



January 2019

The Role for Last Mile Partners in Expanding Payments at the Base of the Pyramid

Foreword from Michael Froman



“If you want to go fast – go alone. If you want to go far – go together.” This oft-cited African proverb summarizes well Mastercard’s approach to driving commercially sustainable social impact.

New technologies are evolving at a rapid pace, making our lives more interconnected. However, more than a billion people around the world still lack a formal identity, let alone access to basic financial services, something many of us take for granted.

To achieve our collective goal of financial inclusion for all, we need to deepen our work with stakeholders such as civil society institutions, multilateral organizations, government bodies, and private sector financial institutions—all of which have played and will continue to play a tremendous role in increasing access and usage of financial services for millions of individuals and businesses worldwide.

But we need to broaden our aperture and look beyond these stakeholders to a wider cast of actors. The next chapter of financial inclusion will require us to focus not just on access, but on usage and ultimately on financial health and security. To do that, we need to reach deeper into the real economy. We need to work more closely with the private enterprises that are present in the lives of people living on less than \$2 a day. And we need to do so in a manner that unlocks additional investment.

We need to engage the organizations that drive commerce at the base of the pyramid—the telecommunications providers, agribusinesses, consumer goods companies, apparel companies and energy providers, among others. These are the organizations that sell to, buy from, and employ millions of underserved individuals and small businesses which are still left out of the formal financial system. Not only do we believe these organizations play a critical role today, but they also have a vested interest in digitalization of their business models. They stand to benefit from the tools—more efficient digital payments—as well as the outcome—greater financial inclusion.

At Mastercard, we believe in the power of digitalization to realize commercially sustainable social impact. By working with a broad range of stakeholders—traditional partners, such as banks; less traditional partners, such as microfinance institutions; and new partners, such as enterprises in the real economy—we believe that we can accelerate and expand financial inclusion. We hope you join us on this journey.

Michael Froman, Vice Chairman and President, Strategic Growth

A handwritten signature in black ink, reading "Michael Froman". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Executive Summary

Non-traditional stakeholders (which we refer to as **last mile partners**) are organizations that drive commerce at the base of the pyramid. These organizations have not traditionally been considered drivers of financial inclusion.

While traditional players in the financial inclusion ecosystem have an important role to play, those involved in commerce have a vested interest in digitization and stand to benefit from financial inclusion.

This report addresses the opportunity for the private sector to play a role in developing digital payment systems.

Not only will this help advance financial inclusion globally, but it will further the unique interests of the private sector, namely opportunities to drive business sustainability. Many private sector entities are already driving commerce at the base of the pyramid (BoP) and stand to benefit from a greater use of digital technology—both through the digitization of key processes as well as the digitalization of business models. Payments can be an enabler of both. These non-traditional stakeholders may not be the most likely candidates for driving the financial inclusion agenda. However, these are the organizations that sell to, buy from, and employ millions of underserved consumers and merchants. The digitalization of business models, enabled by digital payments, allows for alignment of mutual objectives across sectors. It is imperative that these last mile partners work more closely with the traditional players pursuing global financial inclusion to build and scale the ecosystems necessary to achieve our collective financial inclusion goals and drive greater impact.

There are tangible benefits to private sector organizations from pursuing greater usage of digital technologies, especially digital payments, in their supply chains. First, digital payments allow for the realization of operational efficiencies by streamlining processes and reducing reliance on cash-based value chains. Second, digital payments enable opportunities for market expansion that leverage new data on consumer segments to better target products and services. Third, a more inclusive business model enhances a brand's value in today's age where consumers increasingly place a premium on sustainable practices.

Employing digital technologies across a global business is not easy, especially for payment systems, because it requires an ecosystem of players to achieve impact at scale. However, if done right, developing this ecosystem has the potential to align mutual interests and change the lives of millions of individuals and small businesses currently underserved by the formal financial sector. We illustrate this potential through five representative industries, while also highlighting the work we've done at Mastercard to drive this approach forward:



Contract manufacturing



Energy



Mass transit



Agriculture



Fast-moving consumer goods

Getting this right has the potential to unlock great opportunities for the private sector, especially those last mile partners driving commerce at the base of the pyramid. We invite you to join us on this journey.

Introduction

Digital technologies are re-shaping the world we live in.

The effects are perhaps most dramatic in developing countries where digital technologies are creating invaluable opportunities for underserved consumers to make tangible changes in their lives. An example of such an opportunity is the development of inclusive digital payments systems—more specifically, payment systems that reach populations at the base of the pyramid.

At Mastercard, we have been working diligently to provide useful financial products and services to empower the 1.7 billion people around the world who lack basic access to a bank account.¹ Financial inclusion is important to us because it provides underserved populations the opportunity to break free from the vicious cycle of poverty by enabling individuals to make secure transactions, save for the future, borrow to grow their business, and insure against future shocks. These same benefits apply to the millions of underserved small businesses as well.

Digital payments are having a real impact by connecting underserved populations to the goods and services they need. Traditionally, payment service providers (PSPs) have worked with financial and public institutions to provide access to payment solutions. For the most part, public institutions have put forth tremendous efforts in establishing the rules and regulations necessary to drive innovation and expand financial access, such as in payments. In pursuit of their primary mission to support transaction volumes, PSPs have made great strides in building out the enabling payment infrastructure necessary to digitize payment flows.

