in their places of business and consulted with more than 70 influential business leaders and financial inclusion experts.

Research overview

Rather than conduct a macroeconomic analysis, we chose to interview these MSMs in their places of business, holding qualitative, in-depth conversations with the goal of gathering a diverse set of on-the-ground perspectives. We also gained a high-level, ecosystem-wide view in each country by interviewing relevant business leaders, regulators, and financial inclusion experts.

Interviews with merchants lasted roughly 30 minutes each. Where possible, these conversations took place in the local language or dialect in order to capture the nuances of the merchant's perspective. Our aim was not to reach statistically significant findings from quantitative data, but rather to gather the information needed to paint a detailed portrait of MSMs' experiences with digital payments and access to financial systems.

Scope

This report focuses on cashless, electronic payments (e.g., digital payments) for retail transactions, including primarily credit and debit cards (where value is stored or tracked in an account typically held at a bank), stored value cards (where the value is stored on the card itself), and mobile money (where value is stored in an account held by the mobile network provider or partner bank and accessed via the mobile phone interface). Newer, innovative forms of payment, usually requiring technology available on a smart phone, are also considered, though we saw relatively few instances of these products in action. Checks and bank transfers are not considered "digital payments" for the purposes of this study.

Although the focus of this report is on increasing *adoption* of digital payment systems (that is, enlisting merchants to accept digital payments) as a path to financial inclusion, conversations with MSMs also provided insights into factors that limit the *utilization* of digital payments (that is, usage of digital payment systems once merchants had already obtained them).

Merchant interviews

Above all, research teams sought input from a diverse range of micro and small merchants. We interviewed merchants in multiple cities or towns within each country and, at times, multiple areas within a city. We also aimed for diversity across a range of additional dimensions, including location (urban, suburban and rural, as well as commercial versus residential), merchant demographics, average transaction size and product or service type. Because the study focused on the barriers to adoption rather than utilization, we favored speaking with merchants who did not already accept digital payments and who are generally excluded from or are underserved by the financial system.[42] In the subset of conversations with merchants that accept digital payments, we aimed to understand what drove their decision to adopt them and how they are using cashless systems.

[42] For example, while many merchants have a bank account, they may not use it very often, or they may have access to few financial services beyond a basic bank account.

We emerged with a diverse sample of merchants with the following characteristics:

Demographics: Our respondents ranged from 19 to 70 years old, with a median age of 35. They were 51% female and 49% male. The majority had a secondary school education at most, though 42% had some form of post-secondary education. While we did not ask merchants directly about their socioeconomic status, most of our interviewees would likely fall into the lower- to lower-middle income segments in their respective countries. Their customers would also fall into these segments.

Business characteristics: We interviewed merchants of various types, including neighborhood convenience stores, grocery stores, barber shops and beauty salons, doctors and dentists, auto repair shops, clothing shops, electronics stores, restaurants and taxi drivers—to name only a few. On average, these businesses employed three to four employees—most of whom were either family, neighbors or close friends. Over 40% of the merchants we interviewed did not have registered businesses; the vast majority had only one retail site.

Financial profile: 81% of MSMs we interviewed had personal bank accounts—a high percentage compared to poor populations globally, perhaps due to the fact that many of our interviews occurred in commercial areas in urban or peri-urban settings. However, only 48% of them banked as a business, and only 39% of MSMs interviewed had personally used digital payments as a customer themselves. As mentioned above, most MSMs we interviewed did not accept cashless payments; only 23% accepted some form of cashless payment. Finally, nearly all of the merchants we interviewed operated in a cash-laden environment, meaning they used cash for almost all of their business and personal transactions, including their payments to suppliers and employees, and for their personal expenses.

Stakeholder interviews

In addition to these 300 merchants, we also conducted interviews with about 70 key stakeholders, including bankers, researchers, regulators, fast-moving consumer goods (FMCG) companies, financial inclusion experts and others in the digital payment ecosystem. Our goal in speaking with these stakeholders was to complement and validate our on-the-ground perspectives from merchants with high-level insights from business and financial inclusion leaders who know these markets well. In these interviews, we explored the ecosystem-level challenges and opportunities related to digital payments, financial inclusion and micro and small merchants.


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