Leveraging the success of these early efforts and the continued advances in digital technology, we can now open up a new front in our development efforts by working with last mile partners to further extend our reach to BoP populations. These efforts are distinct from—yet complementary to—the existing efforts by financial ecosystem stakeholders to develop the enabling payment infrastructure, which too has seen innovation around new models for reaching this population (e.g. payment facilitators, microfinance institutions).



Opening a new front

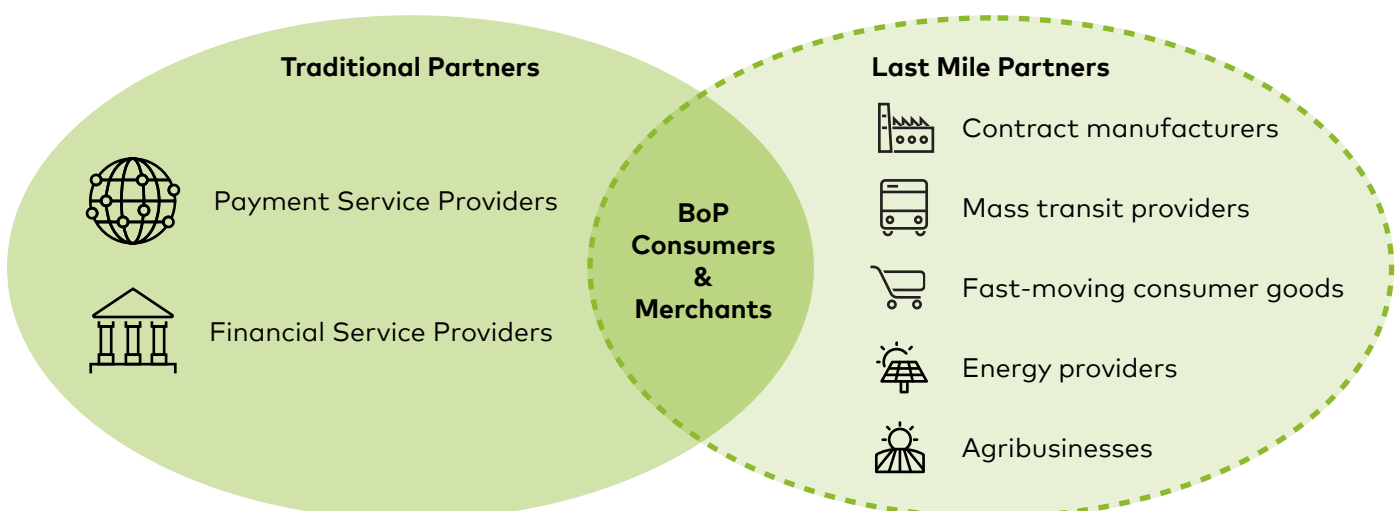
Consumers and merchants, two critical targets for payments, are always at the core of our efforts.

Inclusion efforts have focused on new and innovative approaches for reaching BoP populations. These efforts have enhanced the ability of incumbent financial institutions to reach this population. In financial services, microfinance institutions have expanded the provision of financial products to an otherwise unserved population. To capitalize on these advances, Mastercard has partnered with Accion, a global microfinance network, to improve reach into their clients, both as consumers and merchants. Through such approaches, Mastercard is helping to bring the financial ecosystem into a new era where digital technologies drive greater inclusion, efficiency, and innovation.

Beyond this, our expanded approach to payment system development (see Figure 1) acknowledges that there are organizations—last mile partners—which may provide great value in opening a new front in our pursuit of financial inclusion. These organizations have solved the last mile problem and touch our target underserved consumers and merchants—either directly or indirectly—with regular consistency. These organizations sell to, buy from, and employ millions of underserved consumers and merchants every day. They bring a rich understanding of BoP consumers and merchants and the pain points they experience daily. As we look to drive greater usage within the financial inclusion community, it is imperative to acknowledge this oft-overlooked group of stakeholders and the assets they bring to the table.

Because these are the organizations driving commerce at the base of the pyramid, this new front provides robust use cases for a financial inclusion community that seeks to digitize the consistent and replicable payment flows of everyday life. Furthermore, these organizations, through their broad reach, provide the necessary critical mass to help ignite broader payments ecosystem development. In essence, working with these last mile partners propels payment system development by: enhancing consumer utility and corresponding usage; driving financial transactions and flows; and addressing ecosystem shortcomings.

FIGURE 1
Opening a new front



Digital technologies have amplified our collective ability to do good by doing well in business; it is up to us to seize these opportunities.

Working with last mile partners

There is an opportunity for these last mile partners to work with Mastercard to digitize payments throughout their value chains and further open this new front, while working simultaneously to pursue their respective objectives. Our mutual interests are aligned.

Through greater engagement with these potential partners, we can build the connective tissue necessary to develop a more robust and inclusive payments ecosystem. Private-sector companies are already well-aware of the broad benefits that digital technologies can provide. They are creating faster, cheaper, and better ways of working. As companies pursue digitalization efforts, digital payments can play an important enabling role. These last mile partners can work with Mastercard to pursue mutual self-interests through digital payments, including but not limited to reduced costs and access to new markets. There is the potential for shared value in this approach.

While financial inclusion may not be a primary focus for these potential last-mile partners, there is an opportunity for them to further their agenda while supporting the development of a payment ecosystem and providing digital payment options to BoP populations. For example, meaningful financial inclusion of smallholder farmers will enhance existing efforts to pursue sustainable and ethical sourcing and a transparent supply chain. Digital technologies have amplified our collective ability to do good by doing well in business; it is up to us to seize these opportunities.

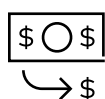


Capitalizing on new business models

As we look to further expand financial inclusion, it has become clear that success will not be driven by focusing solely on traditional business models and approaches.

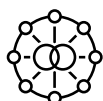
There is a great opportunity to combine traditional approaches and new digital technologies in extending our efforts to underserved markets. This is especially true for the delivery of financial services, where high-cost branch and ATM networks are not feasible for many parts of the world, but innovative microfinance institutions have proliferated. Furthermore, agent and mobile banking models have already upended the existing landscape in many regions as mobile network operators (MNOs) assume an important role in the provision and distribution of financial services. New business models powered by low-cost technologies will continue to drive future waves of financial inclusion. Establishing a new front, such as the introduction of pay-as-you-go (PAYG) business models discussed in a later section, leverages the opportunities provided by new digital technologies in driving greater financial inclusion and usage of payment solutions. The digitization of payment processes for companies has the potential to fuel the digitalization of business models in ways that create a win-win situation for companies, employees, suppliers, consumers, and the communities in which they live and work.

Digitization vs Digitalization



Digitization

Digitization refers to the process of changing from analog to digital form, for example transforming paper currency into an electronic or digital store of value, providing greater accessibility and usability than previously existed in the physical form.



Digitalization

Digitalization, on the other hand, refers to the use of digital technologies to change a business model and transform business processes, providing new revenue and value-producing opportunities.

In our previous white paper, *Building Digital Liquidity to Enable Payments at the Base of the Pyramid*, we maintained a focus on opportunities to drive digital liquidity by identifying consistent and replicable payment flows. We discussed the importance of considering payment inflows, payment outflows, and value chains when designing for digital payment interventions. In this paper, we describe some of the benefits that both **digitizing** flows and **digitalizing** business models can bring to businesses supporting the base of the pyramid.

At Mastercard, we view the digitization of payment processes as a necessary component of the digitalization journey for many of our partners. There are broader opportunities for digitalization, where payments are just one aspect of how to re-think and enable an innovative and sustainable business model. In this paper, we seek to highlight the tremendous opportunity that exists for last mile partners to embrace financial inclusion as a strategic approach to digitalization.

In pursuit of business sustainability

Business Sustainability

As sectors converge around the need to create a more sustainable future, Business for Social Responsibility™ (or BSR™, of which Mastercard is a member) defines that the role of business is to create and deliver products and services in a way that treats people fairly, meets individuals' needs and aspirations within the boundaries of our planet, and encourages market and policy frameworks that enable a sustainable future.

The benefits of greater digitalization are real and tangible.

At Mastercard, we are continuing to partner with other organizations to drive innovative business models, products, and services. This digitalization has made it more affordable to reach underserved populations and easier to scale one-to-one direct trade without the reliance on aggregators or middlemen. It has also driven greater business sustainability.² Companies serving consumers at the BoP have the potential to drive growth by meeting the needs of this expanding market.

As companies view their customers, employees, and supply chains with a global lens, digitalization becomes an imperative to stay competitive and grow. For last mile partners, payments are not part of their core business, but payments can serve as an important enabler of new digital approaches. How companies make and receive payments can have a profound impact on their business. Digitizing payments as part of a larger digitalization approach can help companies accrue real benefits from sustainability; chief among these are ensuring productive livelihoods throughout the supply chain, the realization of operational efficiencies, the opportunity for market expansion, and the enhancement of brand value.

Productive livelihoods

Sustainable supply chains rely on healthy suppliers. For this truth to take hold, worker wellbeing needs to be a central priority for any company driving commerce at the base of the pyramid. Digital payments present the opportunity to have greater visibility into one's supply chain. Whether the first mile is represented by smallholder farmers in an agriculture supply chain or factory workers in a manufacturing supply chain, greater visibility enables a more equitable sharing of the value capture. Digital payments can help to enable the provision of an identity, often for the first time. Digital payments can also reduce administrative burdens and remove the possibility of leakages through fraud. Sustainable and productive livelihoods are necessary if future supply chains, and the generations that will deliver products through them, are to remain reliable.

Operational efficiencies

Cash is an expensive operational burden, one that only grows as company operations expand. The transportation and security costs associated with safely storing and moving cash across long distances can rapidly accumulate. In addition, the administrative burden of accounting for the intake and disbursement of cash funds can make it difficult to reconcile finances and further hamper the operational efficiency of an organization. Digital payments can not only streamline processes by removing inefficiencies, but they can also increase time spent pursuing productive endeavors.

Furthermore, digital payments can produce efficiencies indirectly. For example, Gap Inc. experienced a 15-20 percent decrease in worker attrition after digitizing employee salaries in India.³ This can lead to a reduction in recruitment and training costs as well as a potential increase in average worker productivity.

Market expansion

While payments are unlikely to directly affect a company's performance in the market, they provide companies with an important commodity that can: data. Leveraging data and analytics to better understand consumer behavior and preferences can give companies a competitive advantage over their peers, especially as customer data in developing countries tends to be sparse. With this information, organizations can create a customer segmentation strategy as well as improve the development and delivery of products and services to better meet the needs of their customers.

Brand Value

Digitizing payments at the BoP is a critical piece of the global financial inclusion agenda and can serve as a valuable marketing tool to increase brand awareness. Financial inclusion is an important enabler of eight of the seventeen Sustainable Development Goals (SDGs) developed by the United Nations.⁴ Organizations that can tie their sustainability initiatives to this global effort can bolster their reputations as social responsible organizations, while also ensuring future financial results and tangible shareholder value from a more secure supply chain.

This can have a marked business impact. For example, Unilever's "sustainable living" brands are growing nearly 50 percent faster than the rest of their business.⁵ This is a direct result of the growing importance of sustainability among consumers. A 2015 Nielsen survey reveals that 66 percent of participants are willing to pay a premium for sustainable brands.⁶ Furthermore, socially responsible practices can serve as a powerful marketing tool. A recent Unilever survey found that more than 20 percent of consumers would choose brands that made their sustainability achievements known, either through product packaging or marketing campaigns.⁷ A 2014 study supports these results, finding that the addition of a Fair-Trade label to two coffee products in a major U.S. grocery store chain caused their sales to rise by nearly 10 percent.⁸ Furthermore, some consumers were willing to pay an eight percent price premium when the product was directly associated with support for Fair Trade practices.

Companies are already acknowledging and realizing the broad benefits of digitalization throughout their businesses. Payments are an important enabler of that process and bring real benefits, especially when those companies source from financially excluded producers and suppliers or work extensively in developing economies where cash is dominant. To bring these benefits to life, we present five examples where digital technologies are having a tangible impact on business outcomes and the pursuit of greater financial inclusion.

Digital technology at work

The introduction of digital technologies has fundamentally changed our way of life. It is no surprise that digital technologies are creating a more connected world as well as providing for new ways to conduct commerce and associated economic activity.

Technological advances continue to create new value for individuals and businesses alike. They are providing consumers with access to new goods and services as well as enabling organizations to open new markets, reduce costs, and conduct commerce in new ways. This has been especially important for those in developing countries.

In our previous white paper, *Building Digital Liquidity to Enable Payments at the Base of the Pyramid*, we highlighted the importance of simultaneously creating digital liquidity through issuance and maintaining digital liquidity through acceptance. At Mastercard, we do this by targeting payment inflows, payment outflows, and value chain payments in a systematic manner.

We've presented the benefits that these targeted interventions can bring about for companies. It is no surprise that digital technologies have the potential to bring about shared value for societies, especially when it comes to establishing a functioning payments ecosystem. When we develop interventions, we acknowledge that there are three agents of change that can deepen digital liquidity:

Agents of Change⁹



Inclusion

The cost reductions made possible by digital technologies enable activities and interactions that would not have occurred otherwise. These technologies have significantly reduced the cost of service delivery as well as searching for and acquiring information.



Efficiency

Digital technologies provide more efficient substitutes for existing factors of production, driving corresponding investments. These technologies improve the ability to coordinate internal processes and organize economic activities.



Innovation

Digital technologies facilitate new innovative business models and associated network effects. These technologies enable increasing returns to scale, characterized by negligible marginal costs.

The benefits of digital payments are felt beyond last mile partners. As we discussed earlier in the paper, this opening of a new front augments and reinforces efforts being put forth by traditional partners. By bringing in last mile partners, which already touch base of the pyramid populations, we enable approaches to support the development of a more robust and inclusive financial ecosystem through two major outcomes:

Outcomes of Digital Liquidity



Establish a critical mass for payments

Develop more robust use cases for digital payments as well as optimize existing infrastructure to provide greater utility for customers



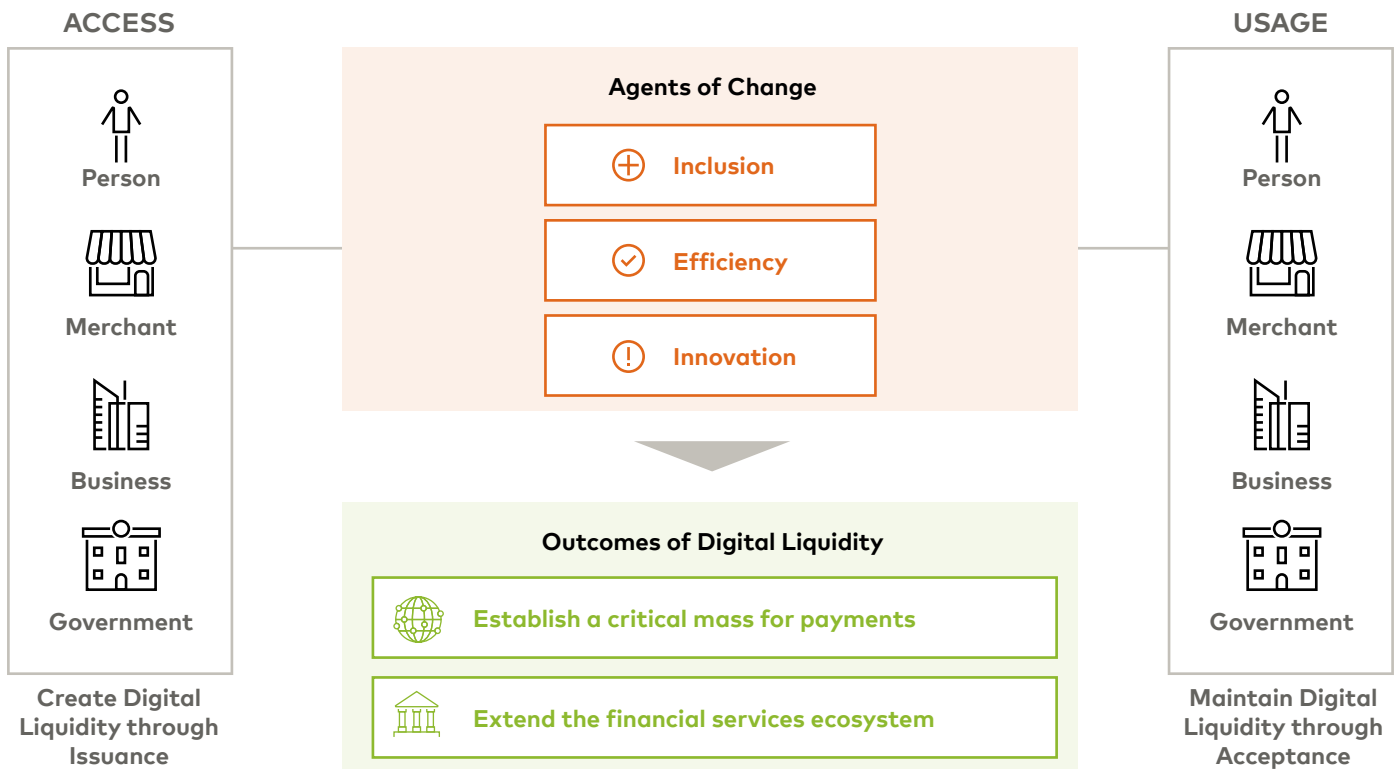
Extend the financial services ecosystem

Enable the supply of adjacent financial products and services as well as the corresponding demand



These agents of change are the channels through which meaningful digital liquidity is created and maintained. These channels expand and deepen the reach of the digital payments ecosystem. The outcomes of these efforts serve to establish a critical mass and extend the financial ecosystem, bringing benefits to BoP populations and, more importantly, to the real economy. The result is a more connected economy and inclusive society.

FIGURE 2
Deepening Digital Liquidity



Digitizing payment processes and developing new business models have the power to fundamentally change the way a business goes to market and the way consumers gain access to vital services. We present five examples of industries that exemplify our approach of working with last mile partners where payments can enable the achievement of broader business objectives. These examples are:

- | | |
|-----------------------------------|--------------------|
| Contract manufacturing | Energy |
| Mass transit | Agriculture |
| Fast-moving consumer goods | |

These examples are meant to provide guidance on the opportunities afforded to businesses from digital payment applications. As you consider each of these examples, we invite you to explore the ways in which the approaches presented can be leveraged by your organization.



Addressing internal processes in contract manufacturing

Digital technologies have enabled companies to distribute their operations around the globe. Contract manufacturing is just one byproduct of this. As more and more companies outsource manufacturing and operations processes, there is greater need to maintain low costs. However, the industry is certainly vulnerable to inefficiencies. With many disparate entities involved, streamlining processes, communications, and transactions are key to maximizing efficiencies.

For employees, [digital payroll disbursements] may be their first exposure to digital payments, providing an entry point to other financial services and products.

In our prior paper, *Building Digital Liquidity to Enable Payments at the Base of the Pyramid*, we highlight the benefits available to both employers and employees by addressing key challenges associated with disbursing and receiving cash payroll, most notably cost, lack of transparency, security risks, and overall inconvenience. By digitizing payments—especially digital payroll disbursements in the case of contract manufacturers—businesses can optimize their operations and accrue meaningful savings. For employees, this may be their first exposure to digital payments, providing an entry point to other financial services and products. The transmission of these benefits across the payments ecosystem and society are tangible:

Inclusion

As digital payments reduce operational inefficiencies associated with payroll disbursement, the development and expansion of the payments ecosystem enables the opening of new markets and consumers for other financial service providers.

Efficiency

Digital payments have enabled people and businesses to reduce inefficiencies and unnecessary expenditures. The Better Than Cash Alliance has made an effort to target the inefficiencies of cash payroll for employer and employee alike. Through one intervention with Gap Inc. factories across India, digitizing payroll saved the equivalent of 16 full-time workers on the production line every month.¹⁰ Because digital payments infused greater transparency and security into salary disbursement, these factories also saw an overall 15-20 percent reduction in turnover due to employee attrition, creating a win-win for both employers and employees.

Innovation

As use cases around digital payroll disbursement continue to bring more individuals into the formal digital payment ecosystem for the first time, they also bring additional innovation to underserved communities, such as a wider acceptance network and access to credit services, serving as an important enabler for many more opportunities.

Outcomes of Digital Liquidity

In the case of a **contract manufacturer**, the benefits of digitized payroll disbursements for employer and employee alike are evident. In addition, we should not overlook additional outcomes as this intervention contributes to the development of the overall payments ecosystem:



Establish a critical mass for payments

- Reaches significant populations to create a critical mass of stored digital value
- Provides behavior catalyst in how employees receive payroll
- Provides compelling argument for building geographic-specific acceptance



Extend the financial services ecosystem

- Expands successes to other employers and adjacent industries
- Advances usage of digital payments and improves access to other financial services
- Incentivizes PSPs to support broader use cases

Mastercard in Action

At Mastercard, we are seeing these benefits firsthand through our engagement with a leading garment manufacturer. As we infuse digital payroll innovations into their business model, the resulting efficiency gains are felt throughout the organization's global supply chain.

20%




Mass transit remains unaffordable for the poorest 20 percent of the population living in major cities in developing countries.



Driving efficiencies in mass transit



As urbanization continues to spread at a rapid pace around the world, the provision of mass transit remains unaffordable for the poorest 20 percent of the population living in major cities in developing countries.¹¹ Not only does this create issues for general city management, but the lack of transportation options for those at the BoP creates additional constraints to social and economic mobility. There is a tremendous opportunity to create efficiencies in mass transportation through the enablement of digital payments. One opportunity is to create an open standards-based solution that can drive seamless interoperability, increased innovation among providers, and greater agility to meet consumer demands.¹²

Cities are becoming increasingly more crowded and an efficient mass transit system is vital to ensure these urban centers remain attractive and livable. Beyond the positive impacts for city governments, the transmission of these benefits to the larger ecosystem and society at large is also quite tangible:

- 
Inclusion Access to affordable public transportation is especially vital to the economic mobility of those at the bottom of the economic ladder, allowing for greater physical and economic mobility through access to government services.
- 
Efficiency Digital payments hold the power to create greater efficiencies in the functioning of mass transit systems, saving governments both direct and indirect costs.
- 
Innovation Creating an interoperable digital payment solution for public transit will allow for more innovative ways to connect base of the pyramid populations to the services they need.

Outcomes of Digital Liquidity

In the case of **mass transit**, the direct benefits for city governments and their constituents are clear. In addition, we should not overlook additional outcomes as this intervention contributes to the development of the overall payments ecosystem:

- 
Establish a critical mass for payments
 - Drives behavior change in how consumers pay for basic services
 - Provides critical mass of users for establishing acceptance around transportation networks
- 
Extend the financial services ecosystem
 - Increases propensity to use electronic payments in other industries
 - Enables PSPs to leverage data exhaust to inform actions

Mastercard in Action

In Bogota, Mastercard worked with the city's Integrated Public Transportation System and Recaudio Bogota, the company that issues prepaid Tullave smartcards that allow travelers to access public transportation. The transit system was plagued by inefficiencies since many customers reload this card on a daily basis. To combat this issue, the partnership approached the retail banking sector to create a dual-application "hybrid" payment card that would enable post-paid functionality for cardholders. This served to alleviate the issue of long queues while also spurring additional economic activity around transportation centers.



Personalizing opportunities for fast-moving consumer goods companies

As the supply chains for fast-moving consumer goods (FMCG) companies expand globally—but also locally—it becomes increasingly difficult to maintain transparency into the needs of both small retailers and consumers. The ability to manage logistics, target promotions, and access financing becomes more difficult without a detailed record of sales history. Cash-based local economies only exacerbate these issues. Digital payments throughout a supply chain enable FMCG companies to generate information on their small retailers and consumers. Small retailers are able to more easily make payments to FMCG distributors, reducing security and inconvenience issues surrounding cash. Meanwhile, FMCG companies can have nearly real-time information on their supplies, ensuring that the high-demand items are where they need to be when they need to be there.

15%

One FMCG company reported that the recurring need for manual cash management resulted in a 15 percent decrease in salesforce productivity.

The business case for digital payments in the FMCG industry, from greater transparency to better risk management, has already been felt. One FMCG company reported that the recurring need for manual cash management resulted in a 15 percent decrease in salesforce productivity.¹³ Furthermore, there is an opportunity to improve salesforce effectiveness. Being able to stock what their customers want—in addition to reducing stock-outs of these items—will have a positive impact on merchant sales. In addition to the business benefits, the transmission of these benefits to the larger ecosystem and society at large are also quite tangible:

Inclusion

Based on the information gathered from small retailers and consumers, digital payments enable companies to tailor promotional spending, offers, and product mix to a given area. This allows for large FMCG companies to more effectively include smaller downstream merchants and for consumer segments to have greater, more affordable access to the products and services they need.

Efficiency

Digital payments enable better tracking of inventory for small retailers, which allows FMCG companies to proactively respond to potential stock-outs with greater agility. This improvement in coordination reaches all the way down the supply chain to small merchants.

Innovation

The possibility for greater personalization through data capture and analytics presents many opportunities to apply predictive technology techniques throughout the supply chain. In addition, a supplier's business model is fundamentally transformed through access to this new information.

Outcomes of Digital Liquidity

In the case of **FMCG companies**, the benefits of a more efficient supply chain for employers, small retailers, and consumers alike are evident. In addition, we should not overlook additional outcomes as this intervention contributes to the development of the overall payments ecosystem:



Establish a critical mass for payments

- Leverages reach of FMCG companies which have a connection with MSMEs that reach a significant BoP population
- Builds MSME acceptance network

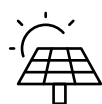


Extend the financial services ecosystem

- Expands P2M use cases and extends to B2B flows and corresponding use cases
- Enables PSPs and FMCG companies to leverage data exhaust to inform efforts

Mastercard in Action

Mastercard is helping to realize these benefits in driving merchant sales and reducing inefficiencies through its work with Unilever. In Kenya, we launched an initiative called Jaza Duka. Combining distribution data from Unilever with inventory purchase data from Mastercard's digital payment network, the Kenya Commercial Bank can strategically assess eligibility for personalized credit at the small retailer level.¹⁴ This allows the small retailer to more effectively manage their finances and inventory.




Delivering energy access


As technological innovations have created lower-cost delivery channels, new business models are allowing businesses to bring real life-changing products and services to consumers. One example of this has been the rise of pay-as-you-go (PAYG) business models, which are providing millions of previously underserved consumers with access to solar energy. Instead of paying the full cost of a home solar system upfront, the PAYG model allows consumers to lease the system by making an initial deposit, followed by small installments at regular intervals until the value of the system is paid off. By reducing the initial economic barrier of fixed costs, this model provides consumers with the ability to immediately access the products and services to meet their basic needs in a manner that is within their means. This opportunity extends beyond energy access alone, bringing adjacent services—such as access to water or sanitation—within reach for underserved consumer segments.


This ease of use, for both producer and consumer, has made the PAYG model commercially viable for millions of people in previously underserved communities.

In many cases, digital payments allow for remote servicing of these recurring obligations. While this may resemble the traditional asset financing model, the convergence of new technologies has enabled a scalable business model. Internet of Things (IoT) technology has enabled the model by allowing providers to remotely lock and unlock the device based on the consumer's adherence to the agreed upon payment schedule. Digital payments further enable this model by removing the need for in-person payments. This ease of use, for both producer and consumer, has made the PAYG model commercially viable for millions of people in previously underserved communities.

As the PAYG model demonstrates, digital payments can serve as a key enabler of innovative business models that expand the set of opportunities for firms undertaking digitalization. In addition to the business benefits, the transmission of these benefits to the broader ecosystem and society at large are also quite tangible:


 **Inclusion** New markets for products and services are being brought within reach. Because of PAYG business models, millions of previously underserved consumers have access to energy. As one of the Sustainable Development Goals (SDGs), affordable, reliable, and sustainable energy access has a tremendous impact on other development indicators such as gender equality, poverty reduction, and education.¹⁵

 **Efficiency** Existing activities are made cheaper, quicker, and more convenient through the use of digital payments and IoT technologies. Service providers no longer need to incur administrative expenses on collections. Many of the benefits to energy access—on the consumer side—result from an increase in the household’s productivity.¹⁶ For example, freedom from the burden of collecting fuel allows families to pursue more productive endeavors such as marketable work and education. Thus, energy access can increase the overall economic efficiency of consumers’ daily lives.


 **Innovation** By reducing transaction costs to near zero, this technology has enabled a new business model which relies heavily on digital payments. Inadvertently, this process is also creating a digital payment trail that can improve consumer access. Many underserved consumers lack access to formal credit because lenders have no ability to assess their credit-worthiness. New business models using alternative credit decisioning methodologies can work to overcome this information barrier and help include these underserved individuals into the formal financial economy. For example, M-KOPA has provided 160,000 positive references to the Kenyan Credit Bureau.¹⁷

Outcomes of Digital Liquidity

In the case of **PAYG providers**, the combination of solar energy technology, IoT, and digital payments has created an entirely new and innovative business model bringing energy access—as well as other critical services—to millions for the first time. In addition, we should not overlook additional outcomes as this intervention contributes to the development of the overall payments ecosystem:

 **Establish a critical mass for payments**

- Incentivizes initial adoption of digital payments for excluded populations and enhances ongoing consumer utility
- Scales access to basic services which are preconditioned on digital payments

 **Extend the financial services ecosystem**

- Extends business model to other industries, driving more use cases tied to the real economy
- Brings additional last mile providers (i.e. retailers, manufacturers) into financial services ecosystem

Mastercard in Action

At Mastercard, we are partnering with M-KOPA, a PAYG solar provider, to expand their reach and provide more Africans with affordable energy access.¹⁸ Already serving more than 3 million Kenyans, M-KOPA will be piloting Mastercard's Quick Response (QR) payment technology in Uganda, which has one of the lowest electrification rates in Africa.¹⁹ Mastercard QR will provide an open and interoperable solution that creates a new payment channel for M-KOPA customers. Leveraging the existing network of MNOs and banks, Mastercard QR will help M-KOPA scale without the need for additional technology investments. Following a successful pilot, the intent is to expand this program across East Africa.




Transforming agricultural value chains

Digital platforms are creating a collaborative economy that is fundamentally changing how individuals and businesses interact. They have significantly reduced the cost of searching for and acquiring information. These cost reductions enable interactions that would not have previously occurred by addressing information asymmetry. By removing these asymmetries, digital technologies foster an environment where transparency and trust can take hold. While these platforms have rules in place to maintain the integrity of the system, the entire model rests on the autonomy of the users; in other words, it empowers its consumers to interact and come to an agreement that best meets the needs of all participants. Some of the most well-known platform-based companies such as Uber, Airbnb, and Alibaba have disrupted their industries by doing just that, and many other industries are vulnerable to the same outcome.

Enabling farmers to receive digital funds directly from buyers links them more closely to the supply chain so that they become more visible suppliers on record with large institutional buyers.

The agriculture industry is similarly ripe for innovation, as the ability to connect with relevant players is one of its biggest challenges. Many smallholder farmers in developing countries live in remote areas and remain invisible to global supply chains. Where they do have access to reliable buyers, the saturation of market intermediaries often puts a downward pressure on the price they receive. Given the decentralization of farming in many communities, farmers can be unaware of the market value of their crops and are not well-positioned to get the best price for their goods. Without access to working capital, investment capital, or savings, these farmers are also unable to increase their yield. Digital platforms can provide a valuable service by bringing together these disparate parties and allowing them to identify the best option available to them, thereby empowering them with more opportunities. Furthermore, enabling farmers to receive digital funds directly from buyers links them more closely to the supply chain so that they become more visible suppliers on record with large institutional buyers. Digital payments become a key enabler of these platforms in removing the security concerns of dealing in bulk cash payments, enabling new use cases for digital payments, and providing farmers with an economic identity.


In addition to the business benefits, the transmission of benefits to the larger ecosystem and society at large are also quite tangible:

 Inclusion

Digitizing payments in agriculture supply chains opens up new markets for smallholder farmers, bringing their visibility within global supply chains to the surface.

 Efficiency

By connecting farmers, buyers, and agents, digital payments improve the overall productivity and economic efficiency of these players. For farmers, the introduction of digital payments can increase supply chain transparency, which helps farmers receive a fair price for their crops. Buyers and agents are also supported by the ability to gain awareness of all available farmers who produce their crops of interest, improving the overall management of their supply chain.

 Innovation

Digital payments are becoming a cornerstone of the new digital economy and a major source of innovation. The introduction of digital platforms for agriculture benefit from a virtuous network effect such that the platform's value increases as more users are onboarded.

Outcomes of Digital Liquidity

In the case of **agribusinesses**, digital payments and platforms have the potential to transform the delivery and service models within organizations. In addition, we should not overlook additional outcomes as this intervention contributes to the development of the overall payments ecosystem:



Establish a critical mass for payments

- Provides compelling incentives for farmer participation by increasing a farmer's ability to capture larger share of value produced.
- Builds pools of digital value from existing producers and expands farmers reached through enhanced coordination



Extend the financial services ecosystem

- Creates demand for additional financial service offerings
- Aligns mutual interests between producers and buyers to overcome structural shortcomings

Mastercard in Action

At Mastercard, we are looking to disrupt the agricultural sector in a big way. To that end, we have forged a partnership with Neumann Kaffee Gruppe (NKG) to digitize payments in the supply chain of the world's largest coffee merchant.²⁰ Through our partnership with NKG, we are bringing greater visibility into the coffee supply chain while ensuring a more sustainable livelihood for smallholder farmers.

A call to action

In each of these examples, the digitization of payments and digitalization of new business models is being fueled by innovative private-sector partnerships.

The traditional players in financial inclusion must acknowledge the need to embed their services into the real economy and support the growth of meaningful economic activities. We view digital payments, through last mile partnerships, as an enabler to make this possible. Partnering with companies driving commerce at the base of the pyramid allows us to scale solutions quickly by integrating directly into their existing operations and value chains.

The evidence above makes it clear that innovative private-sector partnerships can enable real change, throughout value chains and underserved communities. There are also positive outcomes for the overall digital payment ecosystem.

We encourage private-sector actors to work with Mastercard in exploring opportunities for opening this new front in financial inclusion and driving digital liquidity in the real economy. At first blush, it may not seem like a strategic imperative for last mile partners. However, we believe digitizing payments and the digitalization of business models holds the key to unlocking greater value within organizations and across value chains—from ensuring productive livelihoods of producers in the supply chain to driving operational efficiencies and market expansion opportunities. In addition, the outcomes for building a robust and inclusive financial ecosystem are real and tangible.



Establish a critical mass for payments

- Digitizes flows and enable usage
- Drives behavioral change
- Improves the alignment between issuance and acceptance
- Drives greater utility from existing infrastructure (e.g., interoperability)



Extend the financial services ecosystem

- Increases demand for and supply of additional financial service offerings
- Enables PSPs to leverage data exhaust to inform efforts
- Incentivizes greater participation by last mile providers to enable additional payments use cases
- Remediate structural shortcomings (e.g., information asymmetries)

Conclusion

Digital technology has enabled a broader, more robust approach to the development of an inclusive payment system.

Technological innovation is leading to new opportunities and opening a new front for financial inclusion, distinct from yet complementary to the efforts of traditional players to develop payment systems and individual capabilities. Non-traditional stakeholders driving commerce at the BoP have solved the last mile challenge. These last mile partners provide an opportunity to expand our efforts in developing robust payment systems and supporting ecosystems.

The development of digital payment ecosystems will not happen overnight, nor in silos. At Mastercard, we pursue partnerships that support our respective interests and business objective while also furthering financial inclusion. The power of digitalization has and will continue to create new opportunities for the private sector, but it will take concerted efforts and clear roles and responsibilities to achieve collective impact.

The financial inclusion community is united in their belief in the importance of financial inclusion and the benefit that it can bring to individuals and communities. We are all driven to promote inclusive growth and financial health in the lives of the underserved. Standing up a successful digital payments system will benefit all players in the ecosystem by expanding the pie. Aligning our initiatives to support the development of an ecosystem is the best way to maximize our collective resources. Innovative private-sector partnerships can drive the development of robust payment ecosystems reaching the base of the pyramid.



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